



How to License Linked Data

Finding and declaring known licenses

A practical approach

Tutorial: Rights and Licenses for Linked Data
within the European Semantic Web Conference 2014 ESWC14

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2014.05.26

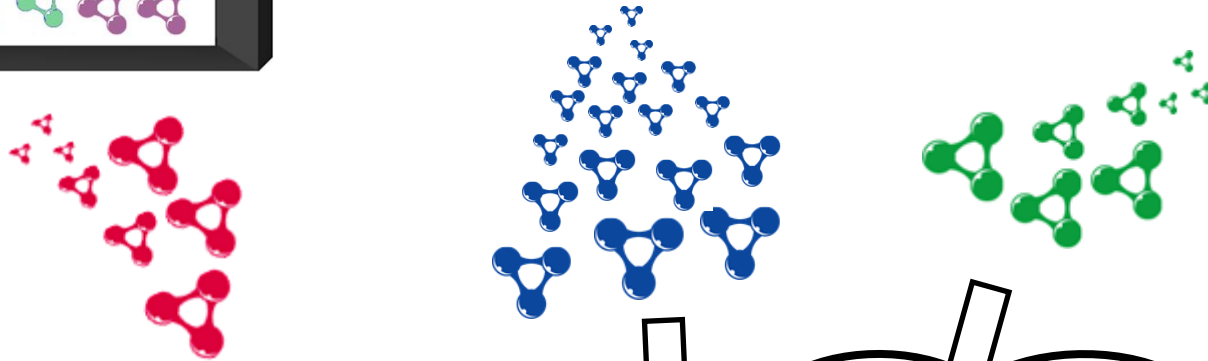
Data portals



Government



Individuals



Create, consume, aggregate,
derive and publish Linked Data
being respectful with licenses

Open Data



Gain visibility

Encourage re-use

Accessible, but in any case, **licensed**

Proprietary Data



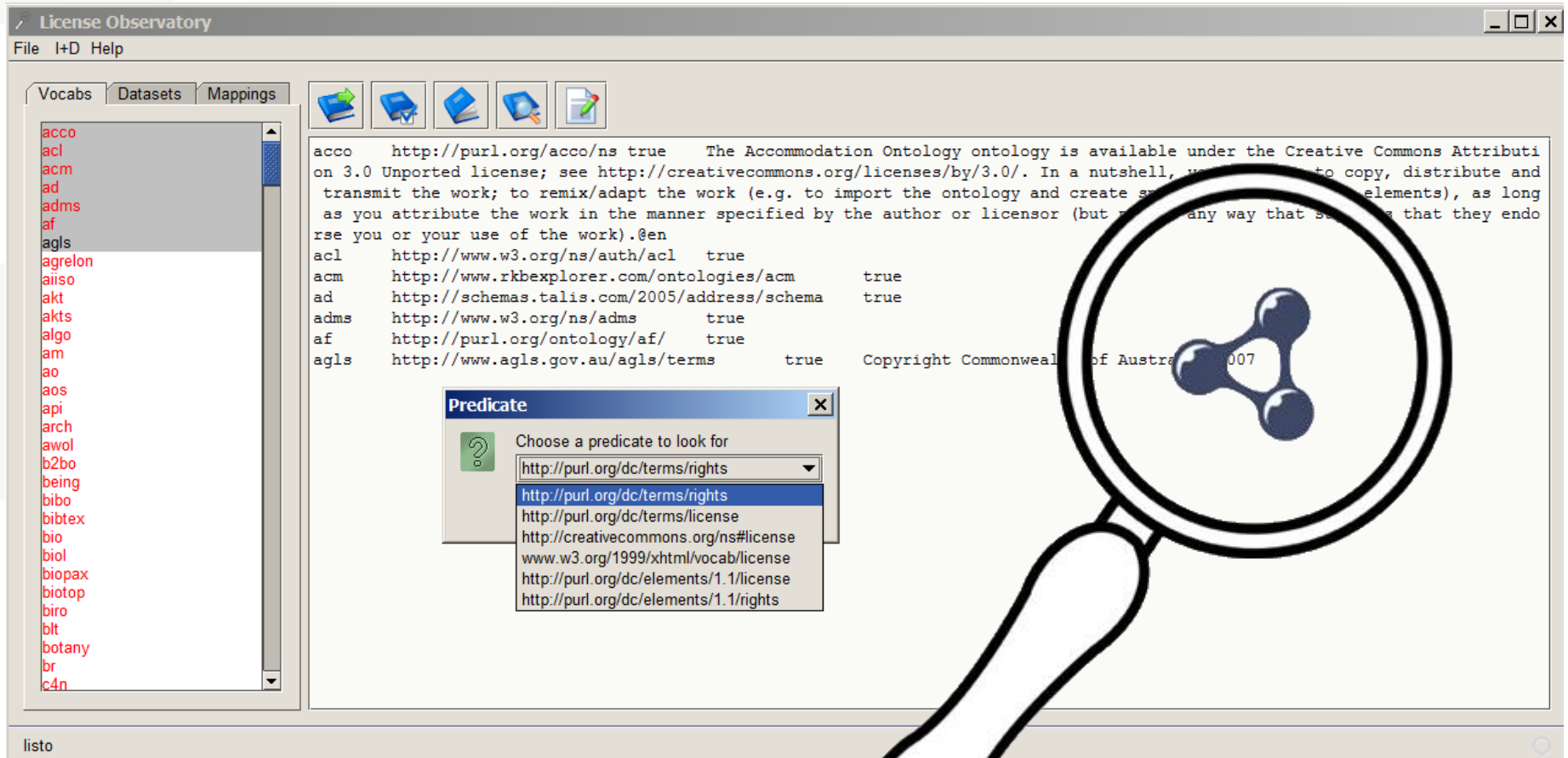
Protect your data

Enable ways to track usage

New business models

Introduction: the current state of the affairs

- An observation on how Linked Data was being licensed...



The screenshot shows the 'License Observatory' application window. On the left, a list of vocabularies is displayed, including 'acco', 'acl', 'acm', 'ad', 'adms', 'af', 'agls', 'agrelon', 'aiiso', 'akt', 'akts', 'algo', 'am', 'ao', 'aos', 'api', 'arch', 'awol', 'b2bo', 'being', 'bibo', 'bibtex', 'bio', 'biol', 'biopax', 'biotop', 'biro', 'bit', 'botany', 'br', and 'c4n'. The main area displays the license for the 'acco' vocabulary, which is the Creative Commons Attribution 3.0 Unported license. A magnifying glass is positioned over the license text, highlighting the Creative Commons logo. A 'Predicate' dialog box is open, showing a list of predicates to look for, including 'http://purl.org/dc/terms/rights', 'http://purl.org/dc/terms/license', 'http://creativecommons.org/ns#license', 'www.w3.org/1999/xhtml/vocab/license', 'http://purl.org/dc/elements/1.1/license', and 'http://purl.org/dc/elements/1.1/rights'.

License Observatory

File I+D Help

Vocabs Datasets Mappings

acco http://purl.org/acco/ns true The Accommodation Ontology ontology is available under the Creative Commons Attribution 3.0 Unported license; see http://creativecommons.org/licenses/by/3.0/. In a nutshell, you are free to copy, distribute and transmit the work; to remix/adapt the work (e.g. to import the ontology and create new elements), as long as you attribute the work in the manner specified by the author or licensor (but not in any way that suggests that they endorse you or your use of the work).@en

acl http://www.w3.org/ns/auth/acl true

acm http://www.rkbexplorer.com/ontologies/acm true

ad http://schemas.talis.com/2005/address/schema true

adms http://www.w3.org/ns/adms true

af http://purl.org/ontology/af/ true

agls http://www.agls.gov.au/agls/terms true Copyright Commonwealth of Australia 2007

Predicate

Choose a predicate to look for

http://purl.org/dc/terms/rights

http://purl.org/dc/terms/license

http://creativecommons.org/ns#license

www.w3.org/1999/xhtml/vocab/license

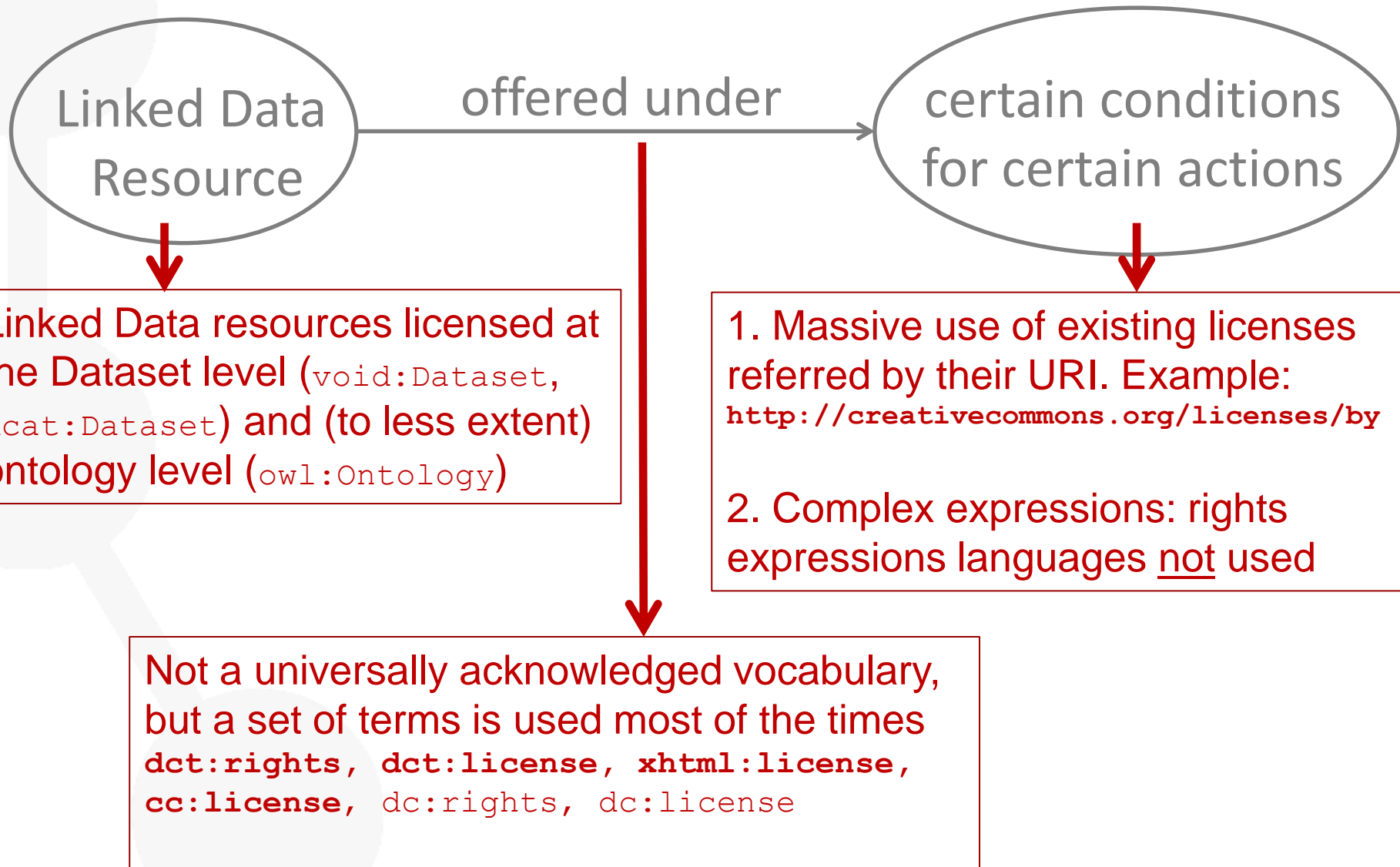
http://purl.org/dc/elements/1.1/license

http://purl.org/dc/elements/1.1/rights

listo

Introduction: the current state of the affairs

- ...revealing the following (qualitative results)



Introduction: a coloured LOD cloud...

Public domain



Attribution



Share-alike



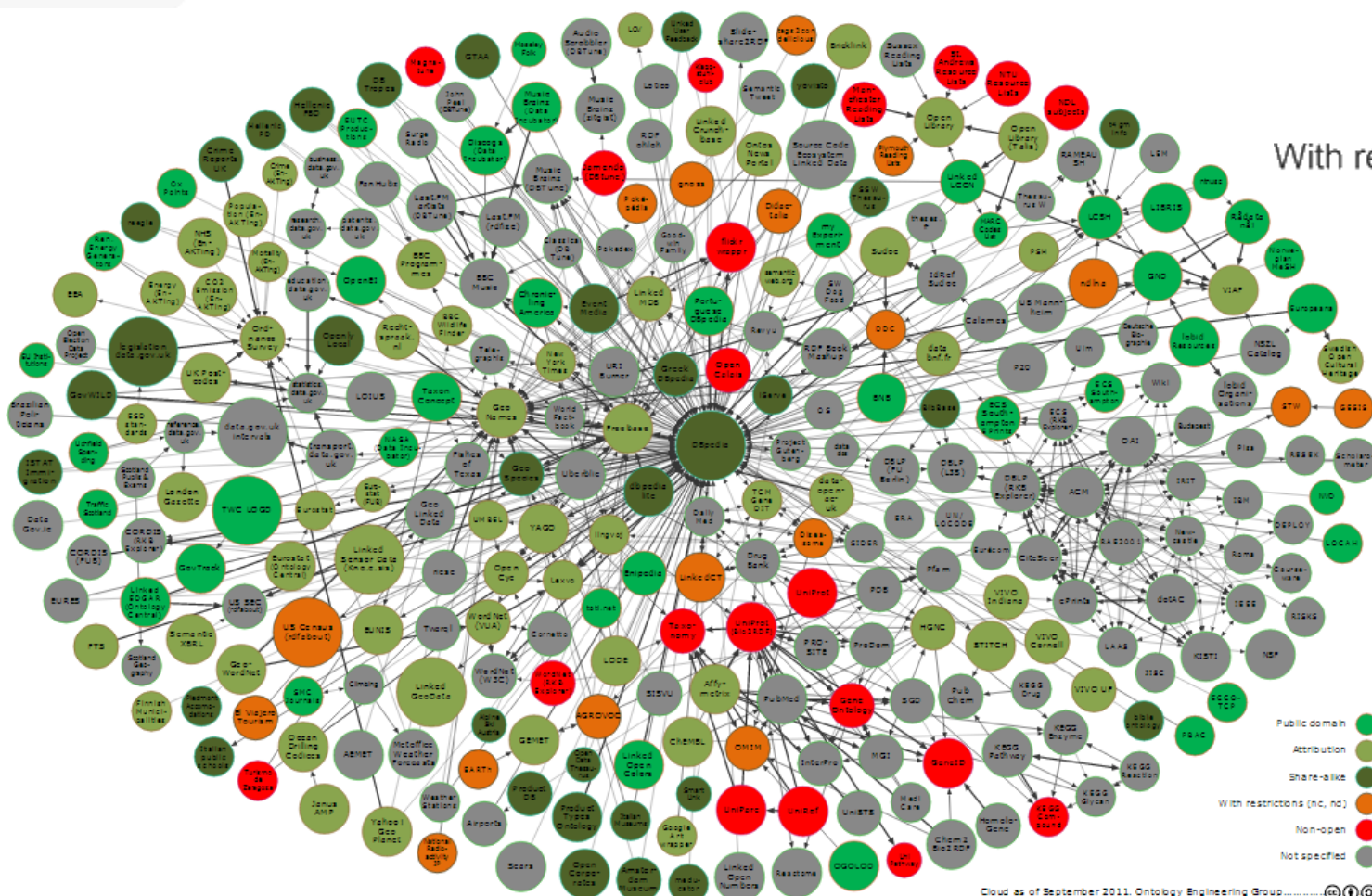
With restrictions (nc, nd)



Non-open



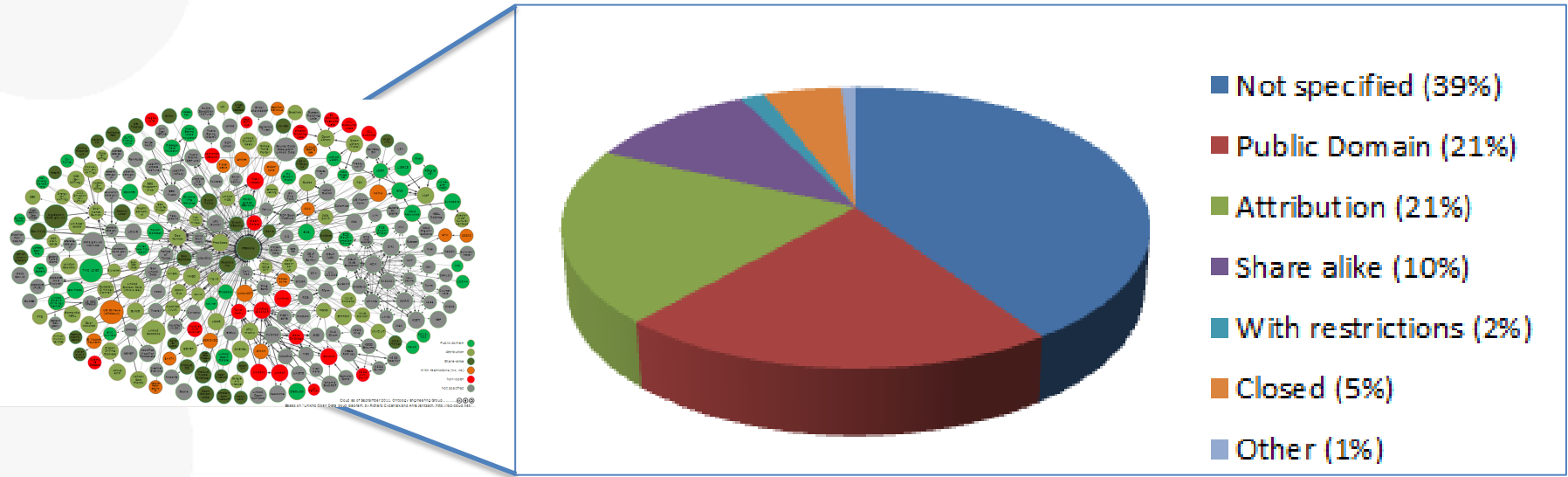
Not specified



Public domain
Attribution
Share-alike
With restrictions (nc, nd)
Non-open
Not specified

Cloud as of September 2011. Ontology Engineering Group.....
Based on "Linking Open Data cloud diagram" by Richard Cyganik and Anja Jentzsch. <http://lod-cloud.net/>

- 338 datasets in the official LOD cloud :



- Broader results
(vocabularies, non-LOD datasets)



<i>Kind of license</i>	<i>No. of licenses in LOV vocabs</i>	<i>No. of licenses in CKAN datasets</i>
Not specified	313 (86%)	469 (26%)
Public Domain	5 (1%)	291 (16%)
Attribution	18 (5%)	440 (24%)
Share alike	2 (2%)	322 (18%)
With restrictions	17 (5%)	143 (8%)
Closed	7 (2%)	43(2%)
Other	4 (1%)	128(7%)

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- Most used terms to declare the license



<i>Element</i>	<i>LOV vocabs</i>	<i>LOD datasets</i>
dct:license	34 (9%)	62 (41%)
cc:license	20 (5%)	2 (1%)
dct:rights	31 (8%)	4 (3%)

- But still not always introduced as predicates

```
xmlns:skosxl="http://www.w3.org/2008/05/skos-xl#"
xmlns:foaf="http://xmlns.com/foaf/0.1/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema#" >
```

```
<!--
```

```
This data file is a part of
```

```
leavo
```

```
http://www.leavo.org/
```

```
Gerard de Melo, 2008-2013
```

```
License: Creative Commons Attribution-Share Alike 3.0 Unported
```

```
http://creativecommons.org/licenses/by-sa/3.0/
```

```
Portions copyright various contributors (e.g. article authors on Wikipedia).
```

```
For information about the data sources and the respective copyrights,
```

```
please see:
```


- Be able to
 - **discover the license** of a Linked Data resource
 - **select** the appropriate license for your Linked Data resource
 - **declare the license** for your Linked Data resource

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- Linked Data resources
 - Ontologies, vocabularies
 - Datasets as dump files (let's assume in RDF)
 - Linked Data from accesible endpoints (SPARQL etc.)
 - ...
- Each resource has different publication styles

Seguidores
1

This group catalogs data sets that are available on the Web as Linked Data and contain data links pointing at other Linked Data sets. The descriptions of the data sets in this... [leer más](#)

 Google+

 Twitter

 Facebook

🔒 Licencia

Creative Commons Attribution

OPEN DATA

 Relacionados

Three RDF datasets:

- Eurostat country codes
- Eurostat NUTS statistical regions (2008)
- Database of Eurostat-related legal acts

Each is available as an RDF dump. URIs resolve directly into the RDF dump. The country codes are linked to Geonames, to [package:fu-berlin-eurostat](#), and to Telegraphis (40 links each).

Datos y Recursos

DATA
void description
void description

Más información

[↗ Ir al recurso](#)

 **Download of NUTS statistical regions (RDF/XML)**
Download of NUTS statistical regions (RDF/XML)

Más información

[↗ Ir al recurso](#)

 **Download of country codes (RDF/XML)**
Download of country codes (RDF/XML)


i Más información

[↗ Ir al recurso](#)

 **Download of legislation database (RDF/XML)**
Download of legislation database (RDF/XML)

Más información

[↗ Ir al recurso](#)

 **Download of NACE (Revision 2) codes (RDF/XML)**
Download of NACE (Revision 2) codes (RDF/XML)

Más información

[↗ Ir al recurso](#)

 **Example region (RDF/XML)**
Example region (RDF/XML)

i Más información

[↗ Ir al recurso](#)

 **Example country (RDF/XML)**
Example country (RDF/XML)


Más información

[↗ Ir al recurso](#)

 **Example legislation record (RDF/XML)**
Example legislation record (RDF/XML)








Más información

[↗ Ir al recurso](#)

 **Download of NACE (Revision 2) translations ...**
Download of NACE (Revision 2) translations (RDF/XML)

Más información

[↗ Ir al recurso](#)

deref-vocab  eu  europe  eurostat  format-cc  format-rdf  geographic 

Metadata in an independent file as RDF (VoID DCAT, etc.)

In this example, the creative commons vocabulary has been used (cc:license)

The screenshot shows a web browser window with the URL `datahub.io/es/dataset/eurostat-rdf`. The page title is 'Eurostat RDF datasets'. It features a sidebar with 'Seguidores' (1) and 'Organización' (a network diagram). The main content area lists three RDF datasets: 'Eurostat country codes', 'Eurostat NUTS statistical regions (2008)', and 'Database of Eurostat-related legal acts'. Below this, there's a section 'Datos y Recursos' with links for 'void description' and 'Download of NUTS statistical regions (RDF/XML)'. A red arrow points to the 'Download of NUTS statistical regions (RDF/XML)' link.

```

26 <void:Dataset rdf:ID="nuts2008">
27   <dcterms:title>NUTS 2008 edition</dcterms:title>
28   <dcterms:description>Hierarchical list of the Nomenclature of territorial units for statistics - NUTS
29   <dcterms:creator rdf:resource="#Eurostat"/>
30   <dcterms:subject rdf:resource="http://dbpedia.org/resource/Nomenclature_of_Territorial_Units_for_Statisti
31   <dcterms:date>2008-01-01</dcterms:date>
32   <foaf:homepage rdf:resource="http://epp.eurostat.ec.europa.eu/portal/page/portal/nuts_nomenclature/int
33   <rdfs:seeAlso rdf:resource="&rdfdata;estat-legis/13000"/>
34   <cc:license rdf:resource="http://creativecommons.org/licenses/by/3.0/lu/">
35   <cc:morePermissions rdf:resource="http://ec.europa.eu/geninfo/copyright_en.htm"/>
36   <void:exampleResource rdf:resource="&rdfdata;nuts2008/LU"/>
37   <void:dataDump rdf:resource="&rdfdata;nuts2008.rdf"/>
38 </void:Dataset>
  
```

Browser window showing the Eurostat RDF datasets page (datahub.io/es/dataset/eurostat-rdf).

The page displays the RDF description of the NUTS 2008 edition dataset. The metadata is highlighted in a red box, showing the following XML structure:

```
<?xml version="1.0" encoding="UTF-8"?>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#" xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#" xmlns:cc="http://creativecommons.org/licenses/by/3.0/lu/" xmlns:dcterms="http://purl.org/dc/terms/" xmlns="http://ec.europa.eu/eurostat/ramon/ontologies/geographic.rdf#" xml:base="http://ec.europa.eu/eurostat/ramon/ontologies/geographic.rdf#"
  <rdf:Description rdf:about="">
    <rdfs:label>NUTS 2008 edition</rdfs:label>
    <dcterms:title>Hierarchical list of the Nomenclature of territorial units for statistics - NUTS</dcterms:title>
    <dcterms:date rdf:datatype="http://www.w3.org/2001/XMLSchema#date">2008-01-01</dcterms:date>
    <dcterms:source>European Commission - http://epp.eurostat.ec.europa.eu/portal/page/portal/nuts</dcterms:source>
    <dcterms:subject>europa, eu, ramon, regions, nomenclature, territorial, units, statistics, classification, statistical regions, nomenclature server, international statistical classification</dcterms:subject>
    <cc:morePermissions rdf:resource="http://ec.europa.eu/geninfo/copyright_en.htm"/>
    <cc:license rdf:resource="http://creativecommons.org/licenses/by/3.0/lu/">
    <dcterms:valid>2008-01-01/2011-12-31</dcterms:valid>
    <rdfs:comment>Valid from 1 January 2008 until 31 December 2011</rdfs:comment>
  </rdf:Description>
  <NUTSRegion rdf:about="BE">
    <level rdf:datatype="http://www.w3.org/2001/XMLSchema#integer">0</level>
    <regionCode>BE</regionCode>
```

The metadata is highlighted in a red box, and a red arrow points to the `<cc:license>` statement, indicating its importance.

Below the XML, the page shows a list of related datasets and links to download them in RDF/XML format. The datasets listed include:

- Download of legislation database (RDF/XML)
- Download of NACE (Revision 2) codes (RDF/XML)
- Example region (RDF/XML)
- Example country (RDF/XML)
- Example legislation record (RDF/XML)
- Download of NACE (Revision 2) translations (RDF/XML)

The page also includes social media links (Google+, Twitter, Facebook) and a Creative Commons Attribution license.

Metadata within the resource, as RDF statements

Eurostat RDF datasets x

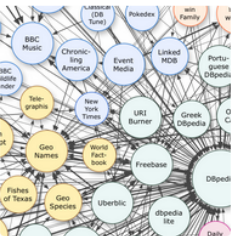
datahub.io/es/dataset/eurostat-rdf

/ Organizaciones / Linking Open Data Cloud / Eurostat RDF datasets

Eurostat RDF datasets

Seguidores
1

Organización



Linking Open Data Cloud

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Social

Google+

Twitter

Facebook

Licencia

Creative Commons Attribution

Conjunto de datos

Flujo de Actividad

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Eurostat RDF datasets

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Datos y Recursos

DATA

void description

Más información

Ir al recurso

XML

Download of NUTS statistical regions (RDF/XML)

Más información

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Más información

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XML

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Más información

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Más información

Ir al recurso

XML

Example country (RDF/XML)

Más información

Ir al recurso

XML

Example legislation record (RDF/XML)

Más información

Ir al recurso

XML

Download of NACE (Revision 2) translations ...

Más información

Ir al recurso

deref-vocab

eu

europe

eurostat

format-cc

format-rdf

geographic

Metadata provided by the data portal (namely, the person who uploaded the dataset) in this example, as English text but also as structured info (JSON file) through an API

Copyright notice and free re-use of data

epp.eurostat.ec.europa.eu/portal/page/portal/about_eurostat/policies/copyright_licence_policy

Register | Links | Contact | Important legal notice English (en)

European Commission
eurostat Your key to European statistics

European Commission > Eurostat > About Eurostat > Policies > Copyright notice and free re-use of data

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 - Who does what
 - How to find us
- Eurostat news
- Opportunities
 - Recruitment
 - Calls for Tenders
 - Grants
 - Conferences
 - Public consultations
- Our partners
 - European Statistical System (ESS)
 - International Cooperation
- Policies
 - Quality
 - Research and Methodology
 - Statistical confidentiality
 - Copyright notice and free re-use of data**

Copyright notice and free re-use of data

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Some common sense ideas

- There is no systematic procedure
 - Different targets, vocabularies, detail levels...
→ The process is a manual process (as of today)
- It is not always easy to find the primary source
 - Primary font. Through the creator (or rightsholder) website
 - Secondary font. Through a third party (aggregator, data portal, etc.)
→ Mind who is saying “this is the license”. Always check the primary font
- Licensing information is replicated
 - Sometimes different licensing info (or even contradictory)
 - Sometimes outdated licensing info
→ Do not rely on the first info

- Be able to
 - discover the license of a Linked Data resource
 - **select the appropriate license for your Linked Data resource**
 - declare the license for your Linked Data resource

- Is your material original?
 - Yes: You can choose any license you like
 - No: You may be restricted by the license your resource is based upon
- Do you have peculiar restrictions?
 - Yes: Express the text of your choice
 - No: Use a well-known license (Open Data Commons, Creative Commons)
- Is your resource a general work, or plain data?
 - Yes: Use any license for works
 - No: Use data licenses (or Creative Commons version > 4.0)

- Creative Commons corporation
 - CC0*
 - CC-BY
 - CC-BY-SA
 - CC-BY-ND
 - CC-BY-NC
 - CC-BY-NC-SA
 - CC-BY-NC-ND
 - Open Knowledge Foundation (data)
 - Open Data Commons Attribution License
 - Open Data Commons Open Database License (ODbL)
 - Open Data Commons Public Domain Dedication and License (PDDL)
 - Others
 - UK-OGL, GFDL, etc.
- Mind the version
 - Mind the jurisdiction port

- Be able to
 - **discover the license** of a Linked Data resource
 - **select** the appropriate license for your Linked Data resource
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- Rights declaration for humans
 - Provide different, non-contradictory levels of information (icon, summary, full license text)
- Rights declaration for machines
 - Declaring metadata in a separate VoID/DCAT file is advisable for LD
 - It is also the best placeholder for the RDF declaration of the license
 - Use RDFa for declaring the license within the HTML website
 - Use the best acknowledged terms: dc:license, additional terms only if needed
- Advanced rights declaration
 - Next session with ODRL2.0

(see the live example)

Thanks!

