Presentation Summaries

Keynote Speaker: Glasgow City Council

Future City Glasgow – a Transformation Strategy

Future City Glasgow was an ambitious £24M programme investigating the role that technology, data and connected assets play in making city life smarter, safer and more sustainable. The programme investigated key service challenges affecting Glasgow – such as energy, health, transport, and public safety. There are 3 inter-connected elements to the programme:

- **Glasgow Operations Centre**: Integrated traffic and public safety management service.
- **OPEN Glasgow**: Engaging citizens and communities to source, save and share open data to enhance life in Glasgow.
- **City Systems Integration Demonstrators**: User-driven, open innovation pilots on active travel, energy efficiency, integrated social transport, and intelligent street lighting.

Having completed a successful Future City Glasgow demonstrator project, the Council is now using lessons learned to transform its business practices and its partnership arrangements. Data-driven decision making is becoming the default position for policy and strategy development, accompanied by an increasing demand for location-based data analytics. GI has become mainstream and Glasgow's citizens are benefitting through improved service planning and delivery. The transformation is underway

Keynote Speaker: Clyde Space

Future Proofing Scotland's Space Sector

This talk will cover many aspects including; successes, high volume manufacturing of reliable systems to enable constellations and low cost technology, opportunities, space missions, maintaining momentum and finally providing an entrepreneurial environment

Presentation Summaries

1Spatial

1spatial YOUR WORLD SMARTER

Smarter Data, Smarter World.

In our session you will discover how organisations are becoming more effective, transforming their internal operations and improving customer experience. With the scale and complexity of spatial information that organisations are increasingly facing, the right solutions are needed to define and drive data excellence - we hope you can join us.

British Geological Survey

BGS 1835 British Geological Survey

BGS Civils: Mapping The Earth You Move

The geology map has come a long way in 200 years. It started life as the concept of a canal engineer (and fossil collector) called William Smith. Surprisingly, his map was not appreciated at first and it financially ruined him. But geology as a science was becoming ever more popular and has expanded to include spectacular phenomena (such as volcanoes, space weather and continental drift), deadly hazards (landslides and earthquakes) and necessary resources for our society (fuel, water and minerals). Whilst the 'exciting' (and controversial) branches of geoscience grab the headlines, the day-to-day use of geological knowledge, to plan and build in our environment has steadily amassed a wealth of information about the stuff beneath our feet. Much of this data is crowd sourced and a lot of it referenced against established standards. Our engineers, developers and builders have been busy. So site and construction data seems an obvious place to start building the next generation of geology datasets: BGS Civils.

Today, GIS has made geological data more readily consumable and technology has placed that data everywhere at the touch of a button. The traditional geology map has moved on, information for engineers (maybe not for canals, but other infrastructure) remains in high demand. Developing the subsurface has become a key factor in urban management and infrastructure design and renewal. BGS Civils is one very small aspect of our thematic options for specialist stakeholders. It acts as a starting point for a partnership with an industry that is increasingly tech savvy, data driven and data reliant. So we will outline what the geology map of today looks like in its 'BGS Civils' form and also take a brief look to what engineers may be able to do for the next generation of geologists.

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Presentation Summaries

Blue Marble Geographics

Low-Cost GIS for Today's GIS Professionals

Often considered beyond the reach of many budgets, GIS technology is now part of the daily workflow for local government departments and businesses of every size. No longer constrained by overly complex software requiring highly skilled technicians, or by expensive acquisition and maintenance costs, GIS professionals are learning the value of GIS self-sufficiency. In this presentation, we will take a look at a low-cost GIS software alternative that is ideally suited to the challenges of today's GIS professionals. Using Global Mapper we will demonstrate some of the basic principles of GIS development, where to find data, and efficient spatial data management.

Cadcorp

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 Adams[1], 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 visitor's 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*

Presentation Summaries

Europa Technologies

Do You See What I See? Designing Maps For People With Colour Vision Deficiency

The talk will focus on the importance of considering your audience when producing maps, in particular those with colour vision deficiencies (CVD). This condition accounts for 1 in 100 females, and 1 in 12 males. Put another way, in the UK that's approximately 321,530 females and 2,585,750 males.

As well as highlighting the surprising prevalence of CVD, the talk will also provide examples of how maps might appear to people with CVD and share handy tips to ensure maps are understandable for users with this condition.

MGISS

Mapping Your World Doesn't Have To Cost The Earth

Your world can be anything from a woodland or forest, highway or railway, or county through to country-wide mapping project.

While the acquisition of the data can be relatively straightforward, or broken down into sizeable chunks, consideration needs to be given to how to equip field teams or contractors with the right tools and data for the job, and then manage the retrieval, update and maintenance of all this technology.

Do you tackle the project in-house, look to contract in data capture and undertake in-house processing and QA, or fully outsource a project?

Technology plays a part in making this decision, but so does understanding the **real** return on investment. Finding the right technology partner can help reduce your risk and this is where MGISS can provide independent advice and expertise.

Presentation Summaries

Higher Mapping Solutions

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.

KOREC

Open Source GIS: Why It's Made For Handling Large Datasets From Multiple Sources

Open source GIS systems can be used to manage incoming data from a large range of sources including traditional GNSS device capture, mobile mapping and of course low cost Android devices for ongoing maintenance.

We'll take a closer look at how open source GIS systems can be used to handle this array of different data capture sources to create a seamless data set.
We'll look at some case studies of previously collected entry level mobile mapping data, examples of data extraction and how that can be viewed instantaneously in open source system and how best to maximise your dashboard information.

Presentation Summaries

Skyline

3D visualisation of Geospatial data, terrain, images, point clouds & City models

Summary to follow.

Sterling Geo

Turning Data into Knowledge: The Potential of Business Analytics

As the power of cloud processing enables more cost effective data storage and facilitates the ability to update information automatically, the geospatial and earth observation (EO) industry is changing and fast! Hexagon Geospatial M.App Portfolio allows users and organisations to extract intelligent information and display it in a business intelligence (BI) dashboard. It also offers game-changing and innovative pricing models which give users the opportunity to pay per use and even turn their requirements into a revenue stream across a global marketplace. This visualisation shift of information movement enables organisations to present important insights to business owners and leaders in a way they can easily understand and use towards making business-critical decisions. This presentation will provide an overview of the Hexagon Geospatial M. App Portfolio and examples where Sterling Geo have created BI dashboards from EO and Geospatial data.

Survey Solutions Scotland

UAVs for Survey and Mapping

UAV, UAS, SUSA, RPAV, or simply drones, whatever you want to call them, are fast becoming an essential tool for survey and mapping. They offer acceptable precisions and detail, and the deliverables, orthorectified georeferenced images and 3D colourised point clouds, allow a near instantaneous snapshot of the area being surveyed.

With the ability to pre-programme a flight path for accurate repeatability, and the option of using different sensors widening the scope for the user, UAVs are a cost effective alternative to more conventional aerial or land survey methods. Their lower operational costs and greater flexibility, and the ability to survey areas without actually putting personnel at risk means UAVs offer more than just image capture.
This presentation will look at fixed wing and multirotor UAVs, discuss some technical considerations and briefly mention some real case studies, finishing with a brief look at the UK legal requirements for drone flying.

Presentation Summaries

The GeoInformation Group

National Land And Infrastructure Mapping : A New Insight

Maps were once simply a means of displaying location but there are increasing requirements for intelligent information about places, land and infrastructure. This presentation will highlight the changing requirements for spatial data and the challenges of creating and maintaining national datasets.

Topcon

Flying The Unflyable

Christmas 2015 will not be remembered as a white Christmas, but as a wet one. The media was full of images of the homes ruined by floods, particularly in Cumbria, as a result of winter storms and heavy rainfall. We were contacted to conduct a survey utilising a UAV to identify with high accuracy the flood extent and damage. This presented numerous challenges regarding location, legislation and the limitations placed upon commercial UAV operations. We overcame all of these to collect and deliver the data over a single weekend. This presentation shows how we managed to work with a number of different agencies to achieve what others said couldn't be done.