Scottish Spatial Data Infrastructure

A Local Authority Perspective

Iain McKay
Head of Spatial Information

Improvement Service

@iainwk
Overview

Background to the **Scottish Spatial Data Infrastructure**

Introduction to the **Spatial Information Service / Spatial Hub**

A look at **Inspire**

An overview of **ScotLIS** (Scottish Land Information Service)

What are the key **Issues and Challenges**?
What is the Improvement Service?

12 years old in 2017 with a staff of around 60
Works on behalf of COSLA/SOLACE, local government in Scotland
Provides a wide range of services for Councils and Elected Members
Focus on collaborative projects and IT development including
- myaccount (identity verification)
- Improving Outcomes
- Organisation Development
- Support to Heads of Planning Scotland
- Community Planning
- Spatial Information Programme

http://www.improvementservice.org.uk/
One Scotland Gazetteer

- **2003 MGF2 Funded** - c£10M provided to create a national address asset to **underpin improved service delivery**

- **All 32 councils** working to a common standard was **essential** and required considerable effort in networking

- Completed in 2006-7 and widely used **within councils** and by external users e.g. **ePlanning, Energy Performance Certificates and Emergency Services**

- Approach by **OS** for inclusion of OSG in **AddressBase** products has widened the uptake, including commercial usage.
Scottish Spatial Data Infrastructure

It started with the GI Strategy for Scotland - “One Scotland - One Geography” 2006-2011

Strategy Objective 2

“Ensure that everyone can use the most up-to-date and accurate geographic information about Scotland that can be delivered with best use of resources”

Strategy Objective 3

“Develop and promote the means whereby geographic information can be shared, within the practical limits of best value, so as to give a high quality and knowledge “return” from each set of data”

..and the recommendations of the McClelland Report (2011)

- Shared procurement of (spatial) datasets
- Shared procurement/development of software/applications
- Changing procedures, organisational design and resourcing to enable delivery cost effective delivery of ICT applications (SDI)
How has the Scottish SDI been developed?

So far it appears to by using Jirecek’s methodology

Konstantin Jirecek (1854-1918) Czech historian, politician, diplomat, and Slavist. He was the founder of Balkan Studies and Byzantine* Studies.

*Byzantine: “excessively complicated, and typically involving a great deal of administrative detail”

“We, the unwilling, led by the unknowing, are doing the impossible for the ungrateful. We have done so much, for so long, with so little, we are now qualified to do anything with nothing.” K Jirecek
Local Government leads with Spatial Hub

Supplier uploads dataset as WFS or shapefile

Data goes via CKAN and Python to Cloud server

Data is conflated in FME and written to PostGIS

Data is reviewed and published as WFS and WMS via GeoServer

Registered user accesses WFS or WMS URL with token
End Users (Customers)

Data Service Developers
Value Added Applications
Private Sector
Support investment decisions
Regulatory reporting

Public Sector
Local government
National government
Stakeholder Organisations

General Public
Statutory Notification
Citizen Engagement

Red Kites nesting sites, brilliant. At last some useful data!
Have you seen the digitising on this Core Path dataset!!
The INSPIRE (Scotland) Regulations came into force on 31 December 2009 and turn the EU Directive into law that applies in Scotland. INSPIRE is concerned with environmental data which is classified into Theme and Annexes.

There is plenty of guidance available from a variety of sources. Some workshops and meetings took place in 2012 based around a Thematic approach including:

- Land, Property and Addressing
- Admin Boundaries
- Transportation
- Protected Sites
- Metadata

Revised approach to INSPIRE involving workshops led by SG.

What is INSPIRE?
(Why) Is INSPIRE Relevant?

It’s a statutory obligation so we have to get on with it – so let’s use it!

Local government will incur costs but gain very little benefit
Who Benefits from Inspire?
Cost / Benefit for INSPIRE?

Projected Net Revenue Expenditure: Funding versus Outgoings

Time for Max Inspire Effort

Modelled on: LFR and NRS data
Domesday Book or Great Survey (1088)

Took 18 months to complete!

Business Case

Project Boards

Working Groups

Third Party IPR

Open Data?

Buy In from Data Providers

Technology Options
History of ScotLIS

Origin
2000

Broad Range of Partners
• Registers of Scotland
• Local Government - Glasgow City Council
• Ordnance Survey
• BGS / Coal Authority

Two pilots were delivered
Bridge of Allan (demonstrator) & Glasgow (Web Based)

Funded as a pilot – but never made it into a fully functioning service

Technology wasn’t advanced enough
Lack of Referencing Framework for Land and Property

Originated from an RICS idea to celebrate the Millennium – Domesday 2000
“The ultimate aim of the ScotLIS project is that of providing an integrated data set where the user obtains information from a range of providers by means of a single search enquiry. This will be facilitated by means of a gazetteer …….”

“The extent to which data from different suppliers will be integrated will be determined in the course of the ScotLIS pilot and through the ongoing development of the service.”

Source Original ScotLIS Website 2000
ScotLIS Version 3

What might a Scottish Land and Property Service look like?

Data Providers
- RoS
- LAs
- SAA
- OS
- Util

Scottish SDI

Web Services

Portals
- ScotLIS
- SE Web
- Community

Users

MetaData

Menu

What Data?
Wider Spatial Landscape – SEPA / SNH Vision

Mapping

Government
- Ordnance Survey

Commercial
- Google Maps

Community
- OpenStreet Map

Opportunities ££s
- Constraints

Data

- Spatial Hub
- British Geological Survey
- TellMe Scotland

- SEWeb
- PastMap
- Registers of Scotland

- SEPA / SNH Vision

improvement service
Wider Spatial Landscape - RoS Vision

Mapping
- Ordnance Survey

Government
- Ordnance Survey

Commercial
- Google Maps

Community
- OpenStreet Map

Data
- Spatial Hub
- British Geological Survey
- TellMe Scotland

Opportunities ££s

Constraints

Registers of Scotland
Recognition of the SSDI

“Get all these self obsessed organisations to work together?”

Why don’t we cut their budgets as well!!
Won’t effective governance sort it all out?

- Digital Public Services National Board
- Public Services Reform Board
- Technology Advisory Group (TAG)
- Data Management Board
  - Data Linkage Programme Board
    - Open Data Group
  - Data Innovation Group
  - Spatial Information Board
    - OSMA Management Group
      - OSMA User Group
  - Data Sharing Group
The Spatial Information Service now has:-

- seven staff in place with the a blend of subject and technical experience
- taken over the custodianship of the One Scotland Gazetteer
- entered into formal partnership with OS to realise local government IPR
- engaged with OS and others in a collaborative approach to the proposed Emergency Service Gazetteer
- a cloud hosted technical infrastructure running open source software
- established communication and procedures with the majority of the 32 councils
- created a portal to allow uploads and publication of data, compatible with the Scottish SDI metadata and Data.gov catalogue
- contributed national spatial data and technical expertise for the newly developed Community Council Portal
IS Spatial Information Service - Challenges

It’s in a conservation area...
Spatial Data – Challenge of locating data

Think about the organisation structure:
- Cell based
- Information passed on “need to know” basis
- Information only goes up or down one level
- Information never passes across cells

Very difficult to trace data owners
Data publication

The data contributed by each Scottish council are amalgamated to form national datasets which are published by the Improvement Service (IS). The maps below show which data have been included from each Scottish council within the published national datasets. The published national datasets can be accessed in the Get Data Section.
## Completion – Data Contribution Matrix

| Adoption Roads | Air Quality Management Areas | Alcohol Prohibition Areas | Article 4 Directions | Cleanliness Zones | Community Council Boundaries | Conservation Areas | Contaminated Land | Core Paths | Council Asset Register | Employment Land Supply | Green Belt | Housing Land Supply | Local Development Plans | Local Landscape Designations | Local Nature Conservation Sites | Local Nature Reserves | Polling Districts | Polling Places | School Catchments | Smoke Control Areas | Street Furniture | Town Centres | Tree Preservation Orders | Vacant And Derelict Land |
|----------------|----------------------------|---------------------------|----------------------|------------------|--------------------------|----------------------|-------------------|-------------|------------------------|------------------------|------------|---------------------|--------------------------|----------------------------|--------------------------|------------------------|-----------------|-------------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|
| **Aberdeen City** | **Highland** | **Aberdeenshire** | **Argyll and Bute** | **East Ayshire** | **East Dunbarton** | **East Lothian** | **Falkirk** | **Fife** | **Glasgow City** | **Inverclyde** | **Moray** | **Na H-Eileanan an** | **North Ayrshire** | **North Lanarkshire** | **Orkney Islands** | **Perth and Kinross** | **Renfrewshire** | **Shetland Islands** | **South Ayrshire** | **South Lanarkshire** | **Stirling** | **West Dunbarton** | **West Lothian** |
Community Council Finder

Choose your council

- All Scotland
- Aberdeen City
- Aberdeenshire
- Angus
- Argyll & Bute
- Clackmannanshire

How to use Community Council Finder

There are three easy ways to use Community Council Finder:

1) You can choose your local authority in the dropdown box above to change the map to your local authority area.

2) Use the Search function in the map to search and this will zoom into the search area.

3) Or use the zoom function on the map to zoom into a specific area via plus or minus or by clicking on the map.

Click on a community council area to see the name of the community council and a link to contact details on the local authority’s website.

On the top right of the map you can:

- Click to display all results
- Click to display nearest results
- Click to display no results
- Click to display only local authority results
- Click to display only authorities with a council contact

![Map of Community Councils](map.png)
Planning Applications vs VDL
Planning Applications vs VDL

Site remediation (extraction, treatment and disposal of soil), improvement to drainage and landfill management, Site Remediation - Request for Screening Opinion in terms of The Environmental Impact Assessment.
Benefits and Drivers

Local Government benefits from :-

- Meeting INSPIRE obligations
- Minimal interference with existing business process
- Reduced overheads in dealing with requests for data from third parties
- Issues such as data exemptions would be dealt with at centre
- Free up time for more interesting things
- Financial return for spatial information

Citizens, Public and Private Sector benefits from :-

- Better information to build better services
- Availability of national layers of consistent and current data
- Opportunities from access to OpenData
OpenData & Consequences

Arguments for open data:

- OpenData will lead to business opportunities
- SMEs and others will create employment
- Businesses and employees will pay taxes
- The country will reap great benefits

Reality:

- OpenData could lead to business opportunities
- SMEs and others might create employment
- Businesses and employees might pay taxes
- The UK Treasury will reap great benefits
- Jobs in local government which create this high value data are being cut
- Data Quality will suffer over time
- Poorer services because poorer information to base decisions
PECs part of the conveyancing process – mostly local government sourced information

- **Annually** there are **150,000** property transactions in Scotland
- Average cost of **PEC £100**
- **Annual Market c £15M**
- 2014-2015 Scottish local government earned **£500k** from PEC
- Private searchers must then have made over **£14M revenue** (based on largely on data from Scottish local government)
- Scottish local government is facing the **most severe budget reductions to date**.
- **Oh Yes!** we’ve got to prepare our data for **Inspire**
Returning Revenues to Local Government

Income v Expenditure (StrGaz+ Spatial)

Income
Expenditure
Additional Development Resource

£1,700,000
£1,500,000
£1,300,000
£1,100,000
£900,000
£700,000
£500,000
£300,000

However by setting up the Spatial Information Service we intend to make all of this happen through what is a transformational approach to managing spatial information.

Success will be measured against:

- **Consolidating** funding model – reducing grant funding
- **32 Councils** plus **2 National Park Authorities** active on IS Spatial Hub, within one year.
- Deliver local authority dataset for **ScotLIS** launch in October 2017 (if required!)
- Meet **INSPIRE** obligations for Scottish LG by 2020
- Productive and sustainable **relationships** with strategic partners (eg. OS, RoS, SG)
- Use of **Open Source Software** by default – minimal software costs
- Totally funding **One Scotland Mapping Agreement** by **2022** (for local government)
Questions / Discussion

@iainwk
lain.mckay@improvementservice.org.uk