



UK Location Council

Annual Report
2010/11

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Foreword

Harnessing the power of location information



This government is committed to openness of information, the 'right to data' and facilitating its re-use for the benefit of the economy, society at large, and the environment in which we live. Location information is often required to drive out this benefit and to allow data to be combined from different datasets, enabling a richer level of analysis that would not otherwise be possible with the original datasets alone.

In fact, this sharing and re-use of location information is vital to the development of effective, evidence-based environmental policies, but also has wider applications. Imagine trying to assess the risk of flooding (for insurance or emergency planning) without accurate height models and the geo-coded addresses of properties in the area. Imagine trying to search a database of planning applications without map or address references, or trying to plan a new supermarket without knowing the demographics of the population within a certain driving time. To demonstrate the significance of needing accurate location data, the Office for National Statistics recently had to invest £6m in creating a comprehensive address dataset drawing from existing products for the 2011 census: imagine what other savings could be realised across the public sector by having a wider body of accurate geo-referenced data easily accessible.

I believe that the UK Location Council's drive to standardise and open up access to our location data will improve public sector productivity, help deliver better services, and provide a platform for both private sector innovation and citizen involvement.

This report from the UK Location Council details the vital work that has been carried out since January 2010, to make sure the location information which is already being collected by many public sector organisations, can be used as widely as possible and that it is made available in forms that encourage value added services, products and applications from both public and private sectors. As an example, the Coal Authority's co-operation with local authorities on the potential risks posed by old mine shafts and underground workings shows how important the location element can be in keeping us all safe in our own communities.

I would like to commend all across the UK community who are contributing to this endeavour. In 2011, over 30 organisations will publish over 600 datasets that can readily be accessed and used. This will quickly create a critical mass to enable new and innovative uses of data and great opportunities to save cost. There is a plan of work to publish much more data, within the same infrastructure in the UK and across Europe over the next decade, and make a substantial difference to our use of location information in all walks of life.

Lord Henley

Parliamentary Under-Secretary
April 2011

"Today, technological innovation has – with astonishing speed – developed the opportunity to spread information and decentralise power in a way we have never seen before."

The Coalition: our programme for government, May 2010

The Rt Hon David Cameron MP

Prime Minister, First Lord of the Treasury and Minister for the Civil Service

The Rt Hon Nick Clegg MP

Deputy Prime Minister, Lord President of the Council (with special responsibility for political and constitutional reform)



Executive Summary

The UK Location Council brings together different government departments and agencies, the devolved administrations and local government, to steer the implementation of the UK Location Strategy¹ and the EU's INSPIRE Directive². These initiatives, aim to improve access to public datasets, encourage cooperation between organisations within the public sector and thus make it much easier for government, commerce and citizens to make better decisions where location is a factor. Although some benefits are already being realised, there are many more yet to be crystallised by the decision makers and entrepreneurs of today and tomorrow.

The UK Location Programme has carried out all of the actions that were planned for its second year, despite a change of government and some radical changes in the context for location based information. There has been an increased emphasis on localism and on the need for openness with data, information and knowledge. Location information remains at the heart of this agenda.

Implementation of the INSPIRE Directive is on course, with standards and guidance published, data providers mobilised across the UK, and most indicating their readiness to publish their metadata and make their existing data available.

Strong collaboration across government is needed to ensure that the Location Programme is implemented effectively and at minimum cost. The Location Council decided that the UK's location data should be accessible via data.gov.uk alongside other government datasets and Defra, Cabinet Office and Ordnance Survey are now building the technical infrastructure that will underpin the delivery of location information in this wider strategic context. Scotland, Wales and Northern Ireland will each have their own portals for government location information from which data.gov.uk will link to provide a comprehensive UK wide service. The work being done across the UK will remove many of the barriers to the sharing of information across all central and local government organisations. However most software and services required to harness the power of location information are likely to be provided by the private sector with proprietary

¹ <http://location.defra.gov.uk/>

² <http://location.defra.gov.uk/inspire/>

products, or by adding value to Open Source software, as Ordnance Survey has done for INSPIRE data publishers.

Key Ordnance Survey datasets will now be available to all public sector bodies via the Public Sector Mapping Agreement (or the One Scotland Mapping Agreement in Scotland), and this will also encompass provision of the new National Address Gazetteer being developed by a joint venture between Ordnance Survey and local government.

The UK Location Programme has significantly enhanced its web site and programme of outreach events during 2010. It has convened a series of 'theme groups' for organisations to plan and coordinate the publication of INSPIRE related datasets. In the protected sites domain, for instance, local authorities in England have agreed that Natural England and English Heritage should collate local authority data into national datasets to avoid duplication and improve efficiency realising savings of up to £ 17 million. Similar processes are being orchestrated by the devolved administrations where appropriate.

In June 2011, the EU's INSPIRE conference³ will be held in Edinburgh. Its themes are sustainable, smart and inclusive growth. Papers, many from the UK, will cover more specific topics showing how the implementation of the INSPIRE Directive will contribute, for example, to the efficient use of resources, to environmental protection, to strengthening our resilience to climate risks, and helping with disaster prevention and emergency response.

The needs of data users and potential benefit opportunities are being addressed. The last year has seen the emergence of the Location

User Group, with representatives including environmental agencies, the voluntary sector, emergency services, transport, defence, academia, insurance, property and retail. The Coal Authority's pilot project, highlighted in this report, exemplifies how the use of location based information, combined with the most up to date topographic and administrative datasets, can deliver benefits to government, commerce and citizens when used in carrying out risk assessments and dealing with emergencies. This pilot project delivers authoritative information on risks from underground mine workings, from archived information that has been integrated with the latest surface geography.

The UK Location Council has been very encouraged by the co-operation and commitment of all concerned to achieve the objectives of the Location Strategy, despite the challenges presented by the current fiscal climate. There is a clear realisation that making greater use of shared location information can both improve efficiency and deliver better public services right across the UK.

"I recognise the challenges in the current economic climate, but successful implementation of INSPIRE in the UK offers significant savings"

Caroline Spelman
Secretary of State for the Environment
Defra
March 2011

³ http://inspire.jrc.ec.europa.eu/events/conferences/inspire_2011/

South Yorkshire Police – GIS at the touch of a button.

"GIS is such a powerful tool that we wanted to make it available to everyone, not just our specialist analysts."

Mark Hamilton, GIS manager at South Yorkshire Police

South Yorkshire Police have recognised that geographic information systems (GIS) can help its community police officers work more effectively by providing them with better information about the communities they serve, precisely when and where they need it.

An intranet-based police intelligence solution has been implemented giving officers in the field access to a wide range of detailed, up-to-date information and analysis of communities, crime and anti-social behaviour to support community policing. South Yorkshire Police are already saving over £1 million annually as a direct result of this implementation and the efficiencies gained in rapid processing of location based information. www.southyorks.police.uk



1. Introduction

1.1 UK Location

The UK Location Council was established to act as the strategic adviser to government on location data matters and to steer the UK Location Programme, which has been set up to implement the UK Location Strategy and the EU INSPIRE Directive.

The Chair of the Council is a senior Defra civil servant and the members represent other government departments, the devolved administrations, local government and the GI industry. The Chair of the Location User Group and the representative of the Association for Geographic Information (AGI) provide strong engagement with a wide range of stakeholders beyond government including other data providers, the private sector, academia and the third sector (voluntary and charitable organisations).

The membership of the Council is detailed at **Annex A**.

1.2 Aims and objectives

The EU INSPIRE Directive (INSPIRE – INfrastructure for SPatial InfoRmation in the European community) was transposed into UK law in December 2009. Its objectives have an emphasis on access to, and interoperability of, location based information to assist in environmental policy. It covers 34 themes from addresses, transport and hydrographic networks to weather, soils and geology. Statutory instruments for the delivery of INSPIRE are in place in England, Wales and Northern Ireland and, separately, in Scotland.

The UK Location Strategy has similar aims to INSPIRE but encompasses all areas of government policy. The aims of the Strategy can be summarised as follows:

- **Data & Metadata** – to know what data we have and avoid duplicating it;
- **Common Reference Data** – to use common reference data so that we know we are talking about the same places;
- **Data Sharing** – to share data more easily – with common technology, standards and business relationships;
- **Skills & Capabilities** – to gain the appropriate skills for using location information effectively; and
- **Governance** – to provide strong governance for implementation of the Strategy.

1.3 The 2010/11 Report

This report covers UK Location activities from January 2010 to April 2011, unless specifically stated. The first section describes the rapidly shifting context of government policy, economic reality and technological development. The second shows how the UK Location Programme has addressed these changes and achieved progress towards implementing the Strategy and INSPIRE. The report details significant milestones in this progress and describes the enhanced awareness and education programme. Finally, there is a look at the challenges ahead and a description of the key activities being planned with the cooperation of all stakeholders. This report also includes a summary of the cost of the programme during the financial years 2009/10 and 2010/11.



2. The Changing Context

In November 2008, the UK government published its Location Strategy⁴, which embodied a set of actions enabling us to find and use data, have the right skills available to potential users and therefore be able to make location-aware decisions that offer the widest possible benefits.

In the past, mapping and geography have been seen as different, with a need for specialist web sites, but UK data policy is evolving rapidly and the aims of the UK Location Strategy and INSPIRE are very much aligned to the policy direction and, in some areas, are driving the thinking.

Government data is becoming more accessible with the establishment of data.gov.uk as a single access point and the imminent introduction of a set of Public Data Principles. The government's 'transparency agenda' has emphasised the need for government to be accountable to taxpayers and a Transparency Board is making the case for the release of important datasets. Departments are required to define indicators in their business plans that will be used to measure performance. The government has also published a Protection of Freedom Bill that embodies a "Right to Data" for all citizens.

Important developments in licensing and charging have accompanied the drive to open access. The UK Government Licensing

Framework⁵ has been published and a straightforward Open Government Licence introduced. Ordnance Survey are now providing free-of-charge access to small and medium scale mapping products under the OS OpenData brand.

The Public Sector Mapping Agreement (PSMA) for England and Wales, modelled on the One Scotland Mapping Agreement, came into effect on 1 April 2011 and enables over 10,000 organisations in the public sector to access a wide range of Ordnance Survey products under a very much simpler licence than in the past. Ordnance Survey and the Local Government Group have also joined forces to create a National Address Gazetteer for England and Wales, that will provide INSPIRE compliant products through the PSMA.

Government is also looking at the impact of collecting data as part of its policy of reducing regulatory burdens. Government Data and Local Data Reviews are being carried out to ensure that only essential datasets are collected and that they are promptly published.

The Big Society agenda⁶ aims to give citizens and civil society a greater say on local issues. Location information is essential for all parties concerned and the UK Location Programme is progressing this agenda through pilots with voluntary organisations and by providing support to data

Sir Tim Berners-Lee "I'm delighted that the Ordnance Survey is releasing this data for free re-use. It will help people make fuller use of other government data on data.gov.uk, as well as stimulating innovation in mapping itself."

4 Place Matters: The Location Strategy for the UK, Communities and Local Government, Nov 2008.

5 www.nationalarchives.gov.uk/information-management/uk-gov-licensing-framework.htm

6 www.cabinetoffice.gov.uk/content/big-society-overview

providers and users in local government and the devolved administrations. Big Society thinking also features strongly in Defra's Natural Environment White Paper, with the aim of establishing a better managed environment to which citizens are better connected.

The Government ICT Strategy⁷ was published in March 2011. It includes references to areas such as achieving efficiencies, delivering projects more effectively, interoperability and open source. UK Location has a role in terms of geospatial standards and is working with the CTO Council on publication schemes for location data.

Alongside INSPIRE, there are many other initiatives relating to environmental information. Nationally, there is the UK Environmental Observation Framework (UKEOF)⁸, which provides an online catalogue following the rationalisation of observational data. There are European initiatives, such as the Shared Environmental Information System (SEIS)⁹ and Global Monitoring for Environment and Security (GMES)¹⁰ and global initiatives such as the Group on Earth Observations (GEO)¹¹. The Living With Environmental Change (LWEC)¹² partner organisations are assessing how best to respond collectively to these different initiatives, through the development of an "Environmental Information Framework", which will aim to make a wide range of information resources available in re-usable form to meet different policy, service provider and end user needs as efficiently as possible.

The Foresight Study from the Association for Geographic Information '*The UK Geospatial Industry in 2015*' (May 2010)¹³ discussed the likely impact on the geographic information sector of political, economic, social, technological and environmental challenges up to 2015. It concluded that public sector information is becoming more accessible as the sector shrinks and redefines itself, while location information is becoming ubiquitous and is no longer 'special'. Any market requirements for location related information will be satisfied by a variety of means, with the current data sources being bypassed if they do not respond appropriately. The report suggests that "new business models may represent a revenue opportunity or a threat for the current geospatial industry".

In this context, the UK Location Programme will have to respond rapidly and with a sharp focus on developments that are necessary to meet legislation, that have clear policy drivers, or that have quantified economic benefits. Fortunately, many developments address all three of these requirements.

7 <http://www.cabinetoffice.gov.uk/content/government-ict-strategy>

8 www.ukeof.org.uk/

9 <http://ec.europa.eu/environment/seis/>

10 www.gmes.info/ 11 www.earthobservations.org/

12 www.lwec.org.uk/

13 AGI Foresight study (May 2010) including background papers on Policy, Markets, Data and Technology are available on the AGI website www.agi.org.uk/foresight/





3. Progress In 2010/11

The UK Location Strategy is not limited to compliance with the INSPIRE Directive and Regulations. Together with the strategies and approaches developed by the devolved administrations (*'Geographic Information Strategy for Northern Ireland'*¹⁴, *'One Scotland: One Geography'*¹⁵ and *'Location Wales'*¹⁶), it promotes wider discovery, publication and reuse of all location information for any purpose. The Northern Ireland Geographic Information Strategy Annual Report for 2010/11 will be available in June on the NI GI Strategy website¹⁷.

Progress towards implementation of the Strategy through 2010/11 includes several initiatives from government departments, devolved administrations and organisations already mentioned in Section 2. The achievements of the UK Location Programme

and the wider community have all contributed to the successful implementation of the UK Location Strategy.

The 2008/09 Annual Report set out 12 actions that were to be carried out during 2010. All of these were addressed and, where still applicable, completed. Some, such as the aspiration to establish a GeoPortal were affected by the wider context, i.e. the same aims were achieved in a way that was strategically more relevant (through collaboration with Cabinet Office and Ordnance Survey in data.gov.uk). Reports submitted to EC bodies show that this progress is continuous and is meeting our commitments.¹⁸

Key principles guiding the implementation of UK Location are:

- adoption of a collaborative approach, involving the public, private and third sectors;
- minimum market intervention to achieve the sharing and re-use of location information;
- use of open standards and open source software;
- full use of what information and infrastructure already exists or is planned;
- harness the market to provide re-usable products and services;
- establish the basics and achieve benefits early; and
- incremental and agile implementation with an evolving infrastructure.

14 www.gistrategyni.gov.uk

15 www.scotland.gov.uk/Topics/Government/PublicServiceReform/efficientgovernment/OneScotland/GISstrategy

16 <http://www.agi.org.uk/storage/policy/locationwales.pdf>

17 www.gistrategyni.gov.uk

18 <http://location.defra.gov.uk/inspire/>

Datasets, Data Providers & Publishers

The UK Location Strategy and INSPIRE aim to make it easier to discover and share location data. The INSPIRE Directive defines thirty four themes of data. Any public sector data that is within one of these themes must be published using standardised services and data specifications. The themes are split into three annexes each with its own set of data specifications and binding target dates.

UK Location Programme has committed considerable time and effort to engaging with organisations that hold INSPIRE data and other key location datasets. The focus this year has been to work with organisations that own data in INSPIRE Annex I & II themes.

The Programme has established communities of practice (theme groups) for each theme that provide a forum in which organisations can discuss and plan how they will meet their INSPIRE obligations. These groups have been instrumental in identifying UK INSPIRE datasets and sharing knowledge amongst the data publishing community. The Programme has established monitoring and reporting processes and developed a monitoring database to enable the UK Location Programme Board to assure compliance with INSPIRE and to monitor progress with implementation. The intelligence the Programme is capturing also enables us to plan and target our engagement and respond to requests for information such as the annual INSPIRE monitoring report.

The Programme team has engaged with over 50 organisations to determine if they hold data within the scope of INSPIRE and, as a result, has identified 33 UK organisations that hold INSPIRE Annex I and II data.

The Programme has worked with these organisations directly or through the devolved administrations, to ensure they understand their obligations and how to discharge them.

The Programme has worked with the Local Government Association (LGA) to establish the impact of INSPIRE Annex I and II on local authorities and has facilitated agreements between LGA and central government bodies to collate and publish data inline with INSPIRE and reduce the burdens INSPIRE places on local authorities. For example, the programme secured an agreement between LGA and Natural England whereby Natural England will collate local nature reserve data from local authorities and publish it under INSPIRE.

Through our work with data providers across the UK, the Programme has identified over 250 datasets that must be published under INSPIRE and many of these are now registered with data.gov.uk. Annex B provides information about the annual INSPIRE Monitoring Return to the EU this year.

Welsh Assembly Government – Common Reference Data Case Study

The Welsh Assembly Government has acted as the lead for central government in the procurement of mapping data under the Pan-Government Agreement (PGA) and more recently in the Public Sector Mapping Agreement (PSMA). This has ensured that efficiencies are delivered in the contractual and procurement arrangements and also that there is a common set of core reference information for organisations to utilise. In 2010-11, this collaborative approach

has extended beyond Ordnance Survey to embrace a range of additional geographic information products, including aerial imagery, marine data and services from “geoweb” providers such as Microsoft and Google. Many public geographic applications – from noise maps to crowd-sourced heritage information (<http://www.peoplescollectionwales.co.uk>) – are now being delivered using these common tools and approaches.

Metadata

Metadata describes a dataset in terms that will enable a potential user to determine its usefulness for a particular purpose. Discovery metadata enables users to discover what datasets exist before examining the full metadata or the datasets themselves.

- The UK Location Programme has endorsed the GEMINI 2.1 metadata standard as published by AGI. It is compliant with INSPIRE, CEN (European) and ISO (International) standards.
- The Programme has sponsored the development of a Metadata Editor by Ordnance Survey, based on the GeoNetwork Open Source platform. This enables data providers and publishers to generate standard metadata and it is now available on-line or as a download¹⁹.
- The Programme maintains a list of other suppliers’ INSPIRE or GEMINI 2.1 compliant metadata editing software on the UK Location web site.²⁰
- The Discovery Metadata Registration Service was launched on data.gov.uk in March 2011²¹. This enables data providers or publishers to register their organisations and relevant datasets or services which are then automatically ‘harvested’ by data.gov.uk.

¹⁹ <http://location.defra.gov.uk/resources/discovery-metadata-service/>

²⁰ <http://location.defra.gov.uk/resources/discovery-metadata-service/third-party-metadata-software/>

²¹ <http://data.gov.uk/blog/publish-uk-location-discovery-metadata-resources-on-datagovuk-a-simple-how-to-guide>

Infrastructure

The UK Location Programme is now delivering key elements of the UK Location Information Infrastructure within the timetable set out by the INSPIRE Directive, and is enabling data providers to publish their data and metadata as required. An agreement with the Cabinet Office and Ordnance Survey facilitates delivery of the infrastructure within the data.gov.uk portal and provides open source software for data publishers. This infrastructure will deliver location data in a readily available format, for any onward application. The Programme has:

- established the suite of tools needed to help Data Providers, Data Publishers and their system suppliers to meet their INSPIRE deadlines this year;
- implemented a central capability in data.gov.uk to enable Data Publishers to register their datasets and services;
- provided the capabilities for users to search and evaluate (preview) published datasets as an integral part of data.gov.uk;
- promoted the use of linked data, including co-operating with Cabinet Office and The National Archives on emerging linked data standards, published (jointly with the Chief Technology Officer Council) 'Designing URI Sets for Location'²², which details how location information can be published as Linked Data, and welcomed the production of Linked Data versions of some core datasets such as Administrative Areas and Postcodes;
- agreed a joint infrastructure approach with the devolved administrations that will enable data in Northern Ireland, Scotland and Wales to be integrated in the UK-wide picture in data.gov.uk and UK data to be made available directly to the EC portal Northern Ireland will establish a new Northern Ireland INSPIRE compliant portal that will ultimately replace the GeoHub NI® (which already had 2,400 registered users in

²² <http://location.defra.gov.uk/resources/linked-data/>



February 2011). Scotland will publish data through its 'One Scotland' spatial data infrastructure. Wales will publish data as part of an integrated strategy of data publication linked with wider uses of the data.

Outreach – Awareness and Education

The UK Location Programme has dramatically improved the ways in which they are reaching users, both existing and potential, with the message that location is a vital element of the majority of databases and applications and that it can be employed to improve service delivery whilst still increasing efficiency.

- The Programme sponsored or supported over forty events during the year in all parts of the UK with the assistance of the devolved administrations and the AGI.
- The UK Location web site is now recognised as a prime resource, not just for information about implementation of the strategy and INSPIRE but also as a central resource for anyone needing to learn about the impact of location information today.
- The Programme has produced a series of Getting Started Guides²³ for data providers. Within the wider community, various examples of domain specific guidance have been produced. Examples include the '**cookbooks**'²⁴ written to assist organisations contributing to OneGeology²⁵ and as part of Scotland's spatial data infrastructure 'One Scotland:One Geography'.
- A "Guide to the INSPIRE Regulations" was published by the Scottish Government, which has also developed successful partnerships with:
 - British Geological Survey:
 - EDINA and Edinburgh University: and
 - "early data publishers".
- The Location User Group was established to ensure that UK Location Programme is driven by user needs and priorities and that the benefits are gained by a wide range of stakeholders across the UK. It:
 - focuses on users and covers the public sector, learning and research sectors, the private sector, professional bodies and voluntary and charitable bodies:
 - keeps all stakeholder communities informed about UK Location and their access to best practice, tools and capacity building initiatives to apply to their organisations and sectors of interest:
 - provides a focal point for feedback to the Programme from users on the effectiveness of their actions and services:
 - evaluates the services being developed to help inform future plans, to assist in identifying benefits and to inform other users of the availability and benefits that can be gained from these services: and
 - encourages the publication of case studies involving the use of common location information in joint projects and cross sectoral applications at a local level and in particular those involving local authorities and the voluntary sector.
- Northern Ireland has recently introduced a well-designed schools initiative, integrating the use of location information into the school curricula and has created a central pool of expertise available across the whole of the public sector.

²³ <http://location.defra.gov.uk/resources/getting-started/>

²⁴ www.scotland.gov.uk/Publications/2010/05/06161701/0

²⁵ www.onegeology.org

Northern Ireland Civil Service Training Programme

NICS skills – the NI GI strategy is investigating the possibility of creating a blueprint for delivering and sustaining the necessary GI understanding and skills in the Northern Ireland Civil Service (NICS). The strategy recognises that there is a distinction between specialist GI skills and increasing understanding of GI at a much broader level among all staff. Two of the overall objectives of the strategy are:

- to educate and improve everyone's understanding of the power of geographic information and promote its benefits; and
- to increase skill levels so that everyone who needs to use geographic information knows what they need to know to accomplish this effectively.

GI is formally recognised as a Profession in the NICS. Initial work has been carried out to define the scope of the GI Profession in the NICS, for example where it overlaps or integrates with other professions. Further work has been progressed to create a competency framework to identify GI skills. GI skills are one of the four areas of strategic focus of the strategy for 2011/12 and work will continue to refine the framework and quantify a current and required skills base for GI. Parallel work is in hand to develop a broader awareness of the power of GI amongst civil servants generally, including working with the NICS shared service training provider to include GI components in all relevant training, with an early focus on the training for policy makers.

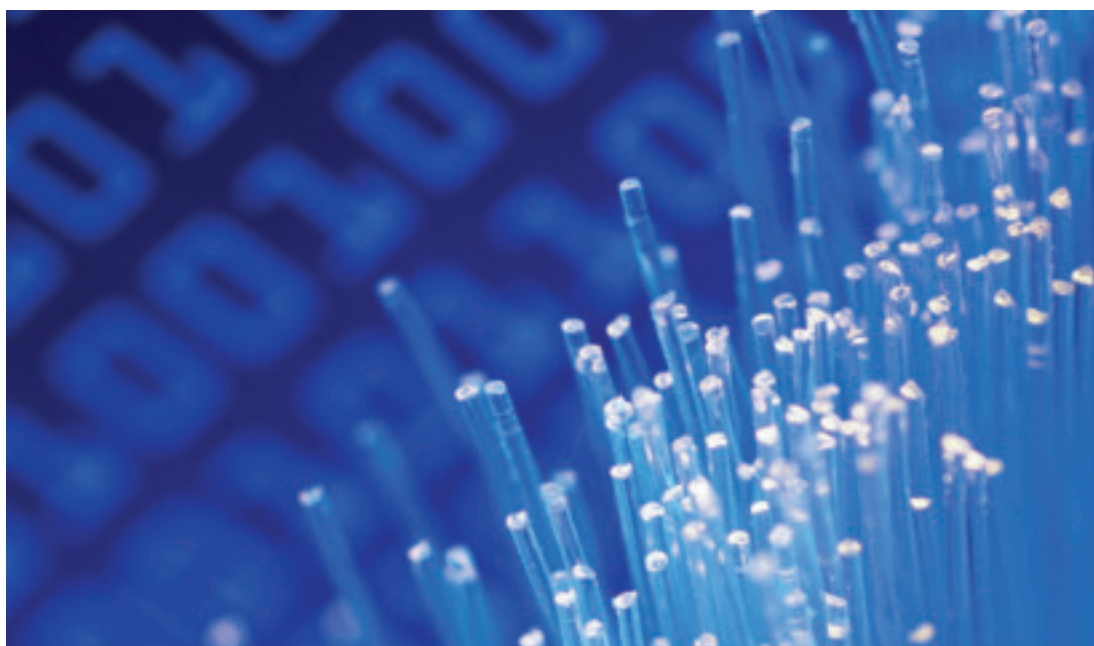
On the ground, Land & Property Services currently has GI experts seconded to different NICS organisations. This resource is increasingly being accessed by Members of the Northern Ireland Assembly and is promoting the benefits of GI to a new audience. An intranet GI system has also been established within the Assembly driving uptake and usage of GI.



Governance

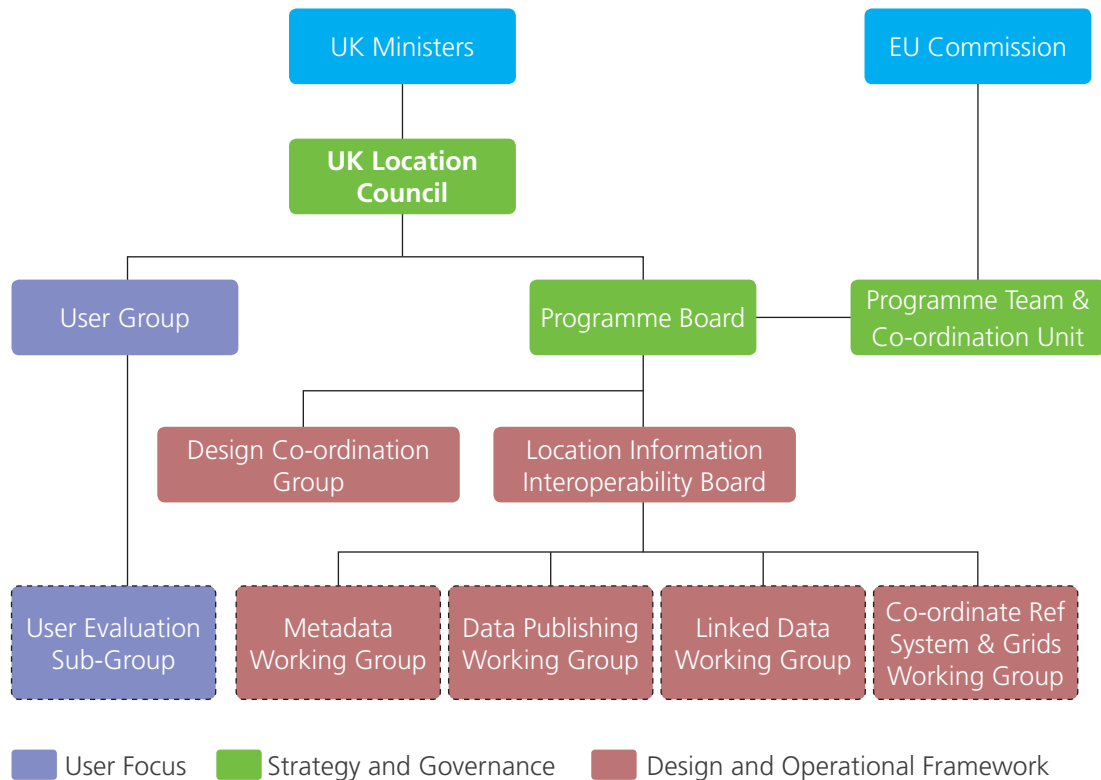
The Council works in partnership with other government departments and public bodies that have specific responsibilities in relation to public sector information, such as The National Archives, Cabinet Office, Department for Communities and Local Government, and the Shareholder Executive.

- During 2010 the Programme Board was set up to manage the day to day running of the UK Location Programme, replacing the Delivery Group that introduced the INSPIRE regulations. The Location User Group was constituted with a Chair who now sits on the Council and with members from a wide range of sectors requiring location information. The Location Information Interoperability Board has continued its valuable work on the design and operational framework for UK Location. Figure 1 illustrates the current governance arrangements.
- In Northern Ireland there is now a Geographic Information (GI) Council which gives high level strategic guidance on The Northern Ireland Geographic Information (GI) Strategy 2009/19 'Effectively using information on location'²⁶. Implementation is through the GI Delivery Board and there are also GI Fora for specialist areas such as INSPIRE, Emergency Services & Public Safety, and Utilities and networks.
- In Scotland, arrangements have been made to establish a senior level Spatial Information Board, supported by groups for particular themes, for service delivery and technical issues, and for public sector collaborative agreements, including the One Scotland Mapping Agreement
- In Wales, the Association for Geographic Information Cymru and the Welsh Government continue jointly to support the Location Wales Panel. This group of GI stakeholders from across the private, government and academic sector promotes the Location Wales strategy and its underlying action plan and provides a forum for collaboration and joint delivery.



²⁶ www.gistrategyni.gov.uk

Figure 1: UK Location Governance Arrangements



Data Sharing

The existence of common reference datasets does not guarantee their use. They also have to be available to all relevant users under terms and conditions that facilitate sharing of the reference datasets as well as 'derived' datasets based upon them. During 2010/11, there were a number of important developments, including:

- The Public Sector Mapping Agreement was established. Together with the Scottish equivalent, this will ensure that the whole of the public sector in Great Britain can now share common reference data and any information derived from it with much more freedom than in the past.
- A new Northern Ireland Mapping Agreement (NIMA)²⁷ was approved in December 2010, giving access to a range of

Land & Property Services digital products to all government departments, local councils and non-departmental public bodies.

This builds on the previous agreement by improving the product range, including web services, and by focusing on data sharing.

- The joint venture (GeoPlace) between Ordnance Survey and the Local Government Group was established to combine existing address databases into a National Address Gazetteer for England and Wales. This will enable local authorities to meet their INSPIRE address theme obligations and will bring England and Wales into line with the existing situation in Scotland and Northern Ireland.
- A coordinated approach on licensing through the UK Government Licensing Framework (UKGLF), was developed by The National Archives.

²⁷ www.dfpni.gov.uk/lps/index/gi/gi_consultancy.htm

During 2010/11, the UK Location Programme published a series of Data Sharing Operational Guidance documents²⁸, which included key inputs in relation to the above developments. This initial guidance forms the first stage in the development of the UK Location Operational Framework, which will evolve over the next four years to cover:

- knowing what licences have been issued – current processes

- harmonisation of licences by 2012: and
- development of common rights management and e-commerce web services by 2014.

Benefits

The LGA commissioned a study on the value of geospatial information that highlighted the value in using location based data. This gives some valuable pointers for communicating benefits and the wider UK business case.

'The value of geospatial information in local public service delivery in England and Wales'

A study into the value of location information in local public services revealed a productivity increase through the use of location information and mapping technology of £230 million. The study was commissioned by the Local Government Association (LGA) to understand the economic value of location information where changes to current policy and practice can enable better and more effective use of location information for the design and delivery of public services while saving costs.

Based on case studies in key application areas, and applying a conservative valuation methodology, it estimates that Gross Domestic Product (GDP) was approximately £323 million per annum higher than would have been the case without adoption of location information. It also estimates that this will rise to £561 million by 2015 under a "business as usual" scenario but could be increased by a further 25% with suitable policies for raising awareness, optimising access to data and improving business skills amongst geospatial practitioners.

The case studies reveal robust economic justifications in many application areas, including:

- Channel shift – through deployment of transactional web mapping systems to reduce the need for face to face contact with officials
- Improved transport efficiency – by wider application of route optimisation and better streetworks management
- Better decision making – using geospatially enabled local information systems to provide powerful "mashups" based on fine-grained statistical data for research and analysis
- Reduced data duplication – using master datasets such as the new National Address Gazetteer database
- Empowering frontline workers – by enhancing mobile working with immediate field data capture and "on the spot" results
- Helping identify social deprivation – through better data integration and analysis

The economic assessment was carried out for the LGA Group by Consulting Where Ltd and ACIL Tasman. The reports, case studies and presentation are available on the LGA website.²⁹

²⁸ <http://location.defra.gov.uk/2011/03/data-sharing-operational-guidance/>

²⁹ www.lga.gov.uk/lga/core/page.do?pagelId=12079357





4. Plans for 2011/12

The key focus of the activities planned for 2011/12 is establishing location information as a core component of public sector information following the initial introduction of INSPIRE services in May 2011. The year will see ongoing work to develop the central IT infrastructure and ensure data providers meet the INSPIRE deadlines and an increased focus in ensuring user needs are reflected and they can gain early benefits from the increased accessibility of location information.

Key Actions in 2011/12 include:

1. Review the appropriateness of the UK Location Strategy, the governance arrangements and implementation approach in light of wider policy developments and lessons learned. The aims will be to ensure the Strategy and the work of those involved is fit for purpose, continues to meet the expectations of the government, industry and the public, and aligns with wider policy developments and initiatives.
2. Establish the necessary IT capabilities to support data providers and users and enable the UK to achieve INSPIRE compliance. To do this we will:
 - ensure the initial IT capabilities on data.gov.uk for metadata registration and discovery and evaluation of data meet the requirements of data providers and users;
 - define the approach to implement transformation and schema transformation and ensure delivery is on track for the June 2012 deadline;
 - ensure that IT integration works effectively across all elements of the UK and devolved administration services and with the Commission services, and that INSPIRE performance requirements are met;
 - ensure that the UK Location presence on data.gov.uk remains coherent with the evolution of the Transparency strategy and the development of the Public Data Corporation; and
 - ensure the data publisher reference services support data publishers effectively and establish arrangements to meet the download requirements for June 2012.
3. Co-ordinate and support the activities of data providers to ensure that:
 - assurance approach is implemented to validate INSPIRE compliance;
 - the initial operating presence for existing Annex I and II datasets in May 2011 gives the UK a good platform in introducing INSPIRE compliant services;
 - all planned datasets are published by the November 2011 deadline and meet the Commission's performance criteria;

- data providers make early preparations for publication of existing Annex III data; and
 - data providers are on track for making their transformation and download services available by June 2012.
4. Develop and publish licensing models, within the UK Government Licensing Framework. Publish supporting guidance on; licensing and charging, third party intellectual property, view for evaluation and e-commerce to underpin the activities of data providers, as well as “how to” guides for data providers and users, and appeals and complaints procedures for users, ensuring alignment with wider government information policy and contributing, to that wider policy development.
 5. Introduce an amending Statutory Instrument to Parliament in autumn 2011, which will fully transpose the EU INSPIRE Directive into UK Law. The 2009 SI made reference to EU Implementing Rules, which had not been made at the time (December 2009).
 6. Work with the User Group to promote the development of applications using the new data and services, validate the usability of what is being implemented and ensure that demands for data beyond INSPIRE are factored into the priorities for the Programme. Continue to progress the pilots programme and ensure the programme includes examples that demonstrate the value of the new data and services that are being implemented in 2011/12.
 7. Promote the use of linked data in building new applications and contribute to the wider adoption of these techniques as part of the government strategy on data publication.
 8. Establish the approach to monitoring and realising benefits across the UK, taking into account the successful approach published in the 2010 local government study *‘The value of geospatial information in local public service delivery in England and Wales’* study. Ensure the UK is prepared for the May 2013 report to the Commission on use, interoperability, costs and benefits of the UK Location Information Infrastructure.
 9. Review the need for action on GI skills development in the light of the recent developments in Northern Ireland to bring GI into the schools’ curriculum and to provide a shared resource pool for deployment in government GI initiatives.
 10. Continue the programme of communications and awareness raising, including the annual EU INSPIRE Conference (a key Scottish Government contribution to promoting INSPIRE), contributing to the annual AGI conference, playing a role in promoting the Transparency agenda and supporting events to engage new interests (e.g. a planned private sector workshop in July 2011).



5. Financial Reports for 2009/10 & 2010/11

The financial reports for 2009/10 and 2010/11 in table 1 and 2 present a summary of the UK Location Programme accounts at the end of each financial year. Non financial contributions

from members of the UK Location community and the cost of INSPIRE compliance to data providers are not included.

Table 1: Breakdown of UKLP Funding and Expenditure in FY2009/10

Organisation	Funding provision (k)
Department for Environment, Food and Rural Affairs	£810
Department for Communities and Local Government	£250
Total budget	£1,060
Area of expenditure	Cost (k)
Defra funded staff costs	£0
Other costs ³⁰	£264
Consultancy	£796
IT development	£0
Total expenditure	£1,060

In 2009/10, the Programme Manager and Technical Director were seconded to the Programme from Environment Agency and Ordnance Survey respectively. Both EA and

OS met the salary costs of these staff with Defra funding for their travel expenses. All other staff on the Programme were external consultants.

³⁰ relate to a variety of costs marketing and communication costs, website development, secondees travel expenses, GI Gateway, meeting costs.

Table 2: Breakdown of UKLP Funding and Expenditure in FY2010/11

Organisation	Funding provision (k)
Department for Environment, Food and Rural Affairs	£1,274
Department for Communities and Local Government	£250
Total budget	£1,524
Area of expenditure	Cost (k)
Defra funded staff costs	£180
Other costs ³¹	£147
Consultancy	£444
IT development	£753
Total expenditure	£1,524

During 2010/11, contractors were replaced by both permanent Defra staff and seconded staff from Environment Agency, Natural England and Countryside Council for Wales.

The Technical Director continued to be seconded to the programme from Ordnance Survey.

³¹ relate to a variety of costs, including marketing and communication costs, meeting costs, website development, secondees travel expenses, GI Gateway



Annex A: UK Location Council members in 2010/11

Table 3: List of Location Council Members

Current members:	
Member	Organisation
Andrew Trigg	HM Land Registry
Andy Sutherland	National Health Service
Beth Hogben	Department for Business Innovation and Skills
Brian Collins	Department for Transport
Bruce Callander	Ministry of Defence
Carol Tullo	Office of Public Sector Information, The National Archives
Chris Holcroft	Association for Geographic Information
David Fry	Communities and Local Government
Faith Quigley	Shareholder Executive
Graham Jenkinson	UK Statistics Authority
Iain Greenway	Land and Property Services, Northern Ireland
Kate Chamberlain	Welsh Assembly Government
Katie Davies	Cabinet Office
Mick Cory	UK Location User Group Chair
Miles Parker – Chairman	Department for Environment, Food and Rural Affairs
Ray Boguslawski	UK Location Programme Director, Defra
Richard Hughes	Natural Environment Research Council
Robin Gaulton	Environment Agency
Sheenagh Adams	Registers of Scotland
Stephen Aldridge	Department for Communities and Local Government
Tim Allen	Local Government Association
Vanessa Lawrence	Ordnance Survey GB

Table 3: List of Location Council Members (continued)

Members during period January 2010 /April 2011	
Member	Organisation
Andrew Stott	Cabinet Office
Grant Fitzner	Communities and Local Government
Iain Greenway	Land and Property Services, Northern Ireland
Jill Matheson	UK Statistics Authority
Mike Segal – Chairman	Department for Environment, Food and Rural Affairs
Miranda Kavanagh	Environment Agency
Peter Collis	HM Land Registry
Robin McLaren – QA	Know Edge Ltd



Annex B: 2011 INSPIRE Monitoring Return

Throughout the year the UK Location Programme team have been working closely with data providers who own data within the scope of INSPIRE Annex I and II themes.

Every May, the UK has to provide a monitoring return to the EU on progress made in delivering INSPIRE in the previous calendar year. The report provides an overview of the level of compliance of datasets and services. The 2011 report, covering 2010, was submitted on 15 May 2011: the full report is available at <http://location.defra.gov.uk/inspire/>

Table 3 sets out some key facts from the 2010 monitoring report and details of the data that has been published on data.gov.uk. The following figures reflect the data that was available on 16 May 2011.

Table 3: Highlights of UK's EU Monitoring Return and data published on data.gov.uk

Annex I & II Theme	Number of organisations with INSPIRE data	Number of INSPIRE spatial datasets	Compliance of the meta data to INSPIRE standard %	Highlights*
1.1. Coordinate reference systems	2	2	100%	
1.2. Geographical grid systems	0	0	–	UK does not consider its grid systems to comprise spatial datasets
1.3. Geographical names	3	11	100%	8 datasets are available as a download service
1.4. Administrative units	2	8	100%	7 datasets are available as a download service
1.5. Addresses	4	4	100%	Includes 1 view and download service
1.6. Cadastral parcels	3	3	67%	
1.7. Transport networks	8	17	100%	7 datasets available as a view service and 8 as a download service on data.gov.uk
1.8. Hydrography	6	43	100%	Includes 22 datasets available as a view service and 20 as a download service
1.9. Protected sites	13	78	97%	Includes 5 datasets available as a view service and 34 as a download service

Table 3: Highlights of UK's EU Monitoring Return and data published on data.gov.uk (continued)

Annex I & II Theme	Number of organisations with INSPIRE data	Number of INSPIRE spatial datasets	Compliance of the meta data to INSPIRE standard %	Highlights*
2.1. Elevation	3	24	100%	Includes 22 datasets available as a view service and 24 as a download service
2.2. Land cover	3	6	100%	Includes 4 view service and 3 datasets available as a download service
2.3. Orthoimaginery	2	2	100%	Includes 1 download service
2.4. Geology	2	60	100%	Includes 8 datasets available as a view service
Total		258	99%	

*These figures reflect the position on 16 May 2011. As data is regularly published on data.gov.uk, this information is subject to change.

Throughout 2011/12, additional location data, including the remainder of the data covering the Annex I and II data, will be made available.

A report detailing the INSPIRE spatial data within the UK is regularly provided through the UK Location website. The most recent report published on 26 May 2011 is available at:
<http://location.defra.gov.uk/inspire/>



Annex C: Location information pilot Case Studies

Throughout the year the number of applications using geographic information has continued to grow and more will be possible as the data becomes accessible in INSPIRE-compliant services from May 2011 onwards. Each application continues to highlight the ongoing importance of best practice in the use of geographic information data and services to the public, consumers and groups of specialist interest.

In 2010/11 UK Location undertook three pilots in collaboration with the Coal Authority, the Environment Agency and the Scottish Government.

The Coal Authority Pilot, which was highlighted as a potential pilot in last year's report, continues to go from strength to strength and received high praise at the AGI Annual Conference 2010. Both the Coal Authority and Environment Agency pilots are described below. The Scottish Government and the British Geological Survey data harvesting pilot is an exemplar of cost efficiencies in the implementation of the central services on data.gov.uk.

PILOT CASE STUDY

1. The Coal Authority Pilot – Protecting the public and the environment

This project involves bodies with an interest in actual or possible effects on the surface of coal mining: local authorities, major land owners, and various English, Scottish and Welsh Government Departments.

The Coal Authority was established in 1994 and is sponsored by the Department of Energy and Climate Change. It works to protect the public and the environment in coal mining areas and manage the effects of past coal mining including by providing information to interested parties. The coalfield estate covers tens of thousands of hectares and a key challenge for the 170 staff based in Mansfield, Nottinghamshire, is to exchange information as efficiently as possible with 180 local authorities that cover the coalfields.

Steve Pennell, Director of Information and Systems, explains: “We have a very extensive coal estate but we are a fairly small organisation. In managing our estate in the long term we need to make sure we bring all the other relevant organisations along with us. Key players in managing the risks

are the local authorities which have a duty of care for public safety.” As a major holder of digital geographic information, the Authority recognised that improved spatial data sharing would benefit its relationship with local authorities. It has therefore invested in geographic information systems and steadily developed a corporate system that is currently being re-engineered.

Traditionally, the Authority has provided data as pdf files, as hard copies and in different GIS formats. The pilot project will help towards more automated data provision and exchange.

Steve Pennell says: “INSPIRE is helping to define the project in terms of compatibility and standards of conformity. Like our stakeholders, we want to achieve INSPIRE-compliant interoperability. The aim of the pilot is to enable the Authority to produce automated data that meet the requirements of both data.gov.uk and INSPIRE.”

PILOT CASE STUDY

2. Bathing Waters – Environment Agency Linked Data Bathing Waters Pilot

The concept of Linked Data has huge potential to improve the sharing of information by enabling suitable browsers to access the web as a huge database of machine readable information. By linking location data, sampling data and associated information the Environment Agency is able to deliver an application providing interesting and useable information to the wider community.

This approach is still in its infancy and practical methodologies for creating and making Linked Data available are still emerging. With no previous practical experience the EA, through its Bathing Water Linked Data Pilot Project, are developing a practical understanding and capability that includes publishing the Linked Data and allowing others to experiment and develop innovative applications.

The pilot is sharing information on bathing water quality – which is measured regularly during the summer months – around the coasts of England and Wales. The location of the sampling points (grid references) are associated with named bathing waters – which have official Unique Resource Identifiers from data.gov.uk – and then linked to the observation data. The latter is made up of weekly samples and annual compliance assessment results and these are delivered in highly informative and usable ways via a number of different online services including data.gov.uk, EA's "What's in your backyard?" online service³² and the European Environment Agency's Eye on Earth³³. There is also the potential for smartphone applications to enable access on the move.

³² <http://maps.environment-agency.gov.uk/wiyby>

³³ www.eyearth.eu.

Annex D: Glossary of Terms

Chief Information Officer (CIO) Council	Forum that brings together CIOs from across all parts of the public sector to address common issues.
Chief Technology Officer (CTO) Council	Cross-government body responsible for supporting 'joining up' at a technological level.
CLG	Department for Communities and Local Government.
Core Reference Geographies	Commonly used geographic datasets that provide a framework for linking and integrating other geo-referenced information as well as providing key contextual information.
data.gov.uk	Aims to promote innovation through encouraging the use and re-use of government datasets. Includes all location information with its data directory. Referenced within the UKL Conceptual Design and Blueprint as GeoPortal.
EU	European Union.
Free and Open Source Software (FOSS)	Software that is liberally licensed to grant the right of users to study, change, and improve its design through the availability of its source code.
Geographic Information (GI)	Synonymous with location information.
INSPIRE Directive	Directive for the Infrastructure for Spatial Information in Europe. The Directive (2007/2/EC) which lays down general rules aimed at the establishment of the Infrastructure for Spatial Information in the European Community, for the purposes of Community environmental policies and policies or activities which may have an impact on the environment.
Interoperability (Information)	Capability to reference objects from one dataset to objects in another dataset using a common system of geo-referencing incorporating common identifiers.
Interoperability (Systems)	Capability to communicate, execute programs or transfer data among various functional units in a manner that requires the user to have little or no knowledge of the unique characteristics of those units.
ISO	International Organization for Standardization.
LIIB	Location Information Interoperability Board.
Linked Data	A technique for exposing, sharing, and connecting pieces of data, information, and knowledge, using the web.
Location Information	Taken in its widest sense to mean geo-referenced information about land, water, air and underground.

Metadata	Information that describes stored data.
NSDI	National Spatial Data Infrastructure (encompassed in the UK by the UK Location Information Infrastructure).
OGI	Open Government Licence – designed to simplify and remove barriers to the use and re-use of public sector information.
Open Standards	A standard that is publicly available and has various rights to use associated with it, and may also have various properties of how it was designed.
PSI	Public Sector Information.
UKGLF	UK Government Licensing Framework.
UKLC	UK Location Council.
UKLII	UK Location Information Infrastructure.
UKLP	UK Location Programme.
URI	Uniform Resource Identifier – a string of characters used to identify a resource. Such identification enables interaction with representations of the resource.

