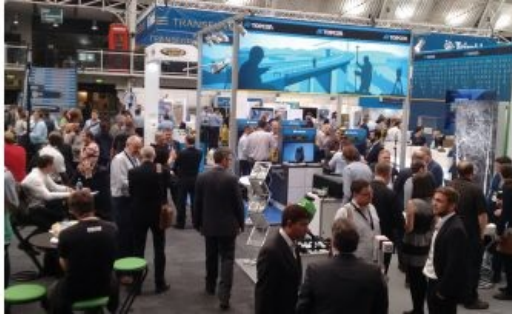


# Spanning the Spectrum - GEO Business 2017



The industry's leading event took place once again at the Business Design Centre in London and attracted a bustling crowd of geo-people. It is not possible to attend every conference session, associated meeting, workshop or visit every stand but it was possible to discern the mood of the industry and that is upbeat.

This would be a conference "spanning the spectrum of geospatial activities" announced conference chairman Steven Eglinton (Geo-Enable and the AGI) in his introduction. The first session spanned national mapping, remote sensing and GIS. Ordnance Survey CEO, Nigel Clifford opened with his keynote, 'Geospatial: Innovation, integration and impact', with the comforting thought that 'geospatial' in Britain is actually in pretty good shape.

The modern economy has to be geospatially enabled and Britain's is through projects initiated by OS like GCIP, the geospatial content improvement programme, the Highways MasterMap and Smart Future Projects like CityVerve. Geospatial World Forum's geospatial readiness index places the UK in second place behind the USA. Clifford sees the role of OS as facilitator for geospatial development in the UK. Data has to be accessible, so OS partners with others to generate value and that means focusing on applications. The goal is to make data as widely used as possible and, by working with local authorities, the mapping agency is starting to see true value being extracted from their data.

OS's geospatial innovation hub, GeoVation promotes the development of new applications and now supports 700 – 800 individuals in turning their bright ideas into businesses. Other areas include the mapping needed to support the coming 5G phone network, a system which is even more sensitive to obstructions than its predecessors and CityVerve which is putting the Internet of Things (IoT) into practice in Manchester.

## Step Change Coming

Stuart Martin from the Satellite Applications Catapult looked into the future for satellite data for positioning, earth observation and communications. We can expect instant positioning to decimetre level soon. We already have earth observation (EO) satellites with a resolution of 30cm and radar sensors that 'see through' cloud. The future is full of new constellations with fifty planned over the next ten years. The most significant result will be a step change in the temporal resolution of data from the current revisit period of a few days down to daily or hourly.

Martin sees the catapult's role in bringing together stakeholders to develop applications through examples like a global network for detecting illegal fishing (one in five fish are caught illegally) using the AIS (the automatic identification system aboard shipping) driven by GNSS and Bird.i ([www.hibirdi.com](http://www.hibirdi.com)) both of which make current EO data accessible and affordable on mobile devices.

Esri UK's Charles Kennelly addressed, 'What the market needs from national mapping agencies and the space industry'. He asked, "what do we need them for?" His thought processes concluded that NMAs do have a role in producing and maintaining a national "geospatial fabric" of authoritative data with complete coverage – not just the profitable bits. "If you're sued and you used NMA data then you're safe" (Not so sure on that one Charles, talk to some surveyors whose clients have relied on OS data to plan housing estates and other projects, especially smaller ones.) Surveyors will concur with his advice to NMAs to concentrate on "core innovation" and "ease of licensing".

He does not see technology as a problem. His crystal ball sees increase using of artificial intelligence (AI) to keep the database up to date and greater use of remote sensing. Above all, he urged a move from cartographical representation of features to machine-readable GIS representation. He argues that autonomous vehicles don't need accurate maps, they need intelligence just as buildings should be able to "self-survey" and broadcast their data. AI is also becoming important in change detection.

His parting shot was to argue that OS as the nation's mapper, their data should be free. It will drive more business and he cites Esri's experience of 20 billion requests in one month to download free mapping.

## Highlighting Geospatial

A panel chaired by Andy Coote (ConsultingWhere) brought speakers together. He started by asking about the future for NMAs. Clifford said that the OS has just been through an independent general review, with the objective of keeping it relevant. Geospatial has become mainstream and political. As evidence, Coote pointed to page 82 of the Conservative Party manifesto for the general election, which proposes "to release massive value in our land" through a "comprehensive geospatial data body within the government." Not sure if that made it to the Queen's Speech.

There were mixed thoughts on the impact of Brexit. One speaker reckoned we were better off without INSPIRE, whilst another pointed to

EU support for earth observation. Would we still have access to this data? Another question concerned underground utilities – is this the last frontier for remote sensing? The panel's view was that EO could not make an impact. Should utilities' records be held by a central body? The view was that this aspect of national mapping should be federated – the gas company should be responsible for its own records.

Not for the first time, questions of privacy and security were raised. How are we going to protect private data in an environment where combining datasets can reveal so much about individuals? The OS has appointed a chief data officer with this conundrum in mind. The current resolution of satellite imagery is 30cm, so people can be counted but not yet identified.

How do we encourage the use of geospatial data? Clifford said that there are pockets of geospatial awareness in government and particularly by chief scientific officers. He sees this as an opportunity. Solve problems in the UK and they then become an export opportunity. The panel emphasised the need to focus on applications rather than data. "Are we just train-spotters?", said one panellist. And finally, how do we sell the geospatial message? The panel's answer was: find friends and promote recognition of the spatial ingredient in data. As an example, Martin said that they had approached an admiral with the illegal fishing application. This opened up a world of contacts that made the application happen.

## GNSS, Clocks, Security and BIM

In the following session Brent Jones, global manager land records/cadastral at Esri asked "Where is the disruption. . . ?" He took the development of clocks as his analogy and argued that the Casio watch had the same degree of disruption on time as GPS had on positioning, and that this has to be powered by standards to make data interoperable. GNSS is now cheap technology and bringing cadastral surveying within the reach of the poor. He gave an example from Kenya where cadastral surveys have been carried out as a community exercise. Neighbours survey their boundaries together and the results are presented to the community where they are effectively adjudicated.

An intriguing presentation promised to delve into cybersecurity with a "UK Government Security Engineer". This was not to be however. Due to the terrorist bomb in Manchester the previous day his services were needed elsewhere. His shoes, however, were ably filled by a security consultant, Hugh Boyes. He showed examples of flagrant geospatial insecurity, such as a 3D model of HMP Cookham Wood displayed proudly online, as an example of how to do BIM Level 2. There were similar documents showing floor plans for police stations and 3D renderings of underground stations, all of which give the criminal a helping hand. It is ironic that the purpose of BIM is to promote collaboration and yet the BIM product, in the wrong hands, could cause immense damage. Boyes urges BIM projects to have a security strategy. There is help in the form of PAS 1192-5 which can be downloaded free of charge from <http://shop.bsigroup.com/forms/PASs/PAS-1192-5/Confirmation/>.

Jos Creese argues that the term Smart Cities is too restrictive – what about the rest of us! It got me thinking that like 'BIM', 'Smart Cities' is one of those terms that, whilst concentrating the mind on a topic, at the same time blinkers our vision.

## Question Time

A 'Question Time' session with a panel of experts (Mike Hopkins, from TSA, Ed Manley, lecturer in Smart Cities at UCL, Miranda Sharp, Head of Smart Cities practice at the Ordnance Survey and Ed Parsons, Google) moderated by Antony Oliver examined the future of the geospatial industry. The debate was lively and ranged from Smart Cities to careers, Brexit, underground utilities and OSGB36. Here are a few snippets from the discussions:

- Ed Parsons warned against over-engineering products. Google's approach is to develop the minimal viable product. It is just adequate for its purpose, because anything more is waste.
- What should people in their early years focus their development on? The general view was data processing and analysis rather than data collection. Manley suggested that learning to code was a good start and stressed the importance of keeping up to date. Parsons advocated 'making things' as a good way to understand and develop, while, Hopkins suggested that data collection was not the done deal that others sometimes claim and Parsons agreed. Google operates, he said, in the mass consumer market, a world apart from professional surveying.
- There was some discussion about the adoption of PAS128 for survey of underground utilities and how to get it implemented.
- The OS policy of distorting reality to fit OSGB36 was questioned. The view was that eventually there will have to be a change, but not immediately because of the work involved in converting data.

The panel concluded that there will be more automation to which geospatial will have to adapt, Brexit will result in opportunities and that we should take heart from the fact that geospatial is now and will, for the foreseeable future, be at the core.

And so two days packed with things to see and hear once more came to an end. GeoBusiness has matured into an old friend who we visit each year, have a few beers with (aided by the organisers delightful "Ale Trail") and then arrange to meet next year. And so we will.

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