



M2B – Mapas y OpenData: herramientas de localización, visualización y análisis de geodatos

TECNOLOGÍAS SIG





OpenData



UNIVERSITAT POLITÈCNICA DE CATALUNYA
BARCELONATECH

School of Professional & Executive Development

Datos Abiertos (Open Data)

Para desarrollar las políticas, los gobiernos deben abrir sus datos:

- para ser transparentes con la ciudadanía (open Government).
- Para que las empresas puedan añadir valor y generar riqueza.

El objetivo es proporcionar toda la información pública a la ciudadanía, en un formato fácil de manipular, para que se puedan convertir en servicios públicos o privados con valor añadido. Datos meteorológicos, de equipamientos, estadísticas, de presupuestos, jurídicas y Judiciales...

De hecho, hay muchos datos publicados en webs y boletines oficiales, pero su formato de publicación actual hace más difícil el tratamiento y reaprovechamiento fácil.

El movimiento open data se está extendiendo por todo el mundo y la Administración se engloba dentro la cultura de cambio en la concepción, gestión y prestación del servicio público.

Datos Abiertos (Open Data)

**En Europa y en Cataluña,
open data = reutilización = RISP**

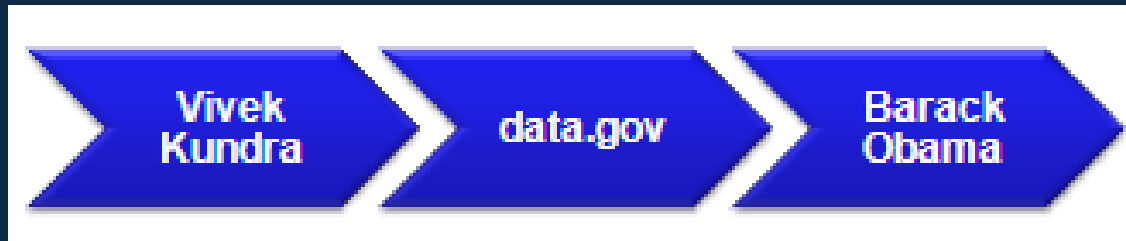
Reutilización de la información del sector público (RISP): uso que pueden hacer las personas, organizaciones y empresas

Base legal:

- Ley 37/2007, de RISP (+ Directiva 2003/98/CE)
- Ley 20/2010 del uso de los medios electrónicos en el sector público de Cataluña

Datos Abiertos (Open Data)

Open data: Modelos

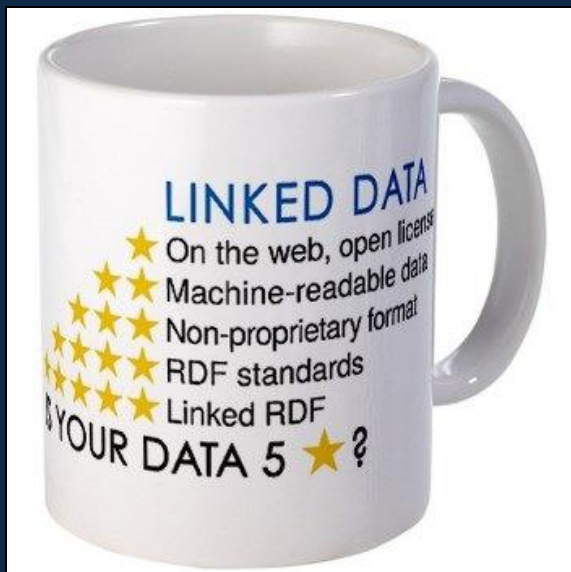


Modelo Kundra. Pone el foco en liberar conjuntos de datos, en cualquier formato mínimamente estructurado.



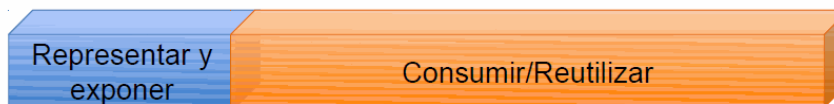
Modelo Berners-Lee. Hace un esfuerzo adicional por contribuir a la generación de *Linked Data*

Datos Abiertos (Open Data)

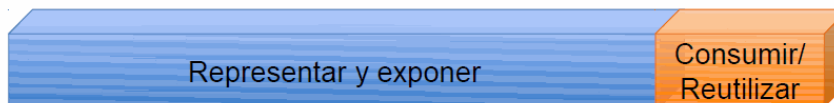


Representar y Exponer (*Open Gov't Data Vs Linked Gov't Data*)

OGD



LGD



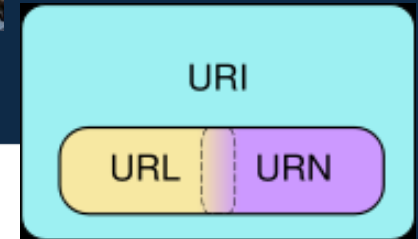
Datos Abiertos (Open Data): Linked Data

T. Berners-Lee (2006)

Define los “principios básicos de Linked Data”*

- Linked Data hace referencia a (técnica) como publicar
- datos utilizando la WEB
- Web de los datos vs Web de los documentos(tradicional)
- La Web como una base de datos
- Conectar –utilizando la Web- datos de diferentes dominios: publicaciones científicas, datos estadísticos, libros, compañías...

Principios básicos de Linked Data



1. Utilizar URIs per identificar recursos
2. Utilizar HTTP de las URIs per poder localizar los recursos
3. Proporcionar información útil sobre el recurso de la Uri, utilizando estándares W3C
 - RDF(Resource Description Framework)
 - SPARQL (Protocol and RDF Query Language)
- 4.Incluir enlaces a otras URI relacionadas con los recursos(nube de enlaces)

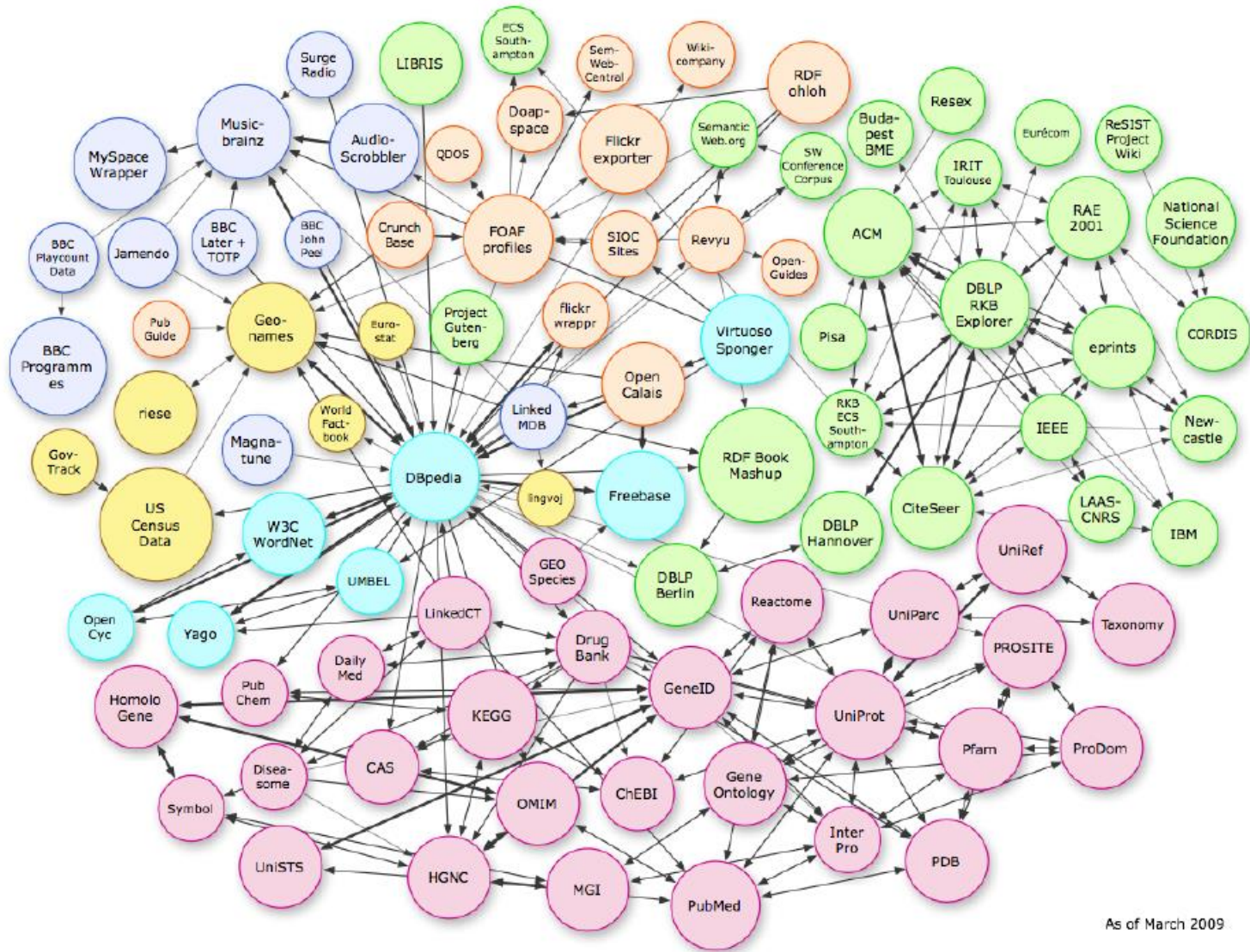
http://www.ted.com/talks/tim_berniers_lee_on_the_next_web.html

Ejemplo SPQRL

Todas la personas nacidas después de 1960 que están en la Wikipédia

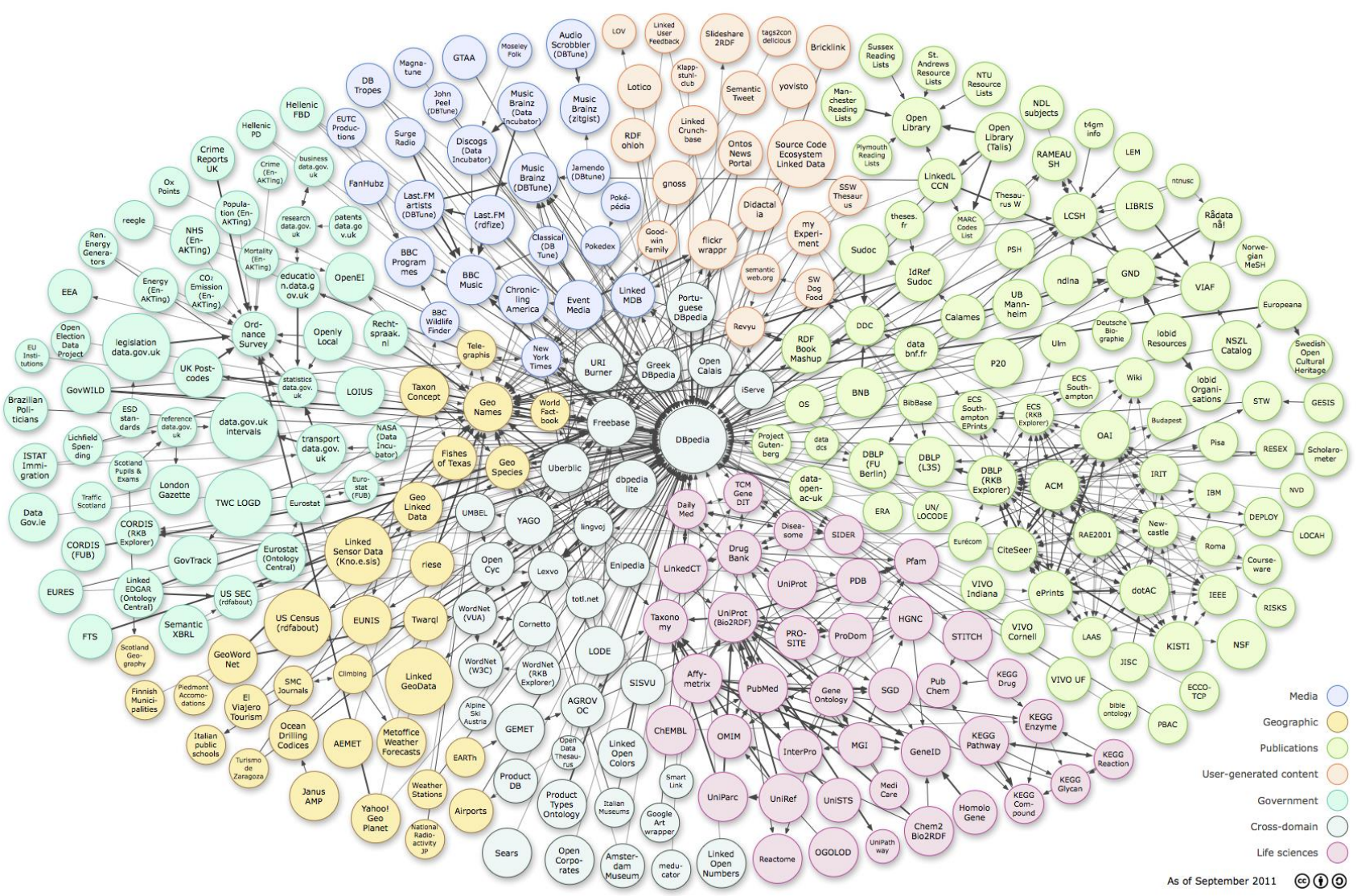
<http://dbpedia.org/snorql/?query=SELECT+%3Fname+%3Fbirth++%3Fperson+WHERE+%7B+++++%3Fperson+dbo%3AbirthPlace+%3ABarcelona+.+++++%3Fperson+dbo%3AbirthDate+%3Fbirth+.+++++%3Fperson+foaf%3Aname+%3Fname+.+++++%3Fperson+dbo%3AbirthDate+%3Fbirth+.+++++FILTER+%28%3Fbirth+%3E+%221960-01-01%22%5E%5Exsd%3Adate%29+.+%7D+ORDER+BY+%3Fname>

Datos Abiertos (Open Data): Linked Data

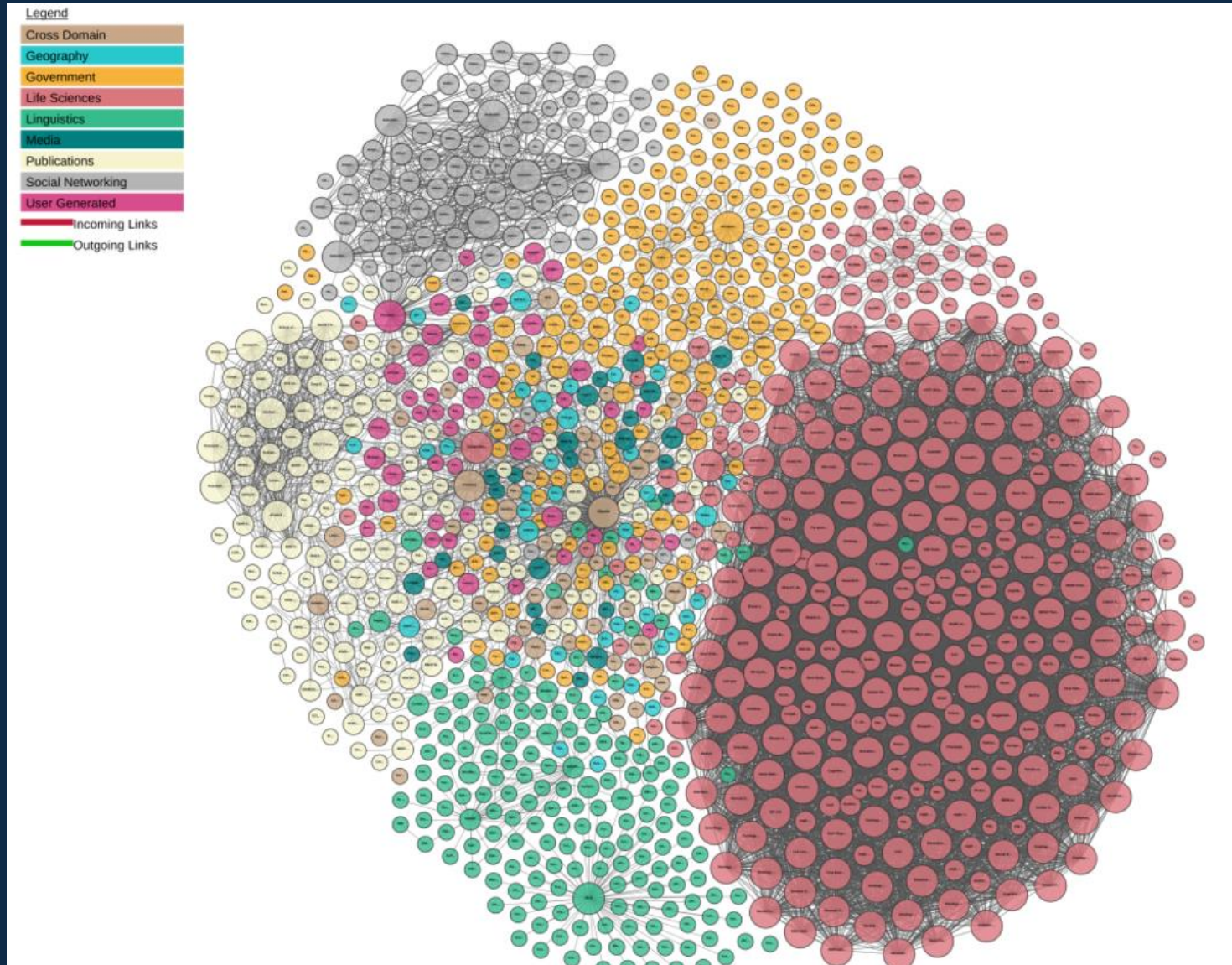


As of March 2009

Datos Abiertos (Open Data): Linked Data



The Linking Open Data cloud diagram



<http://lod-cloud.net/>

"Otros" Datos Abiertos: OpenStreetMap

OpenStreetMap empezó en 2004 el Reino Unido en respuesta a las duras restricciones de copyright del Ordnance Survey.

Es un proyecto colaborativo para crear mapas libres y editables.

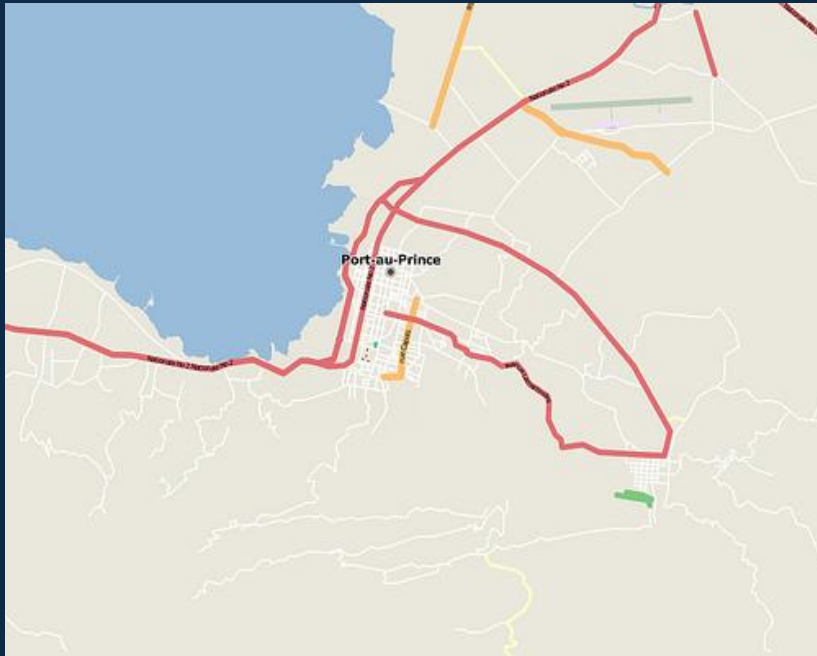
Los mapas se crean utilizando información geográfica capturada con dispositivos GPS móviles, ortofotografías y otras fuentes libres. Esta cartografía, tanto las imágenes creadas como los datos vectoriales almacenados en su base de datos, se distribuye bajo licencia abierta Licencia Abierta de Bases de Datos (en inglés ODbL).(wikipedia)



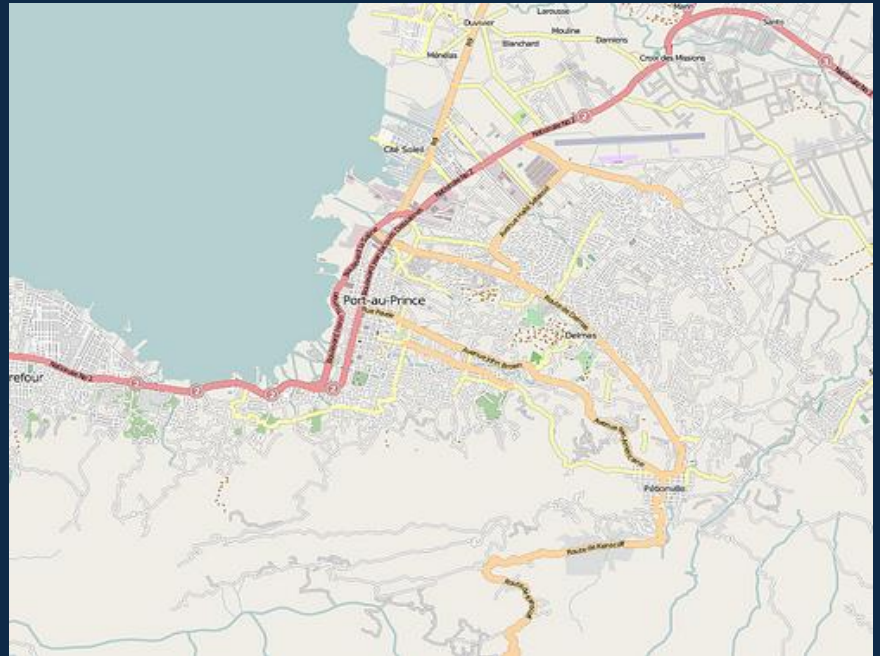
<https://www.openstreetmap.org>

"Otros" Datos Abiertos: OpenStreetMap

Terremoto de Haití de 2010



antes



después

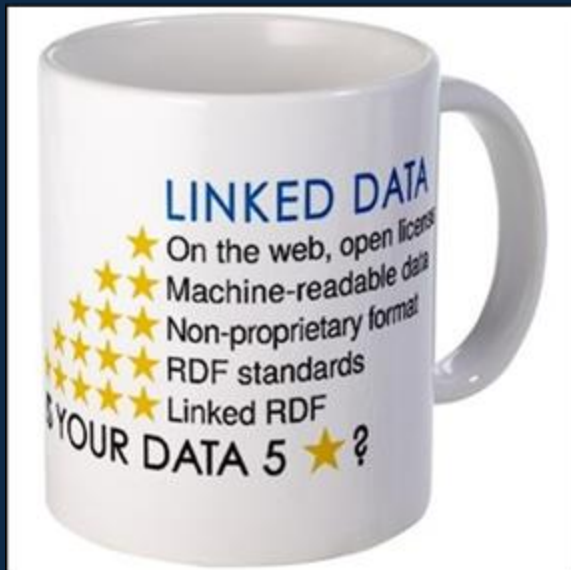
“Otros” Datos Abiertos: OpenStreetMap

- Cualquier dato de OSM puede ser descargado y reutilizado
- Cobertura mundial
- Muchas empresas han creado un modelo de negocio basado en estos datos.
- Modelo de datos flexible
 - Los **nodos** (*nodes*). Son puntos que recogen una posición geográfica dada.
 - Las **vías** (*ways*). Son una lista ordenada de nodos que representa una línea o polígono (cuando una polilínea empieza y finaliza en el mismo punto).
 - Las **relaciones** (*relations*). Son grupos de nodos, vías y otras relaciones a las que se pueden asignar determinadas propiedades comunes.
 - Las **etiquetas** (*tags*). Se pueden asignar a nodos, caminos o relaciones y constan de una clave (*key*) y de un valor (*value*). Por ejemplo: highway=trunk

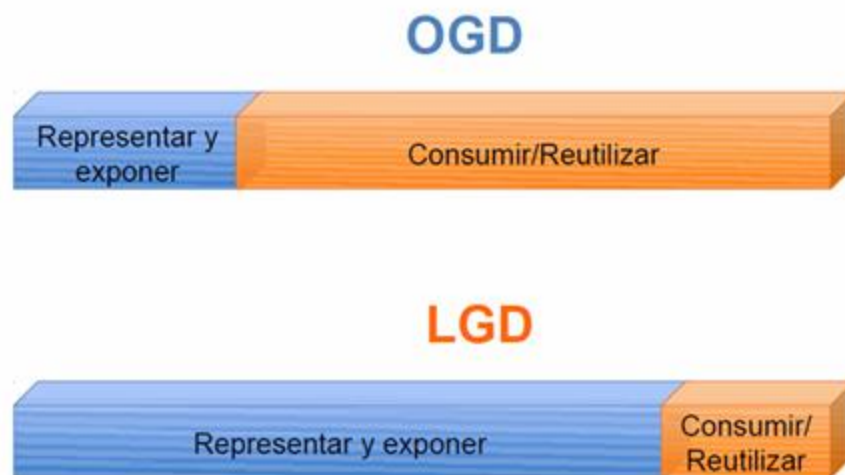
Conceptos (Open Data)

Muchos servicios y/o información relativa a Smart City, son expuestos cómo OpenData (Datos Abiertos) en portales de administraciones públicas.

Son las llamada “**Plataformas**” para la publicación y gestión de OpenData



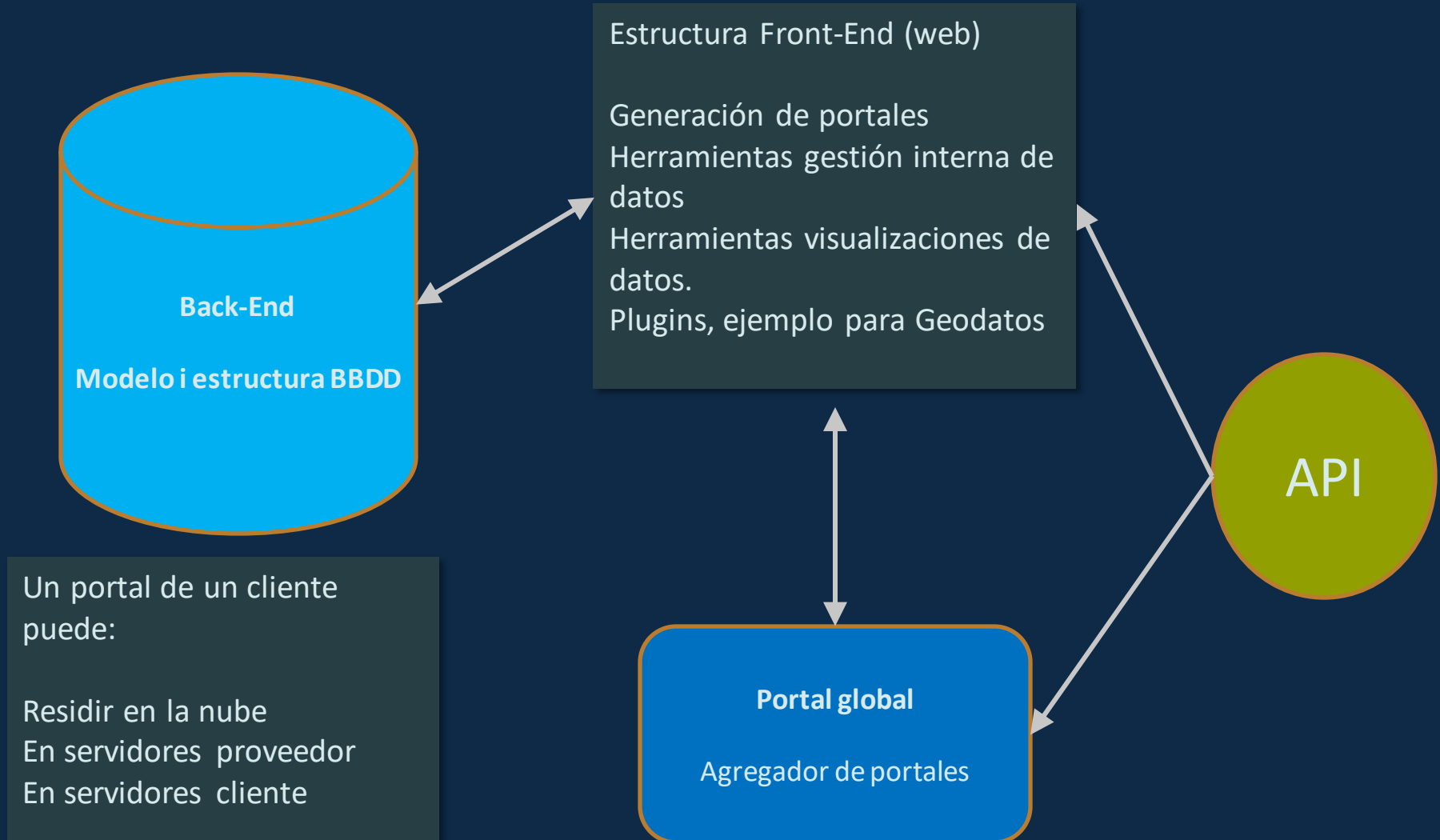
Representar y Exponer (*Open Gov't Data Vs Linked Gov't Data*)



Las nuevas Plataformas de publicación OpenData equilibran la barra entre los esfuerzos entre representar/exponer y consumir/reutilizar.



Arquitectura Plataformas de publicación



Plataformas Open Data

¿Puedo desarrollar nuevos Plugins para las Plataformas?

¿Podría crear una API de APIs?

Plataformas Open Data

VAMOS INTRODUCIRNOS EN 3 PLATAFORMAS ...

- Socrata
- OpenDatasoft
- Ckan

Socrata

Sede: Seattle, Washington, USA

Fundada: 2007

Modelo negocio:
Software-as-a-Service bajo
licencia.

API y SDK's (acceso a datos)
OpenSource.



Socrata is a company that provides cloud-based data visualization and analysis tools for opening government data. Originally called Blist, Socrata was founded in February 2007. Socrata targets non-technical Internet users who want to view and share government, healthcare, energy, education, or environment data. Its products are issued under a proprietary, closed, exclusive license

Fuente:

<https://en.wikipedia.org/wiki/Socrata>

Links

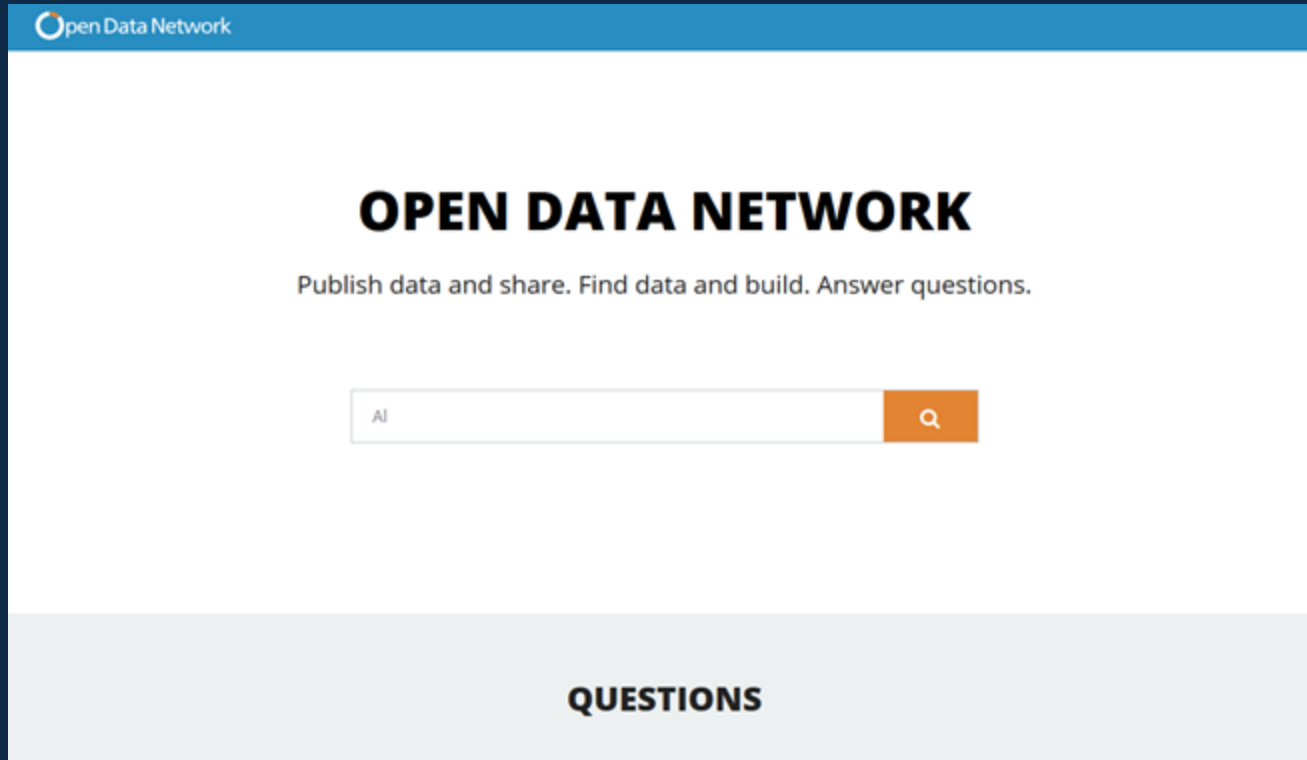
<https://socrata.com/>

<https://socrata.com/solutions/publica-open-data-cloud/>

<https://github.com/socrata>



SOCRATA : Portal global



<https://www.opendatanetwork.com/>

<https://socrata.com/blog/socrata-introduces-open-data-network/>

SOCRATA APIs:

- DISCOVERY API

<http://docs.socrata.discovery.apiary.io/>

- API (SODA)

<https://dev.socrata.com/consumers/getting-started.html>

The screenshot displays the Socrata Developer Portal interface. The main heading is "Getting started with the SODA Consumer API". Below this, there's a sidebar with navigation links like "App Developers", "Getting Started", "Finding Open Data", and "Examples". The main content area is titled "Locating Open Data and APIs" and includes a list of bullet points: "Check to see if your local government or state has a state website or even just Google 'open data' and something pretty quickly.", "Peruse the Open Data Network, our global catalog also available programmatically via the Global Catalog", and "Check to see if there's a community group in your community.socrata.com. Get a community group for your data and APIs? Sign up!". A code snippet is highlighted, showing a JSON API endpoint for fuel locations with a bounding box filter: `https://data.cityofchicago.org/resource/alternative-fuel-locations.json?$where=within_box(location, 41.885001, -87.645939, 41.867011, -87.618516)`. The snippet is enclosed in a light blue box with a gear icon and a "try it" button.

Discovery API

Discovery API

Socrata tiene la API SODA que me permite interrogar recursos - datasets- que están en los portales basados en Socrata

Para encontrar estos portales puedo utilizar
<https://www.opendatanetwork.com/>

{OR
}

Utilizar la Discovery API (Apiary) de SOCRATA

<http://docs.socratadiscovery.apiary.io>

Discovery API

Discovery API nos permite listar y buscar en todos los dominios (portales) de Estados Unidos o resto de el mundo.

Podemos Filtrar por

Search_context / domain: {domain}

Categories: {Education}

Assets: {Datasets, Maps, Charts}

Attributions: {organizations}

q: {free text}

Derived_view: {id_dataset}

limit: {num results}

<http://api.us.socrata.com/api/catalog/v1?q=crime&limit=3>

Discovery API: US y EU

<http://api.eu.socrata.com/api/catalog/v1?q=crime&limit=3>

<http://api.us.socrata.com/api/catalog/v1?q=crime&limit=3>

Discovery API: Respuesta

```
resource: {
  view_count: {
    page_views_total: 3950,
    page_views_total_log: 11.948002130977672,
    page_views_last_week_log: 4.0,
    page_views_last_month: 35,
    page_views_last_week: 15,
    page_views_last_month_log: 5.169925001442312
  },
  obe_fxf: null,
  description: "Seattle Part 1 Crime stats by precinct\nThe precinct and beat data can be found at\nhttp://data.seattle.gov/Government/SeattlePolice-Department-Beats/nnxn-434b",
  name: "Crime",
  parent_fxf: [
    "3xqu-vnum",
    "hapq-73pk"
  ],
  nbe_fxf: null,
  attribution: "City of Seattle, Department of Information Technology",
  provenance: "community",
  columns_field_name: [...],
  download_count: 167,
  columns_name: [...],
  page_views: {...},
  updatedAt: "2016-08-30T22:00:00Z",
  type: "chart",
  id: "pvkf-73v3",
  createdAt: "2010-11-18T00:30:51.000Z",
  columns_description: [
    "Description of the crime type",
    "Number of times crime occurred in a beat for reported month",
    "The police beat for reported crimes.",
    "Type 1 Crime committed"
  ]
},
classification: {...},
metadata: {
  domain: "data.seattle.gov"
},
permalink: https://data.seattle.gov/d/pvkf-73v3,
link: https://data.seattle.gov/Public-Safety/Crime/pvkf-73v3,
preview_image_url: https://data.seattle.gov/views/pvkf-73v3/files/5c49b088-1863-4ebd-adaf-a9cc5d2d5fcb
}
```

Parientes

Tipo

Id

Dominio

Vinculo Dataset

Discovery API: Respuesta

```
"type": "dataset",  
  "id": "pvkf-73v3",  
  "metadata": {  
    "data.seattle.gov": "domain": ""  
  },  
  "permalink": "https://data.seattle.gov/d/pvkf-73v3",  
  "link": "https://data.seattle.gov/Public-Safety/Crime/pvkf-73v3"
```

URL derivadas de la respuesta JSON

<https://data.seattle.gov/d/pvkf-73v3>

<https://data.seattle.gov/api/views/pvkf-73v3/rows.csv?accessType=DOWNLOAD>

http://api.us.socrata.com/api/catalog/v1/?derived_from=pvkf-73v3

<https://dev.socrata.com/foundry/data.seattle.gov/pvkf-73v3>



Vínculo con
API SODA

Visitamos Discovery API

<https://docs.socrata.com/api/discovery>

The screenshot shows the Socrata Discovery API documentation page. The page has a dark blue header with the Socrata logo, the title "Discovery API", and navigation links for "Documentation", "Inspector", and "Aplary Powered Documentation". A sidebar on the left contains a "Fork on GitHub" link and a "REFERENCE" section with links to various search methods. The main content area is titled "Discovery API" and includes an "INTRODUCTION" section. The introduction text states that the Socrata data platform hosts tens of thousands of government datasets and that this API opens up the Socrata corpus of government data for automated searching, research, and exploration. It also mentions that all calls return a JSON object containing three fields: results, resultSetSize, and timings. On the right side of the page, there is a "Domain Search API" section with a "GET" request example and a "Parameters" section. The parameters section lists "domains" and "search_context" with their respective descriptions and types.

Discovery API

INTRODUCTION

The Socrata data platform hosts tens of thousands of government datasets. Governments large and small publish data on crime, permits, finance, healthcare, research, performance, and more for citizens to use. While this large corpus of government data is already accessible via opendatanetwork.com, this API opens up the Socrata corpus of government data for automated searching, research, and exploration. Datasets can be found by keywords, high-level categorizations, tags, and much more. All calls return a JSON object containing three fields:

- **results**: An array of json objects, discussed below
- **resultSetSize**: The total number of results that could be returned were they not paged
- **timings**: Timing information regarding how long the request took to fulfill

Domain Search API

GET `http://api.us.socrata.com/api/catalog/v1?domains=data.seattle.gov&search_context=data.seattle.gov`

Parameters

- **domains**: A comma separated list of domains. Returns results restricted to only the domains in the list. When not present, searches the entire catalog. Example: `data.seattle.gov,data.hawaii.gov`
- **search_context**: Specifies the domain from which this query was issued and for which categories/tags will be used in search. If you seek to limit query results to just specific domains, please re-enter the same domains

API SODA

API SODA

<https://dev.socrata.com/foundry/data.seattle.gov/pvkf-73v3>

Simple Filters

Filtering data is very straightforward. SODA APIs are self-describing – the schema and contents of the dataset itself determines how you can query it. Any field within the data can be used as a filter, simply by appending it to the API endpoint as a GET parameter.

SoQL Queries

The “Socrata Query Language” (SoQL) is a simple, SQL-like query language specifically designed for making it easy to work with data on the web. The language is both powerful and easy to learn, and everything works via GET parameter

API SODA (SoQL)

Parameter	Description	Default	In \$query
<u>\$select</u>	The set of columns to be returned, similar to a SELECT in SQL	All columns, equivalent to \$select=*	SELECT
<u>\$where</u>	Filters the rows to be returned, similar to WHERE	No filter	WHERE
<u>\$order</u>	Column to order results on, similar to ORDER BY in SQL	Unspecified order	ORDER BY
<u>\$group</u>	Column to group results on, similar to GROUP BY in SQL	No grouping	GROUP BY
<u>\$having</u>	Filters the rows that result from an aggregation, similar to HAVING	No filter	HAVING
<u>\$limit</u>	Maximum number of results to return	1000 (2.0 endpoints: maximum of 50,000; 2.1: unlimited ↗)	LIMIT
<u>\$offset</u>	Offset count into the results to start at, used for paging	0	OFFSET
<u>\$q</u>	Performs a full text search for a value.	No search	N/A
<u>\$query</u>	A full SoQL query string, all as one parameter	N/A	N/A
<u>\$\$bom</u>	Prepends a UTF-8 Byte Order Mark to the beginning of CSV output	false	N/A

API SODA (SoQL): Ejemplos

Simple feature

<https://finances.worldbank.org/resource/45tv-a6qy.json?region=AFR>

SoQL

[https://finances.worldbank.org/resource/45tv-a6qy.json?\\$where=region = 'AFR'](https://finances.worldbank.org/resource/45tv-a6qy.json?$where=region='AFR')

[https://finances.worldbank.org/resource/45tv-a6qy.json?\\$where=region = 'AFRICA' AND contract signing date > '2015-01-01T14:00:00'](https://finances.worldbank.org/resource/45tv-a6qy.json?$where=region='AFRICA' AND contract_signing_date > '2015-01-01T14:00:00')

Discharger CSV

<https://finances.worldbank.org/resource/45tv-a6qy.csv>

Web

<https://finances.worldbank.org/Procurement/Major-Contract-Awards/kdui-wcs3>

API SODA (SoQL): Funciones espaciales

<u>within_box(...)</u>	Returns the rows that have geodata within the specified box, defined by latitude, longitude corners
<u>within_circle(...)</u>	Returns the rows that have locations within a specified circle, measured in meters

[https://data.cityofchicago.org/resource/alternative-fuel-locations.json?\\$where=within_box\(location, 41.885001, -87.645939, 41.867011, -87.618516\)](https://data.cityofchicago.org/resource/alternative-fuel-locations.json?$where=within_box(location,41.885001,-87.645939,41.867011,-87.618516))

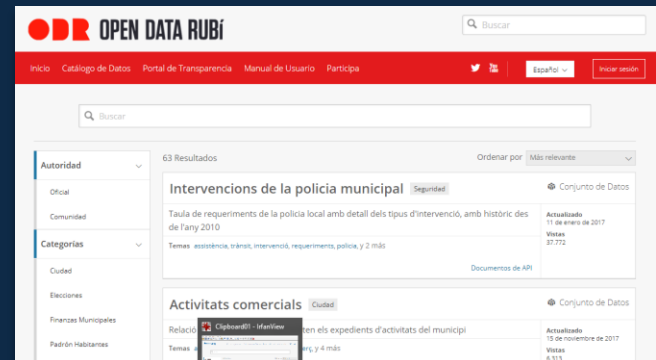
[https://data.seattle.gov/resource/3k2p-39jp.json?\\$where=within_circle\(incident_location, 47.59815, -122.334540, 500\)](https://data.seattle.gov/resource/3k2p-39jp.json?$where=within_circle(incident_location,47.59815,-122.334540,500))

Portales con Socrata:

<https://anlisi.transparenciaatalunya.cat/>



<https://opendata.rubi.cat/es/browse>



OPENDATASOFT

Sede: Paris, Fr

Fundada: 2011

Modelo negocio:
Software-as-a-Service bajo
licencia.

API y SDK's (acceso a datos)
OpenSource

Gratuito para "nonprofit" y
ONG



OpenDataSoft is a private software company specialized in transforming structured data into API and visualizations. Founded in 2011, OpenDataSoft targets non-technical users who wish to share and visualize government, health, energy and environmental data. OpenDataSoft allows restricted and open sharing ecosystems like open data portals.

Fuente: <https://en.wikipedia.org/wiki/opendatasoft>

Links

<https://www.opendatasoft.com/>

<https://www.opendatasoft.com/open-data-solutions/>

<https://github.com/opendatasoft>



OPENDATASOFT :Portal Global global

The screenshot displays the OpenDataSoft portal interface. At the top, there's a navigation bar with 'OpenDataSoft', 'Explore', 'Cartograph', and 'API' links, along with a 'Login' button. The main content area is divided into several sections:

- 1,905 datasets**: A header indicating the total number of datasets available.
- Sort by**: A dropdown menu set to 'Last modification'.
- Filters**: A section with a search bar labeled 'Find a dataset...' and a magnifying glass icon.
- View**: A list of view options with their respective counts:
 - Analyze: 1,671
 - Map: 799
 - Image: 10
 - Calendar: 5
 - Custom view: 4
- Modified**: A list of years with their respective counts:
 - 2011: 36
 - 2012: 35
 - 2013: 108
 - 2014: 226
 - 2015: 473
 - 2016: 952
- Publisher**: A list of publishers with their respective counts:
 - Agences Régionales de Santé (ARS): 253
 - Municipalidad de San Isidro: 165
 - Quandl: 132
 - INSEE: 102
 - City of Portland, Oregon: 99

The main content area features six dataset cards, each with a title, description, publisher, license, and interactive buttons:

- History of the SuperBowl**: Description of the annual American football game. Publisher: data.world, License: CC BY. Buttons: Super, Bowl, NFL, Football.
- Chicago Sunrise Data**: Description of sunrise data in Chicago. Publisher: Valentino Constantinou, License: Public Domain. Buttons: Sunrise, Chicago.
- Commodity Prices**: Description of time series of major commodity prices. Publisher: Open Knowledge Foundation, License: <http://www.imf.org/external/terms.htm>. Buttons: Price, Index, Commodity.
- Global Temperature Time Series**: Description of global temperature data. Publisher: Open Knowledge Foundation, License: PDDL. Buttons: GCAG, GISTEMP, Temperature.
- Annual Consumer Price**: Description of annual consumer price data.
- Corruption Perceptions**: Description of corruption perceptions data.

<https://public.opendatasoft.com/explore/?sort=modified/>

OPENDATASOFT : API

The screenshot displays the OpenDataSoft API documentation for version V2 (beta). The top navigation bar includes 'OpenDataSoft', 'Explore', 'Cartograph', 'API', and a 'Login' link. The left sidebar contains a 'Console' tab and a 'Documentation' tab. Under 'Documentation', there are links for 'Concepts Overview', 'Connexion and Authentication', 'Datasets API', 'Records API', and 'Appendices'. The main content area is titled 'Concepts Overview' and explains the core concepts of the API. It defines a 'Dataset' as a logical data entity containing records and metadata, a 'Record' as a row of values, and a 'Domain' as a container for users, datasets, and services. Below this, the 'Connection and Authentication' section describes how to access the APIs, either publicly or with authentication. It lists two methods: HTTP Basic Authentication and API key authentication. An inset image shows a search API interface with fields for dataset, language, rows, start, sort, and facet, along with a 'refine' button. A JSON response is also visible on the right side of the inset.

OpenDataSoft Explore Cartograph **API** Login

V1 V2 (beta)

Console Documentation

Concepts Overview
Connexion and Authentication

Datasets API
Search
Lookup

Records API
Search
Download
Analyze
GeoCluster

Appendices
How to identify a Dataset ?
How to use facets ?
Facets in Datasets API
Sorting in Datasets API
Query language
Examples

Concepts Overview

You'll find below the main concepts that are used in the remaining of this documentation.

Dataset A Dataset is a logical data entity. It contains a set of Records. It can be seen as a table in a relational database.

A Dataset also contains a set of metadata that describes it further (for instance, the publication date, the ownership, tags, themes, ...).

Thus, a Dataset is fully defined by the list of Fields of the Records it contains and by its metadata.

Record A Record is simply a row of values associated with their Fields. It is similar to a row in an Excel spreadsheet.

Domain A Domain contains users and Datasets and defines a set of services allowing to manage and access these objects (for instance, the search API, the exploration console).

A Domain can be public or private. In the latter case, access to the Domain must be granted to one or several Domains.

Connection and Authentication

Access to Domain APIs can be either public or protected depending on the configuration. If access is protected, two solutions can be used to authenticate the user:

- **HTTP Basic Authentication** using the user login and password.
- An API key, passing the key as a simple HTTP parameter when connected.

http://<DOMAIN>/api/datasets/1.0/search/?api_key=...

Both HTTP and HTTPS may be used. When the call is authenticated, the response is in JSON format.

dataset: chicago-sunrise-data
Dataset ID
is: Full-text query
lang: Custom language code for linguistic and Returns
rows: 10 Number of rows in the result (default: 10)
start: Index of the first record to return (see pagination)
sort: Sort expression (field or field:desc)
facet: time location water_name sky_name Name of facets to enable in the results
refine: facet name

```
{
  "records": [
    {
      "dataset": "chicago-sunrise-data",
      "record": {
        "time": "2012-01-01",
        "location": "Chicago",
        "water_name": "Lake Michigan",
        "sky_name": "Blue"
      }
    }
  ],
  "facets": {
    "time": [
      "2012-01-01",
      "2012-01-02",
      "2012-01-03",
      "2012-01-04",
      "2012-01-05",
      "2012-01-06",
      "2012-01-07",
      "2012-01-08",
      "2012-01-09",
      "2012-01-10"
    ],
    "location": [
      "Chicago",
      "New York",
      "London",
      "Paris",
      "Tokyo",
      "Sydney",
      "Auckland",
      "Wellington",
      "Christchurch",
      "Dunedin"
    ],
    "water_name": [
      "Lake Michigan",
      "Lake Superior",
      "Lake Huron",
      "Lake Erie",
      "Lake Ontario",
      "St. Lawrence River",
      "Great Lakes",
      "Atlantic Ocean",
      "Pacific Ocean",
      "Indian Ocean"
    ],
    "sky_name": [
      "Blue",
      "Grey",
      "White",
      "Black",
      "Red",
      "Green",
      "Yellow",
      "Orange",
      "Purple",
      "Pink"
    ]
  }
}
```

<https://public.opendatasoft.com/api/v1/console/datasets/1.0/search/>

CKAN

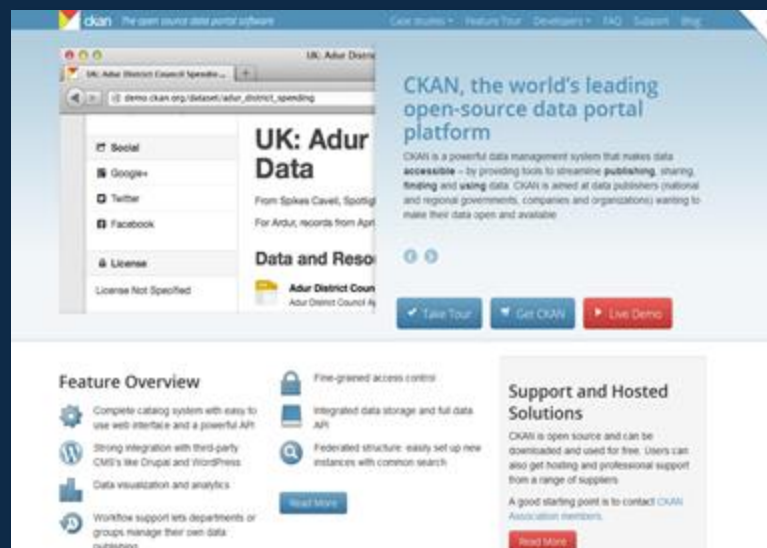
Sede: Cambridge, UK

Fundación : 2004

Modelo negocio:

Fundación Open Knowledge International

Todo OpenSource pero también ofrecen servicio (de pago) de Hosting.



Open Knowledge International (OKI) (known as the Open Knowledge Foundation (OKF) until April 2014,^[2] then Open Knowledge until May 2016^[3]) is a global non-profit network that promotes and shares information at no charge, including both content and data.^[4] It was founded by Rufus Pollock on 24 May 2004^[5] in Cambridge, UK.

Fuente:

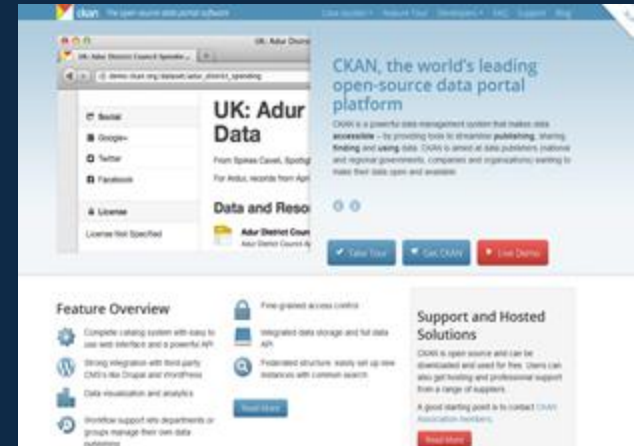
https://en.wikipedia.org/wiki/Open_Knowledge_International

Links

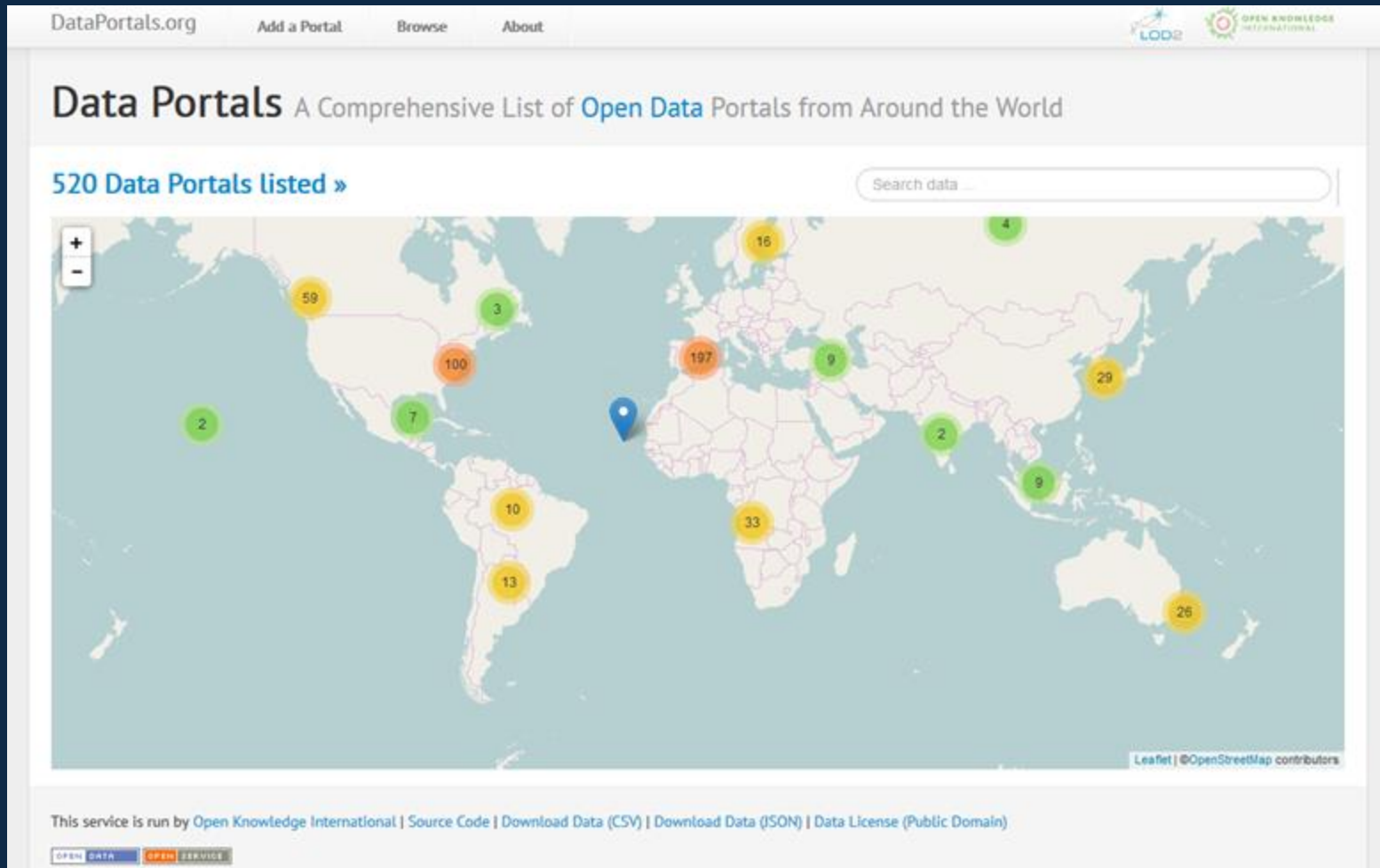
<https://ckan.org>

<https://github.com/ckan/ckan>

<https://datahub.io>




CKAN : Portal global



<http://dataportals.org/>

<https://datahub.io/>

CKAN : API

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API guide

This section documents CKAN's API, for developers who want to write code that interacts with CKAN sites and their data.

CKAN's **Action API** is a powerful, RPC-style API that exposes all of CKAN's core features to API clients. All of a CKAN website's core functionality (everything you can do with the web interface and more) can be used by external code that calls the CKAN API. For example, using the CKAN API your app can:

- Get JSON-formatted lists of a site's datasets, groups or other CKAN objects:
http://demo.ckan.org/api/3/action/package_list
http://demo.ckan.org/api/3/action/group_list
http://demo.ckan.org/api/3/action/tag_list
- Get a full JSON representation of a dataset, resource or other object:
http://demo.ckan.org/api/3/action/package_show?id=adur_district_spending
http://demo.ckan.org/api/3/action/tag_show?id=gold
http://demo.ckan.org/api/3/action/group_show?id=data-explorer
- Search for packages or resources matching a query:
http://demo.ckan.org/api/3/action/package_search?q=spending
http://demo.ckan.org/api/3/action/resource_search?query=name:District%20Names
- Create, update and delete datasets, resources and other objects
- Get an activity stream of recently changed datasets on a site:

<http://docs.ckan.org/en/latest/api/index.html>

CKAN : API NIVELES

GLOBAL “API”:

<http://dataportals.org/api/data.json/>

Domain “API”:

http://demo.ckan.org/api/3/action/package_search?q=museu

http://opendata-ajuntament.barcelona.cat/data/api/3/action/package_search?q=museu

http://demo.ckan.org/api/3/action/resource_search?query=description:Museu

http://opendata-ajuntament.barcelona.cat/data/api/3/action/resource_search?query=description:barri

Dataset “API”: (FileStore y DataStore):

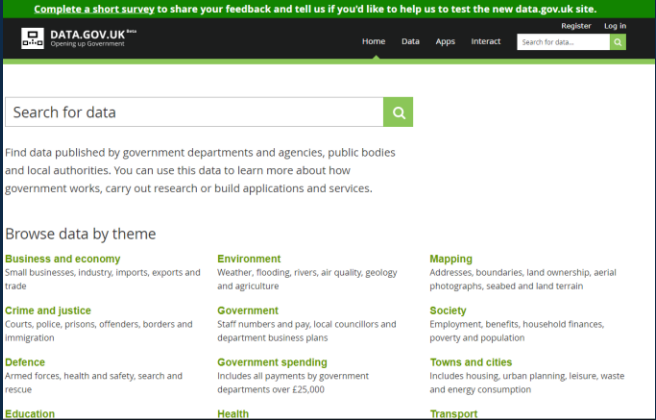
Create	<u>http://demo.ckan.org/api/action/datastore_create</u>
Update / Insert	<u>http://demo.ckan.org/api/action/datastore_upsert</u>
Query	<u>http://demo.ckan.org/api/action/datastore_search</u>
Query (via SQL)	<u>http://demo.ckan.org/api/action/datastore_search_sql</u>

Portales CKAN

<http://opendata-ajuntament.barcelona.cat/data/es/dataset>



<https://data.gov.uk/>



Conclusiones

- ▣ CKAN es OpenSource
- ▣ Puedo instalarlo en mi servidor o utilizar servicio web
- ▣ Puedo automatizar la gestión de datasets
- ▣ Todos los Datasets están expuestos via API