Department
for Environment
Food & Rural Affairs

Brownfield Site Register: Open Data Standards in Public Planning #brownfielddata

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Why INSPIRE? – History of INSPIRE

Before INSPIRE there was no **mechanism** to share spatial data across borders (local and state) and no common **standards** for spatial data

Example: impacts of flooding

- In the period 1998-2002 flooding comprised 43% of all disaster events in Europe:
- 100 major floods
- 700 dead
- 500,000 displaced people
- €25 billion uninsured economic loss (2004 prices)

Why INSPIRE? – History of INSPIRE

Example: Danube

The river Danube flows through 10 European countries +9 more in area of river drainage basin

- Only 70% of Danube river data available in 2004
- Format
- No sharing mechanism
- Why environmental focus? Mantra is 'environmental happenings don't stop at borders'

Why INSPIRE? – History of INSPIRE

Typical kind of problems in Member States in 2000 were:

- Identifying the right person to share the data
- Technical/policy clash over who is permitted to share data
- No data access policy
- Data was not catalogued or documented
- If obtained, data required substantial work to transform it into usable format

Why INSPIRE? – History of INSPIRE

In 2001 Member States agreed to take steps to share environmental data within and across EU Member States and with EU institutions, to improve **environmental** policy making and started work on the INSPIRE Directive.

It was also agreed that this approach to sharing data should require use of **internationally agreed standards** so as to allow the relevant use and reuse of data instead of potential misuse of data.

Why INSPIRE? – History of INSPIRE

2007 INSPIRE Directive

Effective from 2009 INSPIRE established a European Spatial Data Infrastructure based on spatial data services delivered by Member States.

MS obligations under INSPIRE

- Identify spatial data sets relevant to the environmental acquis

- Document these spatial data sets with metadata in a central catalogue (in the UK this is on data.gov.uk).

- Set up electronic services (network services) to make the data sets accessible and document these services in a central catalogue.

- Harmonise the structure of the data sets for EU interoperability

- Remove any bottlenecks to the sharing of data between public administrations and with the public (e.g. introduction of the PSMA).

- Monitor the implementation progress and report to the Commission.

EU Exit

Cabinet Office guidance for departments issued in July 2016 and in the GRB White Paper:

'Until exit negotiations are concluded, the UK remains a full member of the European Union and all the rights and obligations of EU membership remain in force.

'During this period the Government will continue to negotiate, implement and apply EU legislation.'

UK INSPIRE governance and support

- Defra as lead UK department has a small INSPIRE team which has provided
    - guidance – published on data.gov (currently in the process of being updated)
    - workshops
    - a helpdesk
    - chairs the INSPIRE Compliance Board
    - National Contact Point management – leads on UK contact with European Commission, EEA and MS including participation in expert groups (technical and policy)
    - annual monitoring returns
    - triennial implementation report

Current Activity

- Future of data.gov.uk
- Metadata editor
- Metadata quality
- Registries

INSPIRE data themes

ANNEX 1

 Addresses

 Administrative units

 Cadastral parcels

 Coordinate reference systems

 Geographical grid systems

 Geographical names

 Hydrography

 Protected sites

 Transport networks

ANNEX 2

 Elevation

 Geology

 Land cover

 Orthoimagery

INSPIRE data themes

ANNEX 3

Agricultural and aquaculture facilities

Area management / restriction / regulation zones & reporting units

Atmospheric conditions

Bio-geographical regions

Buildings

Energy Resources

Environmental monitoring Facilities

Habitats and biotopes

Human health and safety

Land use

Meteorological geographical features

Mineral Resources

Natural risk zones

Oceanographic geographical features

Population distribution and demography

Production and industrial facilities

Sea regions

Soil

Species distribution

Statistical units

Utility and governmental services

The challenges

- INSPIRE is perceived as complex and burdensome
- 1 Directive, 12 IRs,
- 500 pages of legislation, 300 pages of guidance **per theme**
- 2009 UK Regulations said Defra Secretary of State would 'enforce' compliance. 2012 amend says 'ensure'
- Open Data

What INSPIRE does

Requires public authorities to:

- make data available in a **standard** format (harmonised)
- operate network services in a **standard** way so that the data can be:
  - discovered
  - viewed on a map before downloading
  - downloaded
  - processed machine to machine (invoked)
  - shared, used and reused and abuse prevented
- make arrangements for sharing data (interoperable)

What INSPIRE does - standards

Metadata

- UK uses pre-existing, developed to be compatible standard: UK GEMINI
- Compatible with ISO 19115
- UK GEMINI meets business needs beyond INSPIRE (legacy of the UK Location Strategy)
- UK GEMINI is currently being updated to version 2.3 to take in recent updates

What INSPIRE does - standards

- **Open Government Licence is the default for INSPIRE**

- **INSPIRE End User Licence**
  - Ordnance Survey, Defra, Department for Business, Energy and Industrial Strategy and the Local Government Association worked together to support the development and implementation of the INSPIRE End User Licence to remove the need for registration of explicit licence acceptance and tracking of end users' use
  - This removes a perceived 'burden' on industry/users and enables OS derived data to be shared between organisations licensed for the same geographic area e.g. allowing local councils and drainage boards to work together on flood response plans
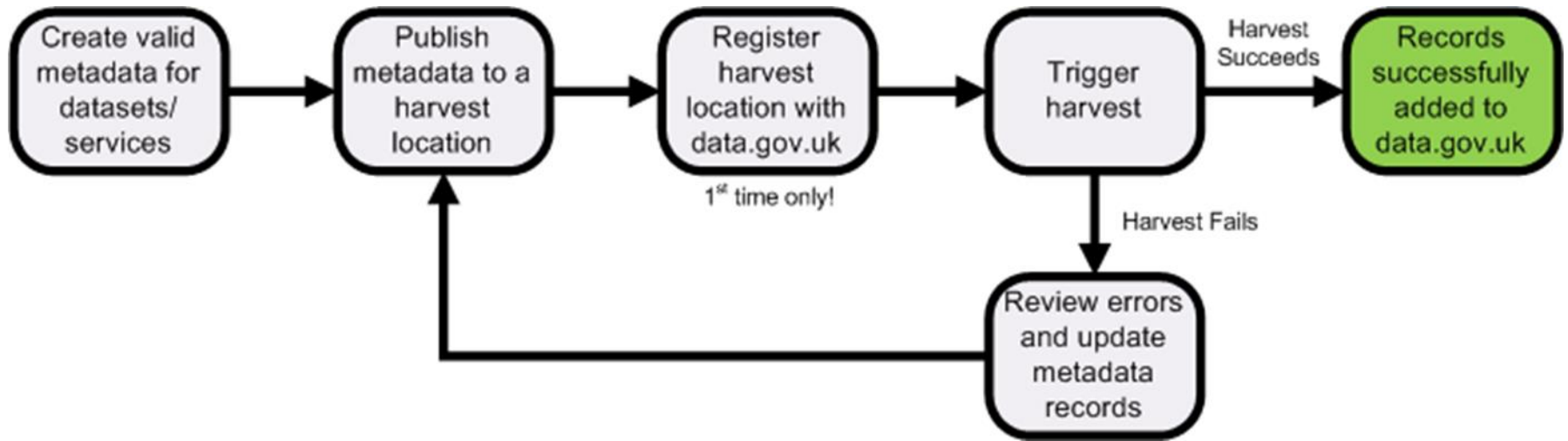
What INSPIRE does – limiting access

- Access to data and service can be limited if access would adversely affect
  - international relations, defence, national security or public safety
  - the course of justice
  - intellectual property rights
  - the confidentiality of commercial or industrial
  - the interests or protection of the person who provided the spatial data
  - the protection of the environment to which the spatial data set or spatial data service in question relates
  - **But** no limit to public access where information concerned is on emissions into the environment (excluding first 3 bullets)

What INSPIRE does not do

- No requirement to collect new data
- But newly collected data must meet INSPIRE specifications
- Data is not 'given away' to the EC

The INSPIRE metadata process

The INSPIRE metadata process

- To publish the data and services metadata into UK Location, data providers must first register as a Data Publisher using the central registration service of data.gov.uk.

- Once registered, it is then a simple process of registering the URL for the data and network service discovery metadata resources they are publishing.

- This is then collected through a URL http request. UK Location supports two forms of http binding, either OGC CSW, or a simple http call to a Web Accessible File (WAF) server. This second option is provided both because it is easier to implement than CSW and it allows publishers to expose their metadata on the Internet, such that it can be discovered directly, using Google or another Internet Search Engine.

- Publishers also have the option to publish both in XML and HTML, so that the metadata can also be discovered in human-readable form.

The INSPIRE metadata process

Create UK Location Application Profile Compliant Gemini 2.2 metadata records by:

- Manually entering metadata using a user friendly form with in-line help, controlled lists and dynamic validation that checks what you enter as you enter it

- Importing xml metadata files* in a variety of formats including: Gemini 2.2, ESRI, MEDIN and Dublin Core

- Applying full schema validation to ensure your metadata is correct.

*Consideration is being made to supply a generic 'Brownfield Site Register' Metadata template for authorities to use.

https://locationmde.data.gov.uk

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The INSPIRE metadata process

Publish this Metadata by:

- Allowing you to publish to an organisation specific Web Accessible Folder

- Download your metadata as an XML file to host in your own WAF or in a CSW service

Harvest your published record(s) to data.gov.uk:

- Through the UK MDE you can check and configure a harvest source and then harvest your published record(s) directly into data.gov.uk

NB: To harvest to data.gov.uk you need to be an 'editor' for your organisation (see guide at http://data.gov.uk/library/user-guide-editors-and-administrators)