Reducing Barriers to Geospatial Information - Interview with Charles Kennelly

Charles has been Esri UK's chief technology officer since 2008. He is committed to 'reducing barriers' to the use of geospatial information. Robin Waters met Charles at the bar after Esri UK's annual conference in London in May where he contributed to opening and closing plenaries as well as to the opening of the track on ArcGIS as a platform.

GIS Professional: This is the first Esri UK conference that I have attended and you seem to be able to attract many users despite the age of austerity?

Charles Kennelly: We are delighted that there have been nearly 50% more delegates than last year and we actually ran out of GIS Professional copies that you had provided! We were taken by surprise at how many people have just turned up on the day. It looks as if they have found the meeting useful and interesting judging by the attendance at the plenary and breakout sessions and certainly all our partners with stands in the refreshment area are doing a lot of business.

GIS Pro: GIS has a reputation for technical complexity and unintelligible jargon. Are these the main reasons for your concentration on reducing barriers?

CK: GIS can bring huge benefits to society, but to achieve these benefits we need to find better ways of delivering GIS at the point where it can make a difference. That means making it available in the technology that people actually use – in their enterprise systems, in their BI solutions and on their tablets, smartphones and GPS-enabled devices. We need to provide solutions for many different application areas, from asset management to geodemographics, and these solutions need to be available when and where they are required – not just on a desktop in a GIS department.

The ArcGIS platform provides a cloud-based service, which is proving very popular for its availability and functionality. Perhaps even more importantly, it comes with readily available datasets – both international and local. Many are available completely free of charge for use as background "contextual" mapping while others can be used for analytical purposes; we are working to make ArcGIS a living atlas that provides a rich starting point and foundation for the use of GIS.

GIS Pro: Do you have figures to show the popularity of ArcGIS Online?

CK: Yes, it is growing rapidly. We are, for example, seeing over a billion requests a month on our basemap services worldwide. In the UK we are seeing a real growth in the use of ArcGIS Online and the supporting UK specific services. For instance, we provide a background mapping service based on the Ordnance Survey Open Data that is growing continuously and is currently running at over 30 million hits per month.

One of your customers, now a charity, suggested that they could not afford to use OS MasterMap because your service could not deliver the very disjointed geographical subset that they needed. Will more flexible delivery options become available?

Yes, we are starting to use our online platform to provide users with data that only covers the specific areas for which they are licensed, either as a service from ourselves or by them loading specific data into their own portal. We expect that more flexible options will become available, that apply usage specific filtering on very precise metering, to support pay per use. The latter may, of course, need a change in the way that data providers license their products.

GIS Pro: A lot is written about the need to integrate GIS with "mainstream" business applications. Where does Esri stand on that?

CK: Esri has had a focus on integration with enterprise and web systems for many years, we have worked to deploy our technology using mainstream IT approaches, technologies and interfaces. More recently, the growth of our online platform has allowed us to deliver GIS directly into applications that have a wider audience such as IBM Cognos, Microsoft Sharepoint and Dynamics, SAP and MicroStrategy. We have recently announced "Maps for Office": a very simple interface for Microsoft Office that enables, within the Excel and Powerpoint applications, visualisation of any geographically referenced data with colour coded polygons or a set of points. Users can then explore this data and enrich their spreadsheets with content such as demographics while operating in their own familiar environment.

When we use “Maps for. . .” we imply that our products are sitting within the host application software. We use ArcGIS or ArcGIS Online when our software or services is being used directly.

Building Information Management (BIM) is becoming mandatory for government construction contracts and integration with GIS is being promoted by many industry gurus. What is Esri’s view? Is this another example of having to break down the barriers between professions and practitioners?

We see BIM and GIS as being very complementary technologies, bringing location and spatial analysis capabilities to bear on traditional management systems. So yes, to be successful we need to offer the capability in a way that BIM users can recognise and leverage. We have been in the forefront of the use of GIS for planning the built environment – which is always set in some geographical context. Geodesign – a term coined by Esri – is the way forward in terms of “macro planning”. Tools such as City Engine and the upcoming ArcGIS for 3D Cities solution support detailed planning at the building level, helping to maintain, analyse and share urban landscape and facilities data models.

GIS Pro: The need for readily available “content” was emphasised at the conference and I understand that Esri UK are certainly providing national datasets. Can you tell us how this works in the context of the licensing situation for many government datasets?

CK: We strive to provide national datasets to complement the international datasets available worldwide, which are not in the projection systems or as detailed and up-to-date as many UK users require. The community basemaps include imagery, street maps and topographic maps. Users can contribute their own data to this service, making it available to all users free of charge. In the UK we also provide free access to all of Ordnance Survey’s OpenData, which includes a vector basemap, boundaries, postcodes and 1:250,000 colour raster mapping. Our “Premium” services are available on subscription and include a Public Service Mapping Agreement “bundle”. These include OS MasterMap and colour raster mapping at 10k, 25k and 50k, to take advantage of the OS license agreements that many government departments and organisations already have in place.

GIS Pro: Your timeline for the next 25 years raised quite a few laughs but also, I suspect, some deeper thoughts. You predicted that the government would accept “core geographies” in 2018 and that Ordnance Survey would provide all its mapping services directly in the same year. Why so long?

CK: The recent government response to the Shakespeare report on public sector data appears to at least recognise the existence of core reference data – including geography. We welcome that. But there may still be a delay between “recognising” a concept and actually delivering the product or service to users. I see data quality and robust update processes as being a factor in this. I also see challenges in embedding a genuine understanding of spatial relationships in the wider IT world, such as working directly with geographies. Previous attempts have often relied on proxies for spatial features, such as postcodes and identifiers, rather than on making integration with spatial relationships simple to use and understand. The agencies that produce such data – including Royal Mail and Ordnance Survey – will have to adjust their business and licensing models. This will have a knock-on effect on many existing partners but also opens up new opportunities.

Many of your other predictions have a very long timescale when many of us in the industry think that they could be implemented much sooner if only the CEOs or ministers really understood the benefits. In the fields of insurance, the environment, flooding, planning etc many of your predictions ought to be common sense – how should we bring them forward so that we can have our GIS day in 2025 instead of 2037?

Partly the timeframes are long because I had 25 years to fill and partly because of the challenges of growing the awareness of what is possible.

Esri’s mission has always been to make the benefits of GIS available to society, we see Web GIS as a way of achieving a step change in the use of genuine GIS in daily life. The resulting easy access to functionality and content means that we are living through one of the most exciting times for our industry, where the potential we all know is inherent in the spatial approach is finally being recognised.

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