Land Registry and INSPIRE Index Polygons - Interview Andrew Trigg

Robin Waters talks across the waves to Andrew Trigg to discover more about latest developments with Land Registry, particularly its download service for INSPIRE Index Polygons.

For over 20 years, the Land Register for England and Wales has been available for anyone to view but before 1990 it was "closed" to the public – you needed the permission of the owner of registered land in order to look at the register entries for that land and find out who owned it! And it was only in 1990 that compulsory registration, on transfer of title, reached every part of England and Wales. The Register is now in the forefront of a revolution in conveyancing that keeps the costs of buying and selling land and property in England and Wales amongst the lowest in the world.

In 2012, Land Registry put a subset of its index map online through http://data.gov.uk and in September 2013, it introduced its own download service for the INSPIRE Index Polygons.

We are therefore delighted to have been able to interview Andrew Trigg, Land Registry's Head of Data Strategy and Chief Geographic Information Officer, about these latest developments and the historic background to them. The interview was conducted by Skype to St Helena, the remote British Overseas Territory in the South Atlantic! Andrew was a member of a Land Registry team aiding their Land Registry department, which is anticipating the completion of the airport in 2015. The team had to travel by air to Ascension Island and then by sea.

GIS Professional: Very few, if any, other UK organisations have labelled their INSPIRE compliant datasets as INSPIRE. Why has Land Registry done so?

Andrew Trigg: A good question! INSPIRE was the catalyst that enabled us to release this version of the Index Map, which we might not have done otherwise. We also had to clearly distinguish between this version – which only shows freehold "polygons", as required by INSPIRE legislation – from the full Index Map, which also shows leasehold property. We hope to make the full Index Map available soon, but it will be chargeable.

GIS Pro: Can you explain the significance of the index map in Land Registry?

AT: Land Registry exists to provide secure and government guaranteed title to land in England and Wales. Proving title to unregistered land requires expensive and time-consuming work by lawyers relying on bundles of deeds – with land being described in words and with many different types of plans. Once registered all title plans are based on the most up-to-date large-scale Ordnance Survey map at the time of registration. The Index Map is also based on OS mapping but is, as its name implies, just an index to individual title plans. The Index Map (and hence the INSPIRE version as well) is only indicative of the location and approximate size and shape of registered land. It has no legal status.

GIS Pro: What are the main differences between the full index map and the INSPIRE version – and why?

AT: The full Index Map has leasehold and other, more obscure, classes of title such as "Possessory", as well as freehold polygons, and these have Land Registry title numbers. Many titles include more than one polygon, such as where garages are in blocks separate from housing. The INSPIRE specification requires that each polygon has a unique number rather than duplicate numbers where a multi-polygon title exists. Part of the process for developing the INSPIRE dataset included a thorough review and updating of the Index Map, which is of general benefit. The INSPIRE version has been made available free of charge – for both viewing (http://data.gov.uk) and for download from Land Registry's own website – as part of its strong support for the Government's Open Data programme.

GIS Pro: Can you say anything about negotiations with Ordnance Survey?

AT: Land Registry has always been keen to ensure that it released its own data using the Open Government Licence (OGL) so that re-use is not restricted. This intention was relayed to Ordnance Survey. It needed to do this because the Index map uses OS mapping – nowadays OS MasterMap – which is subject to Crown copyright and must be licensed for any use. Although the Index Map uses only a small subset of OS MasterMap, it is still classed as "derived data" by Ordnance Survey.

OS has accepted that Land Registry data may be licensed using OGL and has added an extra facility to the Public Service Mapping Agreement, which frees organisations publishing INSPIRE data from the necessity to track and check on the uses of the data being made by individuals and organisations who download it. Users accept the terms and conditions when downloading and are responsible for their own actions.

Land Registry is as open as we can be given the reliance on this third-party OS data and we understand the constraints of the OS Trading Fund status – which are similar to our own.

GIS Pro: The INSPIRE index map can be viewed online – but only with certain OS backgrounds. Would Land Registry ideally be able to put up the MasterMap background from which the index polygons are derived?

AT: We have no plans to serve OS MasterMap as a background to our INSPIRE Index Map. All datasets available on http://data.gov.uk, including our data, use Ordnance Survey mapping as the background. This is OS Open Data and therefore excludes the OS MasterMap Topography layer.

GIS Pro: Are there any technical issues around the INSPIRE dataset that our readers might wish to understand?

AT: The Index Polygons can be downloaded very easily from our website as GML (Geography Markup Language) files for each local authority district. GML is specified by the INSPIRE directive and is also used by, for example, Ordnance Survey for its MasterMap Topography layer. As such there are many open source or proprietary viewers and loaders depending on which GIS is being used.

The dataset is updated around the 17th of every month. Any polygon that crosses a local authority boundary is duplicated in both files and therefore any organisation needing to download more than one local authority will have to de-duplicate the overlapping polygons to get a seamless coverage.

The zipped files vary in size from less than a megabyte for the Isles of Scilly to nearly 90Mb for Cornwall. The smallest number of polygons is also for Isles of Scilly – with just 878 while the largest is Birmingham with 318,000. London is broken down into its constituent boroughs.

All downloadable data is provided in national grid coordinates whereas the default presentation on the http://data.gov.uk viewing service is in a European wide projection that distorts familiar shapes in England and Wales.

GIS Pro: Are there any data quality issues? Our continental friends are, for example, always surprised by the gaps!

AT: Part of the effort involved in producing the INSPIRE Index Polygons was undoubtedly cleaning up the existing index map. We do not claim that it is perfect – and it is only indicative – but we know that it is a lot better than when we started!

Our friends in the rest of Europe expect their cadastres to be complete – to cover all land in their country. These were mostly established subsequent to the French Revolution and Napoleon's influence on most of continental Europe. Cadastres were introduced systematically for the purpose of land taxation as much as ownership and were surveyed explicitly with boundary markers and precise measurements of areas.

In England and Wales there has never been a cadastre and although Land Registry was set up in 1862, it was only in 1990 that it became compulsory for all of England and Wales. Compulsory registration was introduced county by county and only on transfer of title. So land that has not changed ownership since compulsory registration was introduced in any particular area will not be registered unless an owner has chosen to do so voluntarily. Just under 20% of the land area of E & W is currently unregistered – for example large rural estates but also properties in built-up areas that have simply not changed hands since their counties became compulsory areas.

Our system is based on "general boundaries" – land is described by reference to the largest scale OS map and the boundaries are not precisely coordinated. This is a pragmatic solution that has generally worked well but which is occasionally enhanced to a "fixed boundary" with the agreement of owners on either side.

GIS Pro: Do you have any feedback from users yet?

AT: We have had over seven thousand downloads of the datasets in less than two months since they became available in September. Feedback has been generally positive and there have not been that many queries. A few potential value-added suppliers have suggested that they might derive useful information but we're not aware of any commercial applications yet.

GIS Pro: We have seen that Kent GIS have put up all your data with OpenStreetMap – are there other ventures like this?

AT: We aren't aware of any other attempts to put up the whole of the dataset although under the terms of the Open Government Licence, it is not possible to track who has downloaded the data and the subsequent use that they are making of it. We also know that many organisations are eagerly awaiting the release of the complete Index Map.

GIS Pro: How does Land Registry see the overall data.gov / UK location Programme / INSPIRE progressing – is it well integrated?

AT: We see ourselves in Land Registry as one of the leading departments providing Open Data following the government's initiatives and this is not confined to the polygon datasets. The UK Location Programme is currently in a state of flux, but it is clear that Defra remain responsible for INSPIRE compliance.

Land Registry is a member of the Public Data Group and is participating in the Open Data Energy and Environment Challenge, which is

being supported by the Nesta innovation foundation and the Open Data Institute.

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