



OPEN DATA SUPPORT

Training Module 1.1

Open Government Data & the PSI Directive



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Presentation metadata

Open Data Support is funded by the European Commission under SMART 2012/0107 'Lot 2: Provision of services for the Publication, Access and Reuse of Open Public Data across the European Union, through existing open data portals' (Contract No. 30-CE-0530965/00-17).

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Learning objectives

By the end of this training module you should have an understanding of:

- Open Data, Open Government Data, Linked Data and how these concepts relate;
- Open Government Data, related policies and initiatives;
- The role of the PSI Directive in opening up Government Data.

Content

This module contains ...

- An introduction to Open Data, Open Government Data and Linked Data;
- Open Government Data policies;
- Case studies with examples of apps and services based on Open Government Data;
- The history, objectives and obligations of the PSI Directive.

Open Data, Open Government Data & Linked Data

What do these terms mean and how do they relate?

What is Open Data?

*“A piece of data or content is open if **anyone** is **free to use, reuse, and redistribute** it — subject only, at most, to the requirement to attribute and/or share-alike.”*

--opendefinition.org

In summary, this means the following:

- **Availability and Access:** the data must be available as a whole and at no more than a reasonable reproduction cost, preferably by downloading over the internet. The data must also be available in a convenient and modifiable form.
- **Reuse and Redistribution:** the data must be provided under terms that permit reuse and redistribution including the intermixing with other datasets.
- **Universal Participation:** everyone must be able to use, reuse and redistribute - there should be no discrimination against fields of endeavour or against persons or groups. For example, ‘non-commercial’ restrictions that would prevent ‘commercial’ use, or restrictions of use for certain purposes (e.g. only in education), are not allowed.

What is Open Government Data?

Open government data means:

- Data produced or commissioned by government or government controlled entities.
- Data which is open as defined in the Open Definition – that is, it can be freely used, reused and redistributed by anyone.
- Data that is not sensitive or private.



What is a dataset

*“A **collection of data**, published or curated by a single agent, and available for access or download in one or more formats.”*

--Data Catalogue Vocabulary ([DCAT](#)) - W3C

For instance:

- [Credit Institutions Register](#) of the European Banking Authority ;
- [% of persons employed with ICT user skills](#);
- ...

Expected benefits of Open Government Data

- ✓ **Transparency.** Citizens need to know what their government is doing. They need to be able freely to access government data and information and to share that information with other citizens. Sharing and reuse allows analysing and visualising to create more understanding.
- ✓ **Releasing social and commercial value.** Data is a key resource for social and commercial activities. Government creates or holds a large amount of information. Open government data can help drive the creation of innovative business and services that deliver social and commercial value.
- ✓ **Participatory governance.** Open Data enables citizens to be much more directly informed and involved in decision-making and facilitation their contribution to the process of governance.
- ✓ **Reducing government costs.** Open Data enables the sharing of information within governments in machine-readable interoperable formats, hence reducing costs of information exchange and data integration. Governments themselves are the biggest reusers of Open Government Data.

What is Linked Data?

“Linked Data is about publishing and connecting structured data on the Web, using standard Web technologies to make the connections readable by computers, enabling data from different sources to be connected and queried allowing for better interpretation and analysis.”

Tim Berners-Lee outlined four principles of Linked Data:

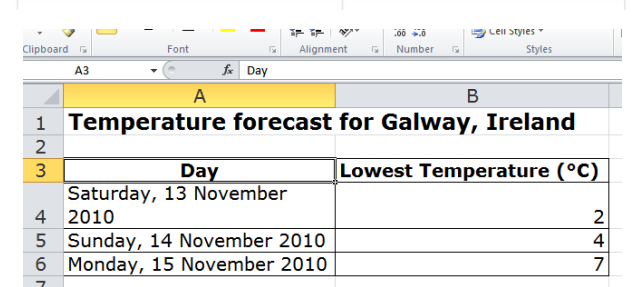
- Use URIs as names for things.
- Use HTTP URIs so that people can look up those names.
- When someone looks up a URI, provide useful information, using the standards (RDF*, SPARQL).
- Include links to other URIs, so that they can discover more things.

Open Government Data and Linked Data

The five stars of Linked Open Data

- ★ make your stuff available on the Web (whatever format) under an open license¹
- ★★ make it available as structured data (e.g., Excel instead of image scan of a table)²
- ★★★ use non-proprietary formats (e.g., CSV instead of Excel)³
- ★★★★ use URIs to denote things, so that people can point at your stuff⁴
- ★★★★★ link your data to other data to provide context⁵

Day	Lowest Temperature (°C)
Saturday, 13 November 2010	2
Sunday, 14 November 2010	4
Monday, 15 November 2010	7



Day	Lowest Temperature (°C)
Saturday, 13 November 2010	2
Sunday, 14 November 2010	4
Monday, 15 November 2010	7

```
"Temperature forecast for Galway, Ireland", "Day", "Lowest Temperature (C)" "Saturday, 13 November 2010", "2", "Sunday, 14 November 2010", "4", "Monday, 15 November 2010", "7"
```

```
<h1 property="dcterms:title">Temperature forecast for Galway, Ireland</h1>
<div id="data" about="#Galway" typeof="meteo:Place">
  <table border="1px">
    <tr>
      <th>Day</th>
      <th>Lowest Temperature (&deg;C)</th>
    </tr>
    <tr rel="meteo:forecast" resource="#forecast20101113">
      <td>
        <div about="#forecast20101113">
          <span property="meteo:predicted" content="2010-11-13T00:00:00Z"
            datatype="xsd:dateTime">Saturday, 13 November 2010</span>
        </div>
      </td>
      <td rel="meteo:temperature">
        <div about="#temp20101113">
          <span property="meteo:celsius" datatype="xsd:decimal">2</span>
        </div>
      </td>
    </tr>
  </table>
  <div about="#temp">
    Lowest
    <a rel="rdfs:seeAlso" href="http://en.wikipedia.org/wiki/Temperature">
      resource="http://dbpedia.org/resource/Temperature">Temperature</a>
    (<span rel="owl:sameAs"
      resource="http://dbpedia.org/resource/Celsius">&deg;C</span>)
  </div>
</tr>
</table>
```

```
1 <h1 property="dcterms:title">Temperature forecast for Galway, Ireland</h1>
2
3 <div id="data" about="#Galway" typeof="meteo:Place">
4 <span rel="owl:sameAs" resource="http://dbpedia.org/resource/Galway"></span>
5 <table border="1px">
6   <tr>
7     <th>Day</th>
8     <th>
9       <div about="#temp">
10        Lowest
11        <a rel="rdfs:seeAlso" href="http://en.wikipedia.org/wiki/Temperature"
12 resource="http://dbpedia.org/resource/Temperature">Temperature</a>
13        (<span rel="owl:sameAs"
14 resource="http://dbpedia.org/resource/Celsius">&deg;C</span>)
15      </div>
16     </th>
17   </tr>
18 </table>
```

See also:

<http://www.slideshare.net/OpenDataSupport/introduction-to-linked-data-23402165>

Linked (open) government data – value proposition

- **Flexible data integration:** LOGD facilitates data integration and enables the interconnection of previously disparate government datasets.
- **Increase in data quality:** The increased (re)use of LOGD triggers a growing demand to improve data quality. Through crowd-sourcing and self-service mechanisms, errors are progressively corrected.
- **New services:** The availability of LOGD gives rise to new services offered by the public and/or private sector.
- **Cost reduction:** The reuse of LOGD in e-Government applications leads to considerable cost reductions.

See also:

ISA Study on Business Models for LOGD

<https://joinup.ec.europa.eu/community/semic/document/study-business-models-linked-open-government-data-bm4logd>

Group questions



<http://www.visualpharm.com>

Some public agencies are sceptical towards Open Government Data, because opening-up data results in a loss of revenue. How would you deal with this in your country?



<http://www.visualpharm.com>

What are, in your opinion, the expected benefits and pitfalls of Open Government Data?



<http://www.visualpharm.com>

Can you think of possible value-added applications and services based on Open Government Data?

Take also the online test [here!](#)

Open Government Data Policies

European Commission Open Data policy

Focus on generating value through reuse of a specific type of data – public sector information, sometimes also referred to as government data

- Significant potential for reuse in new products and services;
- Addressing societal challenges –discover new and innovative solutions;
- Achieving efficiency gains inside and between public administrations;
- Fostering participation of citizens and increasing transparency of government.

Concrete measures:

- Legal rules, e.g. revised PSI Directive (Directive 2013/37/EU) and national legislation, and rules on reuse of the Commission's own data (Commission Decision 2011/833/EU);
- Non-legislative measures such as: economic studies, discussion in Member States' expert group, thematic networks and stakeholder outreach activities;
- National/regional/sectoral Open Data Portals.

See also:

<https://ec.europa.eu/digital-agenda/en/open-data-o>

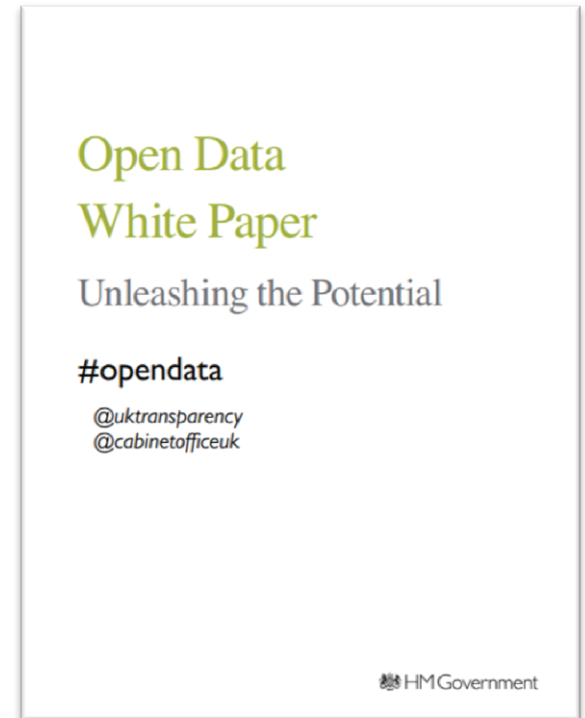
UK Open Data White Paper: Unleashing the Potential

Main goals:

- Building a transparent society
- Enhanced access
 - More open data, engaging developers and users, changing culture in the public sector, regulating data, strengthening usability.
- Building trust
 - Open policy making, privacy impact assessment.
- Making smarter use of data
 - Anonymised data, breaking down barriers.

Case studies at:

http://data.gov.uk/search/apachesolr_search?filters=type:resource%20id:11279



Denmark: Good basic data for everyone

Public authorities in Denmark register various core information about individuals, businesses, real properties, buildings, addresses, and more. This information, called basic data, is reused throughout the public sector.

- Public and businesses are provided a better and more efficient service, when data that has already been recorded is shared across institutions and is included directly in case processing.
- Employees in the public sector will be less burdened by repetitive and routine tasks, and this, in turn, will release more resources for increased welfare in e.g. the healthcare and education sectors.
- Open and homogenous reuse of basic data also has great value for the private sector, partly because businesses use this data in their internal processes and, partly, because the information contained in public-sector data can be exploited for entirely new products and solutions, in particular digital ones.



US Executive Order - Open and Machine Readable Government Information

General principles:

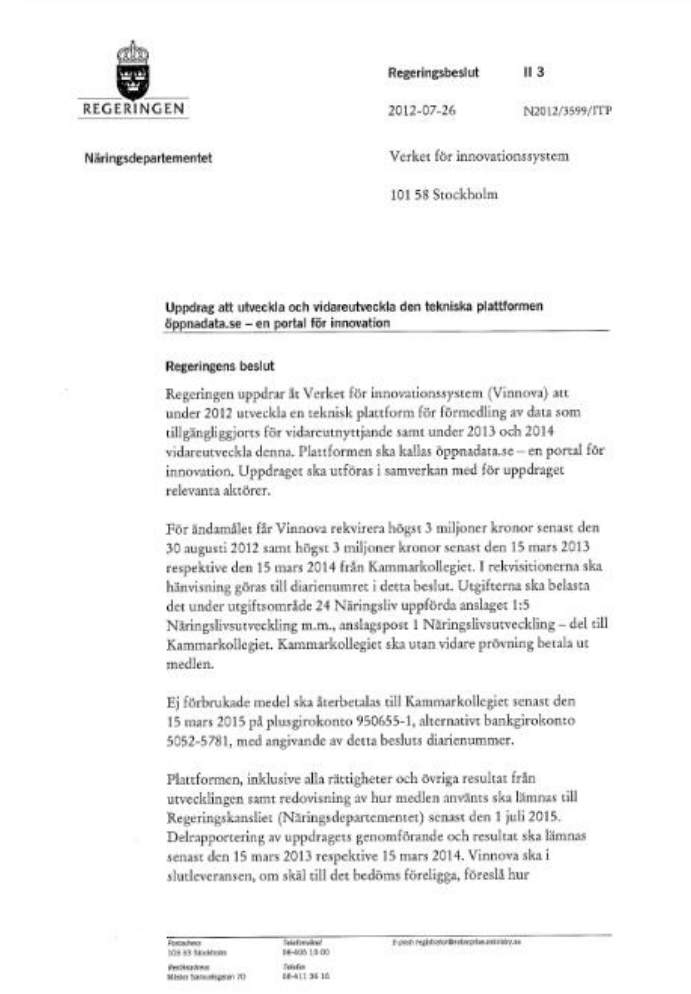
- Openness strengthens democracy, promotes good services to citizens and contributes to economic growth; fuels entrepreneurship, innovation and scientific discovery and contributes to job creation
- Default state for government information resources to be open and machine-readable, managed through life-cycle, promoting interoperability and openness
- Release data in such way that it is easy to find, accessible, and usable
- Ensure safeguarding individual privacy, confidentiality, and national security

Swedish mission for the further development of öppndata.se

The Swedish Agency for Innovation Systems (Vinnova) was commissioned in 2012 to develop a technology platform for the dissemination of data that is made available for re-use (öppndata.se) - a portal for innovation.

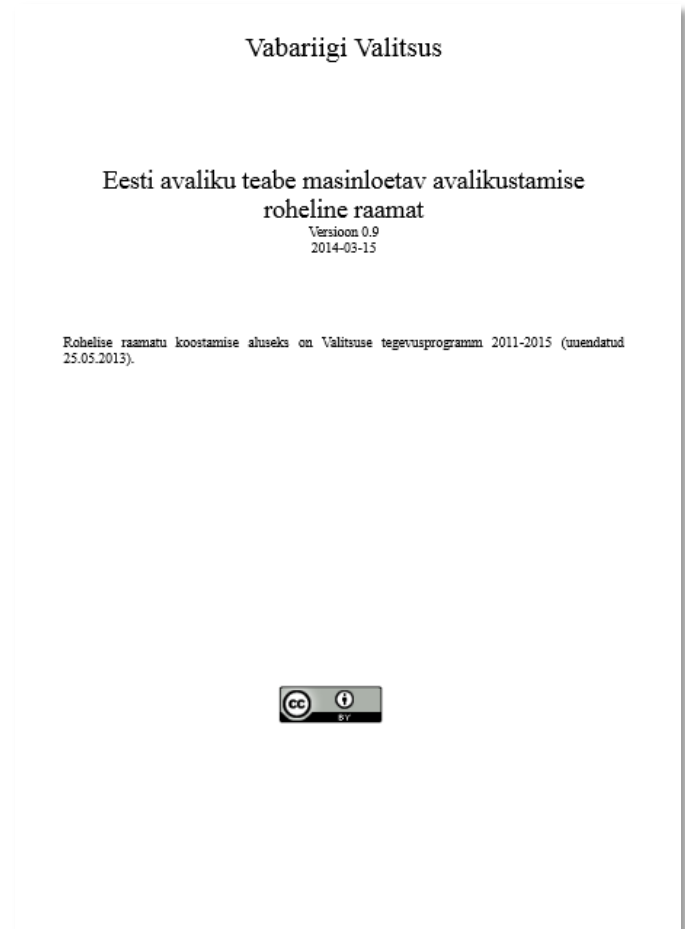
In order to achieve this objective the platform will provide citizens and businesses with:

- A common service directory for published open data sources;
- An open directory of the services and applications that have been developed using resources from the above catalogue of services; and
- A common development environment for developers.



Estonian Open Data Green Book

- Green Paper on the **disclosure** of Public Sector Information in Estonia in a **machine-readable format**.
- The Green Paper is based on the Government's Action Programme 2011 - 2015
- (In Estonian)



France open data strategy

The French government agency Etalab, responsible for open government data, published an overview of priorities and activities for the French government concerning open government data.

The actions are grouped in the following areas:

- Working on opening up strategic data sets;
- Facilitating and improving the process of opening up public data in ministries, public institutions and local authorities;
- Supporting innovative reuse;;
- Evaluation of existing charging practices;
- Changes in the administrative and legal framework;
- International actions;



The screenshot shows the Etalab website interface. At the top right, the logo 'etalab' is displayed with 'gouv.fr' next to it. Below the logo, the text reads 'Service du Premier Ministre chargé de l'ouverture des données publiques et du développement de la plateforme française Open Data.' A navigation bar contains links for 'Qui sommes-nous ?', 'Actualités', 'Licence', 'data.gouv.fr', and 'Dataconnexions'. A sign-up form for a newsletter is visible, with the label 'Inscription à la newsletter' and a text input field for 'Votre eMail'. Below the form, the date 'Jeudi 28 février 2013' is shown. The main content area features a red headline: 'La feuille de route du Gouvernement en matière d'ouverture et de partage des données publiques'. Underneath, a blue sub-headline reads 'L'ouverture des données publiques, liberté publique et levier d'innovation'. The text below discusses the legal basis for open data, mentioning the law of 1978 and the 'liberté publique' principle established by the Council of State in 2002 and the European Directive of 2003.

G8 Charter on Open Data...

In the charter, the G8 agreed that open data are an untapped resource with huge potential to encourage the building of stronger, more interconnected societies that better meet the needs of our citizens and allow innovation and prosperity to flourish.

The G8 agreed on the following set of principles:

- Open Data by Default;
- Quality and Quantity;
- Useable by All;
- Releasing Data for Improved Governance; and
- Releasing Data for Innovation.

Policy paper

G8 Open Data Charter and Technical Annex

Published 18 June 2013

Contents

1. Principle 1: Open Data by Default
2. Principle 2: Quality and Quantity
3. Principle 3: Usable by All
4. Principle 4: Releasing Data for Improved Governance
5. Principle 5: Releasing Data for Innovation
6. Technical annex

The G8 Open Data Charter has been transposed in the Open Data Action Plans of the following EU MSs:

- [FR – Open Data Action Plan](#)
- [IT – Open Data Action Plan](#)
- [UK – G8 Open Data Charter: UK Action Plan 2013](#)

and the European Commission:

- [EU – Implementation of the G8 Open Data Charter](#)

Group questions



<http://www.visualpharm.com>

Do you have an Open Data policy in your country? If so, what does it foresee?



<http://www.visualpharm.com>

Some national and local administrations, like the city of New York, are adopting “Open by Default” policies. What is your stand towards this approach?

Take also the online test [here!](#)

Case studies

The examples that follow are a small selection of indicative applications built, products offered and services provided on the basis of Open Data.

Belgium: Where's my Villo

Crowd-sourced service monitoring

[Where's My Villo?](#) uses real-time data to track the performance of Brussels' bike-sharing scheme, Villo!, a public-private partnership.

The site allows users to report on availability of bikes. The site then presents the empirical evidence that leads to improved services.

It uses open government data (location of bike stations) and adds crowd-sourcing for quality monitoring and feedback to the city council.

ABOUT WAAROM? / POURQUOI?

Why we launched? | Worst Villo! stations | Your station | Press | FR | NL

Where's My Villo? uses real-time data to track the performance of Brussels' bike-sharing scheme, Villo!, and managed to get its operator to improve bike availability. See [this presentation](#) for more on the initiative.

[NEW] Monitor the evolution of Villo!'s performance over time with our [Villo! Dashboard](#)

To contact us, email contact@wheresmyvillo.be or find us on Twitter [@wheresmyvillo](https://twitter.com/wheresmyvillo). If you'd like to contact Villo!'s customer service, email contact.villo@jc-decaux.be.

HELP AIDEZ / HELP

Had trouble finding or parking a bike? We want to collect some data to locate the biggest problem areas!

SHARE DIFFUSEZ / VERSPREID

Help spread the word: the more people know about *Where's My Villo?*, the more impact our call for improvements will have.

REPORT PROBLEM
BIKE, PARKING, STATION, SUBSCRIPTION

Latest user-reported problem at station:
ALBERTINE / ALBERTINA

WORST STATIONS FOR FINDING A BIKE
PERCENTAGE OF DAY WHEN STATION HAD AT MOST ONE BIKE AVAILABLE

VILLO! STATION NAME	%
HAMOIR	95
AEROPOLIS/AEROPOLIS	77
ARTS-LOI / KUNST-WET	63
RTL/RTL	57
LIBERTE	55
HOPITAL FRANÇAIS/FRANS HOSPITAAL	54
DE PADUWA	53
DECROLY	53
COLONEL BOURG/KOLONEL BOURG	50
DUK PETIAUX/DUC PETIAUX	48

WORST STATIONS FOR PARKING
PERCENTAGE OF DAY WHEN STATION HAD AT MOST ONE PARKING SPACE AVAILABLE

VILLO! STATION NAME	%
CUREGHEM / KUREGEM	71
SQUARE ALBERT I / ALBERT I SQUARE	66
THEO LAMBERT	65
MAISON COMMUNALE / GEMEENTEHUIS	63
WOESTE/WOESTE	57
GRAY/GRAY	55
CLOVIS / CLOVIS	55
ETANGS / VUVERS	55
ETANGS NOIRS/ZWARTE VUVERS	54
PARVIS ST ANTOINE/ST ANTONIUS VOORPLEIN	52

* If the sum for a station is higher than 100%, the station was probably closed for part of the week. Further methodological notes are available [here](#).

<http://blog.okfn.org/2010/10/29/open-data-in-public-private-partnerships-how-citizens-can-become-true-watchdogs/>

Denmark: Danish Enterprise and Construction Authority

Growth and increased revenue from opening up government data

The [Danish Enterprise and Construction Authority \(DECA\)](#) opened up its data in 2002.

The number of reusers went up by 10,000% leading to a reuse market growth of 1,000% over eight years.

The additional tax revenue for the government was estimated to be 4 times the reduction in income from fees.




<http://dba.erhvervsstyrelsen.dk/>

France: Open Food Facts

Opening up nutritional food information

[Open Food Facts France](#) collects data about nutritional products sold all over the world in a collaborative way, for instance by enabling the users to scan a product with an app on their smart phone.

All information collected is subsequently made openly and freely available .



OPEN FOOD FACTS
the free food products database

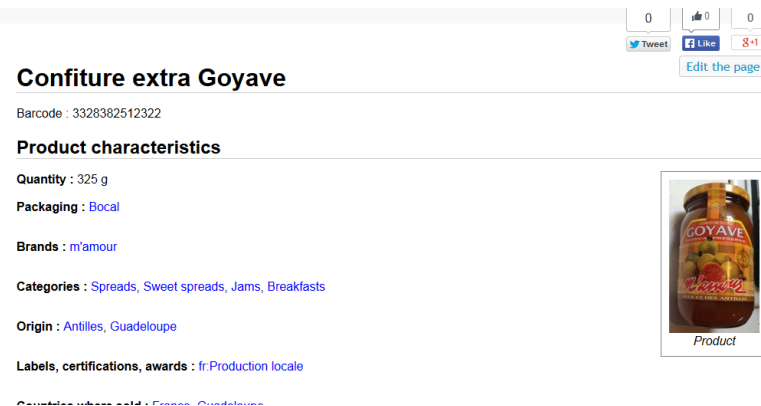
Open Food Facts gathers information and data on food products from around the world.

France x

Français - English

→ Brands
→ Categories

Food product information (photos, ingredients, nutrition facts etc.) is collected in a collaborative way and is made available to everyone and for all uses in a free and open database.



0 0 0

Tweet Like +1

Edit the page

Confiture extra Goyave

Barcode : 3328382512322

Product characteristics

Quantity : 325 g

Packaging : Bocal


Brands : m'amour

Categories : Spreads, Sweet spreads, Jams, Breakfasts

Origin : Antilles, Guadeloupe

Labels, certifications, awards : fr:Production locale

Country where sold : France, Guadeloupe



Product

France: PLF (Projet de loi de finances pour 2013)

Data journalism

The French news paper Le Monde analyses open government data to collect information for its news articles.

The [newspaper article](#) illustrated in the figure visualises the main areas of public spending based on the budget proposal from government.

http://www.lemonde.fr/politique/article/2012/10/16/plf-des-avions-au-bouclier-fiscal-la-java-des-amendements_1776093_823448.html



UK: FixMyStreet

Crowd-sourced problem reporting

[FixMyStreet](#) is a site to help people report, view, or discuss local problems they have found to their local council by simply locating them on a map.

The site was built by mySociety, a project of a registered charity which has grown out of a community of volunteers, and uses maps from the [UK Ordnance Service](#).

The screenshot shows the FixMyStreet website homepage. At the top, there is a navigation bar with links for 'Report a problem', 'Your reports', 'All reports', 'Local alerts', 'Help', 'mysociety', 'DONATE', and 'OUR SITES'. The main heading is 'Report, view, or discuss local problems (like graffiti, fly tipping, broken paving slabs, or street lighting)'. Below this is a search form with the placeholder text 'Enter a nearby UK postcode, or street name and area:' and a 'GO' button. A search box contains the example text 'e.g. B2 4QA' or Tib St, Manchester'. Below the search box is a link 'or locate me automatically'. The main content area is divided into two columns. The left column is titled 'How to report a problem' and contains a 4-step process: 1. Enter a nearby UK postcode, or street name and area; 2. Locate the problem on a map of the area; 3. Enter details of the problem; 4. We send it to the council on your behalf. Below this is a statistics section with three large numbers: 1,619 reports in past week, 5,088 fixed in past month, and 306,426 updates on reports. The right column is titled 'Recently reported problems' and lists several items with small images: Alleyway (20:21 today), Breaking Up Carriageway / Sinking Badly At Bus Stop (20:12 today), Rough road (19:23 today), Fire hydrant sign hanging by one corner (17:47 today), and 92/94 broadway (17:17 today). At the bottom, there are three sections: 'Mobile apps' with the OVI logo and text 'New iPhone and Android apps coming soon'; 'Are you a developer?' with text 'Would you like to contribute to FixMyStreet? Our code is open source and available on GitHub.'; and 'Are you from a council?' with text 'Would you like better integration with FixMyStreet? Find out about FixMyStreet for councils.' There is also a link for 'Privacy and cookies'.

<http://www.fixmystreet.com/>

UK: UK Pharmacy

User-driven services from government

[UK Pharmacy](#) helps people in the UK find their nearest pharmacy via their Smartphone.

They can search for a pharmacy/chemist using their phone's built-in GPS or via a place name or postcode search.

The screenshot shows the 'UK Pharmacy' app page on the data.gov.uk website. The page header includes 'HM Government' and 'DATA.GOV.UK (beta) Opening up Government'. The navigation menu has 'Home', 'Data', 'Participate', 'Data requests', 'Apps', 'Location', 'Linked Data', 'Library', and 'About'. The main content area for the 'UK Pharmacy' app includes:

- Developed by Elbatrop Ltd. on 21/01/2010
- Average rating: 3.3 (18 votes)
- 7 comments
- Tags: chemist | health care | hscio | iPhone | nhs | pharmacy | postcode | Private sector
- Get App button
- Description: Find your nearest pharmacy quickly and easily on your Android, iPhone or iPod Touch! Search for a pharmacy/chemist around your current location using the GPS built in to your phone, or look for one in another area (whilst out, or for a distant relative) via a simple place name or postcode search.
- Dataset Name: Location of pharmacies Dataset URL: [http://www.neighbourhood.statistics.gov.uk/dissemination/datasetList.do?...@Dataset Provider: Health and Social Care Information Centre](http://www.neighbourhood.statistics.gov.uk/dissemination/datasetList.do?...)
- Disclaimer: Apps submitted to data.gov.uk are currently approved for publication on the general level of their context and appropriateness. Whilst we review these on a periodical basis, we do not own responsibility for the regular update and maintenance of these apps. Any queries about individual apps or tools published need to be directed to the originator.

Related apps section includes:

- MRSA Action UK by Maria Cann (4 stars)
- MRSA Action UK - Mandatory reporting of MRSA and Clostridium difficile
- Forest finder by Matthew Wilcoxon (4 stars)
- Mobile FCO Country A... by Alan Jones (4 stars)

Footer text: Have you used our data to create an application? Let us know... [Share your app](#)

More like this section includes:

- UK Dentists
- Compare Care Homes UK Database www.carehome.co.uk
- Roambi Analytics
- London JamCams iPhone App

At the bottom, there are three smartphone screenshots showing the app's interface: an Android phone showing a map with pharmacy locations, an iPhone showing a search form with 'Address: Ashton road, Leicid' and 'Use my current location' button, and an iPod showing a map with pharmacy locations and a keyboard overlay.

<http://www.data.gov.uk/apps/uk-pharmacy>

Europe: It's Your Parliament

Open democracy

[It's your parliament](#) gives citizens a unique overview of the votes cast in the European Parliament.

Citizens can find and compare voting records of members of the European Parliament (MEPs) and political groups, make your own comments and cast their own "votes".

Members of Parliament
MEP search...

It's Your Parliament .eu

YOUR PAGE >> COUNTRIES >> POLITICAL GROUPS >> VOTES >> POLICY AREAS >>

It's Your Parliament






This website gives you an unique overview of the votes cast in the European Parliament. You can easily find and compare voting records of members of the European Parliament (MEPs) and political groups and you can make your own comments and cast your own votes.

New at the site

- 09/10-2011: Luise Bergmann made a dome-visualization of the voting in the EP using data from our API.
- 26/07-2011: Next plenary session starts Monday, 12 September 2011.
- 27/06-2011: We've made an analysis to position MEPs in political space according to their voting in the parliament. See it here.
- 07/06-2011: Today it is two years since the EP-election. 1810 roll-call votes has been cast since then.
- 11/05-2011: Our first small project based on the an API for EU legislation is a visualization of EU legislation in time.
- 09/05-2011: We have launched an API for EU legislation.
- 25/03-2011: We are working on some improvements to itsyourparliament.eu and its API. You are welcome to send us your suggestions and ideas for new features.
- 03/02-2011: After one year with the Barroso II Commission) who is the most/least active Commissioner? Look here!
- 09/11-2010: Kohovolt has made an interactive analysis of the voting behaviour in the EP based on our API.

[follow us on twitter](#)

Most popular MEPs | Least popular MEPs

MEP	Likes/dislikes
 Christian Engström, Sweden	526/362
 George Lyon, United Kingdom	74/12
 Jaroslav Paška, Slovakia	43/7
 Jill Evans, United Kingdom	39/13
 Isabella Lövin, Sweden	40/16

Next >>

Most popular votes | Least popular votes

Title of vote	For/against
Resolution on the transparency and state of play of the Anti-Counterfeiting Trade Agreement ACTA negotiations	26/4
Future of the CAP after 2013	7/2
Resolution on Burma	5/0
2008 discharge: EU general budget, Council	4/0
Equality between women and men in the European Union – 2009	3/0
Combating illegal fishing at the global level - the role of the EU	3/0

Next >>

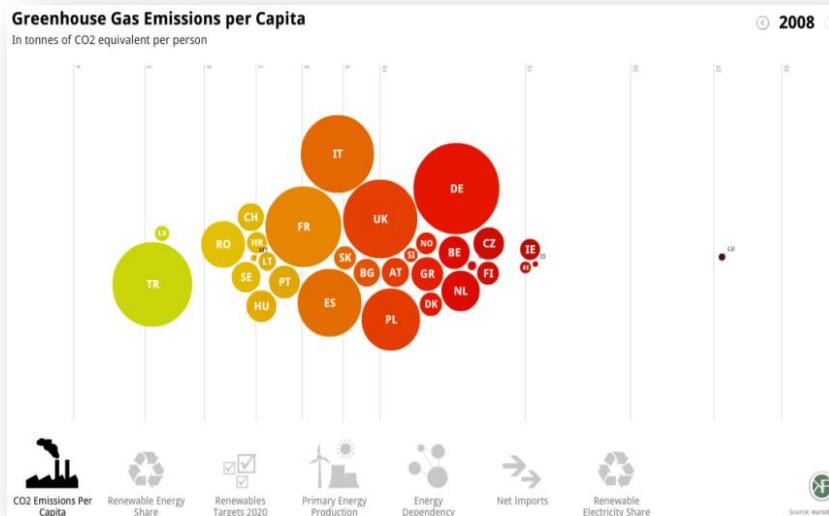
<http://www.itsyourparliament.eu/>

Europe: Europe's energy

Community-driven visualisations

[Europe's energy](#) combines data from Eurostat and other agencies to produce graphics which visualise Europe's commitments to reduce energy consumption by 20% and increase the share of renewables in the energy mix to 20% by 2020.

The app puts these targets into context and helps users to compare how progress is being made towards them in different countries.



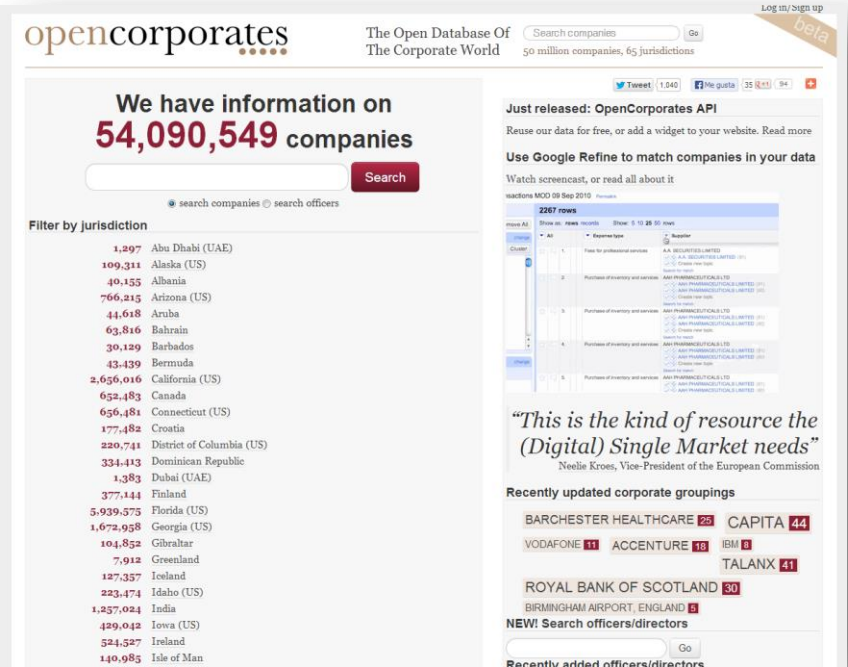
<http://energy.publicdata.eu/ee/vis.html>

Global: OpenCorporates

Non-profit business information

[OpenCorporates](http://opencorporates.com) is a database of companies. It aims to have a unique identifier in the form a HTTP URI for every company in the world.

OpenCorporates has grown from 3 territories and a few million companies to over 30 territories and over 54 million companies, and is working with the open data community to add more each week.



The screenshot shows the OpenCorporates website interface. At the top, it says "opencorporates The Open Database Of The Corporate World" with a search bar and "50 million companies, 65 jurisdictions". A banner indicates "We have information on 54,090,549 companies". Below this is a search bar and a "Filter by jurisdiction" section with a list of countries and their company counts. On the right, there are social media links, a "Just released: OpenCorporates API" announcement, and a "Recently updated corporate groupings" section listing companies like Barchester Healthcare, Vodafone, and Royal Bank of Scotland.

Jurisdiction	Count
Abu Dhabi (UAE)	1,297
Alaska (US)	109,311
Albania	40,155
Arizona (US)	766,215
Aruba	44,618
Bahrain	63,816
Barbados	30,129
Bermuda	43,439
California (US)	2,656,016
Canada	652,483
Connecticut (US)	656,481
Croatia	177,482
District of Columbia (US)	220,741
Dominican Republic	334,413
Dubai (UAE)	1,383
Finland	377,144
Florida (US)	5,939,575
Georgia (US)	1,672,958
Gibraltar	104,852
Greenland	7,912
Iceland	127,357
Idaho (US)	223,474
India	1,327,024
Iowa (US)	429,042
Ireland	524,527
Isle of Man	140,985

<http://opencorporates.com/>

The Linked Government Data Pilots of ISA

Linking data about applications and decisions for authorisation of plant protection products

PPP semantic asset

- PPP Ontology
- PPP Taxonomies

Sample queries

- Find the country where the product is authorised
- Find a product made with a given substance
- Find products made by a company
- Find the product to use on a given pest

Find out more about Linked Data

- Understanding Linked Data by example
- Case study on how Linked Data is transforming eGovernment
- Describe organizations in RDF with Core Business Vocabulary and ORG Ontology
- 10 Rules for Persistent URIs

Type a keyword:

SPARQL Query:

```

PREFIX sds: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX skos: <http://www.w3.org/2004/02/skos/core#>
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX ppp: <http://ec.europa.eu/open-data/planthealth/ppp/>
SELECT DISTINCT ?c ?p ?a
FROM <http://health.testproject.eu/ppp/>
WHERE {
  ?a ppp:Product;
  ?p ?a.
  FILTER(regex(?c,'Acanto','i')) .
}
LIMIT 100
    
```

Search using the [Faceted Browser](#)

This work is supported by Action 1.1 of the [Interoperable Solutions for European Data Administrations \(ISA\)](#) Programme of the European Commission. [Click here to see the related content.](#)

Linked Data pilots: [Core Location Pilot](#) / [Core Public Services Pilot](#) / [Catalan Open Data Pilot](#) / [E-Health Pilot](#) / [E-Procurement Pilot](#) / [E-Infrastructure Pilot](#)

DCAT ADMINSW CORE BUSINESS VOCABULARY CORE PERSON VOCABULARY CORE LOCATION VOCABULARY CORE PUBLIC SERVICE VOCABULARY isa Directorate-General Health & Consumer Affairs CORE PUBLIC SERVICE VOCABULARY

<http://health.testproject.eu/PPP/>

Linked maritime surveillance data

CISE semantic asset

- EU Fishing Fleet Ontology

Sample queries

- Find the fishing vessel from a given country
- Find the fishing vessel from a specific port
- Find all the AIS transmission for a fishing vessel
- Find incidents linked to a fishing vessel
- Find the trace for a fishing vessel

Find out more about Linked Data

- Understanding Linked Data by example
- Case study on how Linked Data is transforming eGovernment
- Describe organizations in RDF with Core Business Vocabulary and ORG Ontology
- 10 Rules for Persistent URIs

Type a keyword:

SPARQL Query:

```

PREFIX sds: <http://nautilus.testproject.eu/fishing/ese/ontology/>
PREFIX sds: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX dcterms: <http://purl.org/dc/terms/>
SELECT ?fishingVessel ?CountryCodeIRI ?subsector ?CountryCodeIRI ?
WHERE {
  ?fishingVessel sds: FishingVessel ;
  dcterms:title ?fishingVessel ;
  FILTER(regex(?fishingVessel,'Itano','i')) .
}
LIMIT 100
    
```

This work is supported by Action 1.1 of the [Interoperable Solutions for European Data Administrations \(ISA\)](#) Programme of the European Commission. [Click here to see the related content.](#)

Linked Data pilots: [Core Location Pilot](#) / [Core Public Services Pilot](#) / [Catalan Open Data Pilot](#) / [E-Health Pilot](#) / [E-Procurement Pilot](#) / [E-Infrastructure Pilot](#)

CORE BUSINESS VOCABULARY CORE PERSON VOCABULARY CORE LOCATION VOCABULARY CORE PUBLIC SERVICE VOCABULARY isa European Commission Maritime Affairs and Fisheries

<http://health.testproject.eu/CISE/>

Core Public Service Pilot: describe public services only once

Governments use local, regional and national access portals to give businesses, citizens, and public administrations basic information about their public services. Unfortunately, this basic information often duplicated, unstructured, and not machine-readable. This fragmentation makes it difficult for citizens, businesses, and public administrations to find information about the public service that they need. It also leads to situations where basically the same information about a public service is re-created in different applications or by different governments.

The [Core Public Service Vocabulary](#) allows public administrations to describe their service only once using a standard, extensible, and machine-readable vocabulary and make these descriptions re-used on many governmental access portals. This pilot implementation shows how this can be done using a Linked Data infrastructure for a small sample of public service descriptions originating from various European public administrations.

Sample public service descriptions

- From the [SPOCS large-scale pilot](#):
- <http://cpsv.testproject.eu/dmbl/PublicService/ReaEstateAgencyLicence>
 - <http://cpsv.testproject.eu/dmbl/PublicService/CatenoEstablishmentLicence>
 - <http://cpsv.testproject.eu/dmbl/PublicService/ArchitectRegistration>
 - <http://cpsv.testproject.eu/dmbl/PublicService/TECRecreation>
 - <http://cpsv.testproject.eu/dmbl/PublicService/ArchitectRegistration>
- From the [Flemish Intergovernmental Product and Service Catalogue](#):
- <http://cpsv.testproject.eu/dmbl/PublicService/24>
 - <http://cpsv.testproject.eu/dmbl/PublicService/117>
 - <http://cpsv.testproject.eu/dmbl/PublicService/179>
 - <http://cpsv.testproject.eu/dmbl/PublicService/279>
 - <http://cpsv.testproject.eu/dmbl/PublicService/291>
 - <http://cpsv.testproject.eu/dmbl/PublicService/201>
 - <http://cpsv.testproject.eu/dmbl/PublicService/246>
 - <http://cpsv.testproject.eu/dmbl/PublicService/247>
 - <http://cpsv.testproject.eu/dmbl/PublicService/415>
 - <http://cpsv.testproject.eu/dmbl/PublicService/588>
 - <http://cpsv.testproject.eu/dmbl/PublicService/932>

- From the [Irish Citizens Information portal](#):
- <http://cpsv.testproject.eu/dmbl/PublicService/DivinaTest>
 - <http://cpsv.testproject.eu/dmbl/PublicService/EuropeanHealthInsuranceCard>
 - <http://cpsv.testproject.eu/dmbl/PublicService/PublicServiceCard>

- From the [e-CODEX large scale pilot](#):
- <http://cpsv.testproject.eu/dmbl/PublicService/SmallClaim>

<http://cpsv.testproject.eu/CPSV/>

The PSI Directive

2013/37/EU of the European Parliament and of the Council of 26 June 2013 amending Directive 2003/98/EC on the reuse of Public Sector Information

PSI Directive: history and status

- Directive 2003/98/EC on the reuse of Public Sector Information.
- By 2008, all Member States had reported implementation of the obligations under the Directive in national legislation.
<https://ec.europa.eu/digital-agenda/en/implementation-public-sector-information-directive-member-states>
- Revision of Directive: Proposal COM(2011)877 and public consultation in 2010.
- Endorsement and publication of Directive 2013/37/EU of the European Parliament and of the Council of 26 June 2013 amending Directive 2003/98/EC on the reuse of Public Sector Information.
- Member States are obliged to implement the new Directive in two years – there will be a gradual adoption of the new obligations.

PSI Directive: objectives

Revised PSI **Directive 2013/37/EU** of the European Parliament and of the Council of 26 June 2013 amending Directive 2003/98/EC **on the reuse of public sector information.**

Main objectives:

- to **stimulate** the further **development** of a European market for services based on Public Sector Information;
- to **enhance** the cross-border **use** and **application** of PSI in business processes, including publishing;
- to **strengthen competition** in the internal market;
- to **address divergence** as to reuse rules between Member States.

The Directive allows Member States to implement measures going beyond its minimum standards, thus allowing for more extensive reuse.

PSI Directive: obligations

Public sector bodies have to:

- Make information re-usable for commercial or non-commercial purposes under non-discriminatory conditions.
- Process requests and provide access within 20 days (or 40 if request is complex); justify negative decision and inform about how to appeal.
- Charge no more than cost of reproduction, provision and dissemination; publicise charges and indicate calculation basis on request.
- Publish licences in digital format.
- Facilitate search for information preferably online (e.g. portal).

Public sector bodies may not:

- Unnecessarily restrict reuse.
- Grant exclusive rights, unless necessary, subject to review every 3 years.

Public sector bodies do not have to:

- Make information available that is excluded by virtue of access regimes in the Member States
- Adapt formats or provide translations.

Note:

While libraries, museums and archives are included in the revised Directive, they will be subject to a different regime for reuse and charging.

Opening up Public Sector Information

How does the revised PSI Directive encourage openness?

- Sets minimum rules across the EU for availability of information produced by public sector and government agencies.
- Specifies rights for people and organisations that want to reuse the information.
- Recommends distribution by electronic means.

But:

- Does not mandate information to be available free of charge (marginal cost of reproduction, provision and dissemination may be charged).
- Allows some public sector organisations to charge in order to cover cost (e.g. special arrangements for cultural heritage organisations).

Conclusions

- Open Government Data can:
 - improve government transparency and accountability;
 - release social and commercial value;
 - enable participatory governance; and
 - reduce government costs.
- The revised PSI directive requires:
 - information to be made openly available at (max) marginal costs as a default rule;
 - information and metadata to be made available in machine-readable and interoperable data formats (wherever possible); and
 - all legally public documents to be re-usable for commercial or non-commercial purposes.

Thank you!
...and now YOUR questions?

References

Slide 6:

- Open Knowledge Foundation. Open Definition. <http://opendefinition.org/>
- Open Knowledge Foundation. Open Data Handbook. What is Open Data? <http://opendatahandbook.org/en/what-is-open-data/>

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- Open Knowledge Foundation. Open Government Data. <http://opengovernmentdata.org/>

Slide 9:

- Tim Berners-Lee, W3C. Linked Data. <http://www.w3.org/DesignIssues/LinkedData>

Slide 10:

- 5 ★ Open Data. <http://5stardata.info/>
- EPSIplatform. What is Linked Open Government Data? <http://epsiplatform.eu/content/what-linked-open-government-data>

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- Study on business models for Linked Open Government Data. <https://joinup.ec.europa.eu/node/72473>

Slide 14:

- European Commission. Digital Agenda for Europe, a Europe 2020 Initiative. Open Data. <http://ec.europa.eu/digital-agenda/en/public-sector-information-raw-data-new-services-and-products>
- Open Knowledge Foundation. European Commission launches Open Data Strategy for Europe. <http://blog.okfn.org/2011/12/12/european-commission-launches-open-data-strategy-for-europe/>
- Europa. Press releases RAPID. Digital Agenda: Commission's Open Data Strategy, Questions & answers. http://europa.eu/rapid/press-release_MEMO-11-891_en.htm?locale=en&open-commission-launches-open-data-strategy-for-europe/
- European Commission. Digital Agenda for Europe. Open Data. <https://ec.europa.eu/digital-agenda/en/open-data-0>
- European Commission COMMISSION DECISION of 12 December 2011 on the reuse of Commission documents (2011/833/EU) <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:330:0039:0042:EN:PDF>

Slide 15:

- (UK) HM Government. Open Data White Paper. Unleashing the Potential. http://data.gov.uk/sites/default/files/Open_data_White_Paper.pdf.
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- (DK) Basic public data for everyone, <http://uk.fm.dk/publications/2012/good-basic-data-for-everyone/>

Slide 17:

- US White House. Executive Order -- Making Open and Machine Readable the New Default for Government Information. <http://www.whitehouse.gov/the-press-office/2013/05/09/executive-order-making-open-and-machine-readable-new-default-government>

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City of New York "Open by Default" policy. http://nycopendata.pediacities.com/wiki/index.php/Local_Law_11_of_2012

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EPSIplatform. France Outlines Open Data Strategy. <http://www.epsiplatform.eu/content/france-outlines-open-data-strategy>

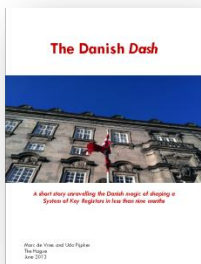
Slide 22

G8 Open Data Charter and Technical Annex. <https://www.gov.uk/government/publications/open-data-charter/g8-open-data-charter-and-technical-annex>

Slides 34-39:

- EPSIplatform. Quick Guide to the PSI Directive. Fact sheet Version May 2010. http://epsiplatform.eu/sites/default/files/Quick%20Guide%20to%20the%20PSI%20Directive_MdV_2.pdf
- European Commission. Digital Agenda for Europe. Implementation of the Public Sector Information Directive. <https://ec.europa.eu/digital-agenda/en/implementation-public-sector-information-directive-member-states>
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- European Commission. Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/98/EC on the reuse of public sector information. COM(2011)877. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0877:FIN:EN:PDF>
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Further reading (1/2)



The Danish Dash - A short story unravelling the Danish magic of shaping a System of Key Registers in less than nine months

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UK Government, Market assessment of public sector information

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Further reading (2/2)



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Spending Data Handbook, OpenSpending

<http://content.openspending.org/resources/handbook/spending-data-handbook.pdf>



The Open Data Handbook, Open Knowledge Foundation

<http://opendatahandbook.org/>

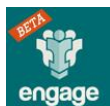
Related projects and initiatives



The Open Data Institute, <http://www.theodi.org/>



The Open Knowledge Foundation, <http://okfn.org/>



Engage FP7 ICT project, <http://www.engagedata.eu/>



The European Public Sector Information Platform,
<http://epsiplatform.eu/>



W3C eGov IG, http://www.w3.org/egov/wiki/Main_Page



HOMER project, <http://www.homerproject.eu/>



World Wide Web Foundation, <http://www.webfoundation.org/>



The World Bank Open Data, <http://data.worldbank.org/>



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