

# Facilitating a spatially enabled society

# Land and Property Services Northern Ireland

# The Challenge

 Achieve the aims of the Northern Ireland GI strategy

# The Benefits

- Open, universal access to location data for all of Northern Ireland via a single GIS-based portal
- Substantial, sustainable public and private sector cost savings and quantifiable carbon reductions
- Better information to support decision making across government and private sector organisations
- An effective platform for ensuring compliance with EU INSPIRE Directive

#### The Customer

Land and Property Services (LPS) is part of the Department of Finance and Personnel for Northern Ireland.

## The Challenge

In 2009, the Northern Ireland Executive endorsed the second Northern Ireland Geographic Information (GI) Strategy, a ten year plan for promoting and facilitating greater use of location information. By 2019, the strategy aims to have nurtured "a spatially enabled society in which government is using GI as a decision making tool, businesses are using GI to increase efficiency, and the public are actively using GI, all on a daily basis."

The Northern Ireland GI Strategy was influenced by a wide range of factors, including the EU INSPIRE Directive. Introduced in 2007, this legislation mandates member states to make environmental data publicly accessible. As many as 50 separate public sector bodies across Northern Ireland need to comply with INSPIRE, but didn't have a simple and cost effective way to do so.

LPS realised that, to facilitate the GI strategy, it would need to build an entirely new technical infrastructure for storing, managing and delivering location information to a broad user base. From the outset, the organisation was convinced that a geographic information system (GIS) would be a vital component of the project.

### The Solution

LPS conducted a formal tender process to evaluate GIS solutions and selected Esri's ArcGIS platform. "ArcGIS ticked all the boxes in our tender, at the right cost," recalls Suzanne McLaughlin, GI Strategy & INSPIRE co-ordinator at LPS.

Esri Ireland worked closely with LPS to help it design, build and implement a versatile GIS infrastructure and web-based GIS portal using ArcGIS technology. LPS also worked with con terra, one of Esri Ireland's partners, to develop a sophisticated data licensing mechanism that enables LPS to control which groups of users can access which data sets and mapping services.

Named Spatial NI, the solution consolidates hundreds of different location-based data sets, including, for the first time, information from all 26 local authorities in Northern Ireland. Users can access these vast resources via the Internet and layer data sets on maps and aerial images to get a deeper understanding of issues.

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Anyone can use Spatial NI from members of the public right the way through to government and commercial organisations. It places location information at everyone's fingertips and delivers a vital component of the Northern Ireland GI strategy.

Suzanne McLaughlin, GI Strategy & INSPIRE co-ordinator, LPS



'Attribution from Environment Agency Sites and Monuments INSPIRE dataset displayed on LPS Orthoimagery

#### **Benefits**

Spatial NI has delivered the technical infrastructure that was absolutely pivotal to the success of the Northern Ireland GI Strategy. Robust, flexible and intuitive to use, this GIS-based solution has propelled Northern Ireland forwards towards its vision of "a spatially enabled society". Spatial NI can be used by absolutely anyone and provides open access to rich data resources, which can be combined, analysed and used in a multitude of different ways to gain deeper insight, operational efficiency and business advantage.

In addition, organisations that have (or will have) to publish data under the terms of INSPIRE now have a proven system they can use. Spatial NI makes it very simple and inexpensive for them to comply with the directive and avoid fines of millions of pounds.

But the benefits of Spatial NI go much further than this. The solution is also driving significant cost savings and productivity gains that will accumulate over many years.

In the past, LPS used to post out DVDs and hard drives of data to around 100 organisations and physically deliver hard drives of data to a further 70 organisations. If all of these clients consume the data they need as web services from Spatial NI instead, LPS calculates it will save over £136,000 in three years. Hard drives were transported a total distance of around 7,700 miles each year, so by eliminating these journeys, LPS estimates that it can save 2.49 tonnes of carbon per year as well.

The cost and carbon savings identified by LPS can also be achieved by other public sector bodies that routinely send out data to interested parties on DVDs or hard drives. These organisations can now effortlessly publish their data once on Spatial NI, providing a single point of access, conserving time as well as money. Using these services, they can also significantly reduce the cost of developing corporate or customer-facing web applications.

The recipients of data disks save money too, as they don't have to load the DVDs, manage different data versions and invest in large hard drives to store the data. LPS calculates that public and private sector organisations can make operational and capital savings in the region of  $\mathfrak{L}500$  to  $\mathfrak{L}3,500$  per year by streaming the data they require on demand, rather than storing, managing and maintaining it in-house.

Most importantly perhaps, Spatial NI creates opportunities for organisations that don't yet use location information fully. "I see a lot of potential for public and private sector organisations that haven't previously had either the budget or in-house capabilities to use GI," says Brian Galloway, Spatial NI project manager at LPS. "Now they can easily access data from Spatial NI, for free, and use GI to make better decisions, without having to have detailed GIS knowledge or solutions in-house."

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