Developing Common Frameworks and Methodologies for Great Britain

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Ordnance Survey Great Britain

- Ordnance Survey is 220 years old
- Civilian organisation since 1983; 1150 staff
- Independent Government Department and Executive Agency reporting directly to a Government Minister
- Trading Fund since April 1999
- Annual Report for 2010/11: Revenue of £129.4m, profit before exceptional items of £24.1m, dividend £6.3m
- Headquarters in Southampton with 28 field offices around Great Britain
Ordnance Survey today

- Creates and maintains the ‘master map’ of Great Britain from which others derive benefit
- Manages complete national large scale digital data down to building level detail
- Maintains a database of 460 million features with approximately 5,000 changes made daily
- In 2010/11, 99.9% of real world features were represented in the database within six months of completion on the ground
- From the database, Ordnance Survey produces a range of digital data and paper maps for business, leisure, educational and administrative use

Provides the underpinning geographic framework for Great Britain
Ordnance Survey’s role

customers/partners

online
digital
graphic

data supply
data integration/processing
data maintenance
data collection
Ordnance Survey’s Vision

Ordnance Survey and its Partners will be the content providers of choice for location based information in the new information economy

As a result of the vision

• 500 Partners

• Over £30m income for Ordnance Survey

• £350-400m new revenues to British economy
A geographic database to connect information

- Every object represented in OS MasterMap has a unique identifier called a TOID. These TOIDs can be used to connect other information.
OS MasterMap current layers

- Imagery Layer
- Integrated Transport Network Layer
- Address Layer
- Topography Layer
Layers of OS MasterMap

Topography
Addresses
Integrated Transport Network
Imagery
Combination of Imagery, Address data and ITN data
And...attributed data

**Address**
There are 27 million addresses in the database and we check 42,000 new addresses every month.

**Post Codes**

**Small scales**

**Boundaries**

**Tourist information**
Updating the Ordnance Survey database

- Field survey
- Aerial survey
- Photogrammetry
- Data from external sources

National Geospatial Database generates OS MasterMap

460 million records
5,000 daily changes

Customers
Ordnance Survey
Production System
Principles
Use of Industry Standards

Operational Experience

ISO9000 series

ISO19113 & 19114

Ordnance Survey
Supply Chain Accreditation

ISO 19158
Process Management

Quality Assurance of data supply (ISO 19158)
Ordnance Survey Supplier Accreditation

‘The process whereby Ordnance Survey satisfies itself that its suppliers, both external and internal, with an effective level of ongoing support, are capable of consistently delivering Geographic Information to the required quality, on time, in the necessary volumes and at the right cost.’

A tool to enable the building in of quality at source
The Agile working Environment
Why we have adopted Agile?

1. Reduces the cycle time of delivering products and solutions, ensuring speed to market
2. Breaks down work into smaller increments and enable early delivery of business benefits
3. Enables continuous customer review cycles so we can deliver to their exact requirement
4. Moves to a ‘just in time’ requirements process and allow for changes in direction when required
5. Eliminates waste and focus on delivering best value to the business
6. Enables team empowerment where decisions can be taken within the teams and encourage shared ownership
7. Encourages innovation within the organisation
Use of Agile in Ordnance Survey

- Delivered
  - OS OpenData
  - Online ordering for the Public Sector Mapping Agreement

- Delivering
  - Multi Resolution Data Programme
  - Web Services Improvements (OpenSpace and OnDemand)
The need for a referencing framework

- In Britain there are well-established sources of base information
- There are many established users with different applications
- The challenge - establish principles to make information sources accessible and connectable
A common framework for all

Users define their own “views” & unique identifiers link the views together

“DNF is primarily concerned with geospatial information and its relationship to other data and information”
Welcome to the Digital National Framework

The Digital National Framework enables and promotes the integration and sharing of location-based information from multiple sources. It supports the objectives of the UK Location Strategy and the rollout of the UK Location Programme.

Latest update

BCS announces new Linked Data geospatial group to further DNF principles

Bringing together DNF and Linked Data

BCS has announced the formation of a new Linked Data geospatial group to take forward the work of the DNF Expert Group. It has been formed as a sub-group of what was known as the Geospatial Specialist Group, which is now to be known as the Location Information Specialist Group (LISG). Dan Rickman remains the chair of the LISG but has now been joined by Mike Sanderson, of iSpatial, as the chair of the newly formed sub-group. The charter of the sub-group will be to take forward the work of the DNF Expert Group while extending the work to embrace Linked Data and its growing community.

This will enable the principles of DNF to be aligned with the use of Linked Data and to use the reach of the BCS and its membership to expand and widen the community of interest for Linked Data. In having Mike Sanderson chair the new group, we ensure continuity of the work given Mike’s close association with the DNF Expert Group and his current role on the DNF Management Team, as the representative of the System Suppliers community.

The release on the BCS LISG site can be found here.
The Digital National Framework (DNF) for managing buried services

- The cost of not knowing precisely where pipelines and cables are buried is extremely high
- There are 4 million road excavations every year
- The Institution of Civil Engineers has recommended that all buried services should from now on be captured to DNF standards and principles
Basic dGPS: 0.8-3m
RTK: 1-2cm
High Quality dGPS: 20-80cm
Standalone GPS: 10m
The OS Net Network

- Complete national coverage
- 1-3cm, 3D, GPS+GLONASS positioning
- Galileo ready
- Free GPS products from; www.ordnancesurvey.co.uk/oswebsite/gps

Typical Installation
How OS Net works

Raw GPS data
from base station via leased line

GPS correction
sent via GSM/GPRS
internet or radio

GPS correction generated
OS Net underpinning the construction of London 2012

- Ordnance Survey upgraded the OS Net network around the Olympic Park and across the Thames Gateway region.
- Ordnance Survey acted as consultants to the ODA on grid coordinate system definitions and the fitting of Olympic Grid to National Grid.
- All developer contractors and subcontractors were able to access very high accuracy GPS positioning via OS Net, leading to higher accuracy and positional uniformity across the site.
Use of industry standards
INSPIRE: UK Implementation

• Integration with [www.data.gov.uk](http://www.data.gov.uk)

• Ordnance Survey as Technical Delivery Partner for UK Location Programme and in assisting the Cabinet Office supplied to the community:
  • A metadata Editor (using GeoNetwork)
  • Data publisher tools WMS and WFS

• Ordnance Survey’s own implementation
  • Metadata published December 2010 - now available on [www.data.gov.uk](http://www.data.gov.uk)
  • View Service implemented in May 2011
  • Will participate in testing of Annex II and III specs
OGC standards supplement the Implementing Rules which are applicable to all 27 member states.
Revised licensing and simplified pricing

Simplification of partner contracts, all available under a single Framework Contract (Partners)
Streamlining how we reach the market

Meeting the challenges of extending market penetration, decreasing costs to serve & improving customer service:

- Rationalised our paper mapping customer supply chain
- Working with our Licensed Partners to increase penetration into commercial markets while also making it easier for our Partners to do business with us e.g. simpler contractual/licensing terms
- Developing new on-line ordering & supply systems, allowing an increasing number of customers to self-serve
- Investigating how we can use new technologies both to reduce customer service costs and improve our customer responsiveness; also freeing-up staff to develop new business opportunities
- Developing an on-line consumer business to extend our reach into new markets
Public Sector Mapping Agreement (PSMA)

- Announced in Government response to Consultation

- High-spec GI free at the point of use for all public sector bodies including Parish Councils, Emergency Responders such as RNLI and those carrying out core government activity on behalf of Government e.g. IDBs

- Came into effect 1 April 2011
Public Sector Mapping Agreement (PSMA)

Public Sector Mapping Agreement (PSMA) for England and Wales

Welcome to the PSMA! If you are already a PSMA member login to the members’ area now to find out more detailed news about your agreement.

What does the PSMA provide?

- A new 10 year agreement for the Public Sector in England and Wales.
- The PSMA provides access to core geographic datasets from Ordnance Survey
- The PSMA datasets are free at the point of use for all eligible public sector bodies.
- Providing common geographic framework for the Public Sector will enable sharing of information

PSMA Member licence key facts »
5 months after launch…

Now has 1705 members, comprising:

- 118 in Central Government, including 38 new (non-PGA) members
- 510 in Local Government, including 18 new (non-MSA) members
- 164 in the Health sector
- 913 other members, including from Town and Parish Councils

… and customer/member feedback has been excellent…
One Scotland Mapping Agreement

One Scotland Mapping Agreement (OSMA)

The One Scotland Mapping Agreement represents an excellent example of cooperation between Scottish Government and Ordnance Survey.
Innovate or Die
Three related initiatives to support open innovation

OS OpenData™

OS OpenSpace®

GeoVation®
Three related initiatives to support open innovation

OS OpenData™

OS OpenSpace™

GeoVation®
OS OpenData

Create and support innovative, exciting ideas and applications using our mapping.

With OS OpenData you can access a selection of the most detailed mapping datasets available for Great Britain.

Changes to the OS OpenData Licence

We now incorporate the new Open Government Licence into our OS OpenData Licence.

The Open Government Licence, developed by The National Archives, is designed to provide a single set of terms and conditions for anyone wishing to use freely available government information. Importantly, this does not alter what users of OS OpenData can do. All the data available through OS OpenData is still open for commercial or non-commercial use without restriction.

As before, we ask for little more than an acknowledgement of the source of the data.

More information on the change, and why we have made it

Be part of GeoVation Web-map builder Discover all of our products

GeoVatic

On 1 March, we announced the shortlist for the GeoVation Challenge: How can we improve transport in London?

It's free and easy to use our web-map builder to design your OS OpenSpace map, with markers, routes and point data, if you wish.

MiniScale®

1:250 000 Scale Colour Raster
See also: Linked data  http://www.ordnancesurvey.co.uk/opendata/linkeddata.html
Examples

CycleStreets: OpenStreetMap application using the Code-Point Open postcode search

Bewdley Parish in Worcestershire Wikipedia entry contains VectorMap District and OpenData products
Three related initiatives to support open innovation

OS OpenData™

OS OpenSpace®

GeoVation®
What is OS OpenSpace?

- It's a free service that provides free access to mapping data
- Embed maps in any website or web application
- All applications are free to consumers
- API based on OpenLayers and can be used to access OnDemand Service
WMB into website using an iframe

Mountains and moorlands can be treacherous places without proper care and there are many, many ways to enjoy the mountain environment, be it walking, climbing, running, cycling or skiing. There’s no substitute for experience, but there are steps you can take to minimise the chances of getting lost or hurt.

Prepare and plan

Our latest news

Climbers Avalanched in Southwaite
As wreaths, funeral flowers and tributes arrive, Keswick MRT dealt with a callout on 19th January in which three climbers were avalanche in Hind Crag Galli.

Woodhead Mountain rescue called out ten times in ten days
VOLUNTEERS at Woodhead Mountain Rescue Team have already been called out 0 times since the start of 2016.

"The difficulty in this weather isn’t just the access but the time" Derek Cartwright, director of emergency services at the North West Ambulance Service

Mountain rescue team come to the aid of...
OS OpenSpace – What it can do for You

OS OpenSpace

OS OpenSpace® application programming interface (API) allows our mapping to be displayed on your web page or your online application. We offer two types of services: A free service available for non-commercial websites and a paid-for service for businesses wishing to charge for access, host assets or build internal applications.

Develop a great idea with OS OpenSpace

The OS OpenSpace® Application Programming Interface (API) is a free service that lets you create amazing websites and applications using our maps. OS OpenSpace API is not just for developers – anyone can create an application by following our sample code and tutorials.
OS OpenSpace Gallery

OS OpenSpace Community

OS OpenSpace Forum
Web-Map Builder provides wizard-like structure allowing you to create sophisticated maps in the space of a few clicks.
Three related initiatives to support open innovation

OS OpenData

OS OpenSpace

GeoVation
GeoVation runs challenges to address specific needs within communities, which may be satisfied in part through the use of geography.

www.geovation.org.uk
GeoVation Camp - problem focussed

What?
Identify the most important problems to address in running the challenge. GeoVation asks participants to focus on specific problems that are relevant to the GeoVation Camp model. This involves identifying problems that are both prioritized and actionable. GeoVation Camps work to develop new ideas into practical projects that can achieve social and environmental goals.

Why?
Your knowledge of areas of concern need extra valuable. A two-day workshop that focuses on making problems that you care about come to life. A 50% higher number of people identify solutions within 3 months. You can even get involved in the GeoVation Challenge.

When?
Wednesday 3rd November, 10:30 am to 11:30 am
A one-day workshop that focuses on making problems that you care about come to life. A 50% higher number of people identify solutions within 3 months. You can even get involved in the GeoVation Challenge.

Where?
Stoneleigh Park, Warwickshire, CV3 2LL
We are partnering with Stoneleigh Park to host the GeoVation Challenge.

Needs identified through expert “PowWow” and fed into GeoVation Camp

Campers ground solutions and ventures in identified need

INNOVATION = PROBLEM X SOLUTION X EXECUTION
Feedback from GeoVation Camp

“It’s an amazing learning experience”

“Very high standard of training in innovation”

“The time spent was invaluable”

“An ideas environment to encourage and build on ideas; a very nourishing experience, not just for the winners..”

“An intense, fun, inspirational character and idea building experience, from which every participant takes away a positive, rewarding experience, new contacts and new leads and a sense of community”
How can Britain feed itself?

Enter the GeoVation challenge
Social enterprise facilitating new & existing growing schemes & local government engagement with local food.
Solution:

In order to produce more food domestically:
- People need to increase the amount of food they purchase locally

A location based web and mobile application that promotes locally sourced food and farms

Images supplied by: www.food-nation.co.uk
How can we improve transport in Britain?

Enter the GeoVation challenge

http://www.geovation.org.uk/geovationchallenge/
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