

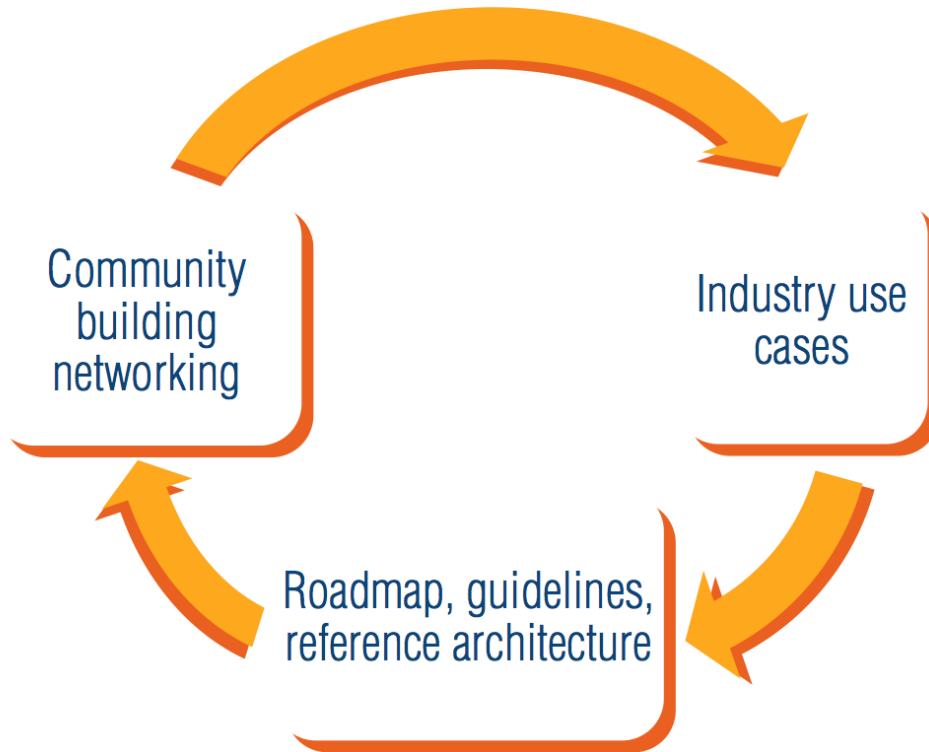


Towards high quality, industry-ready Linguistic Linked Licensed Data

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- Ecosystem of Linguistic resources (Corpora, Lexico-semantic data, etc.) as LD and NLP services to support content analytics.

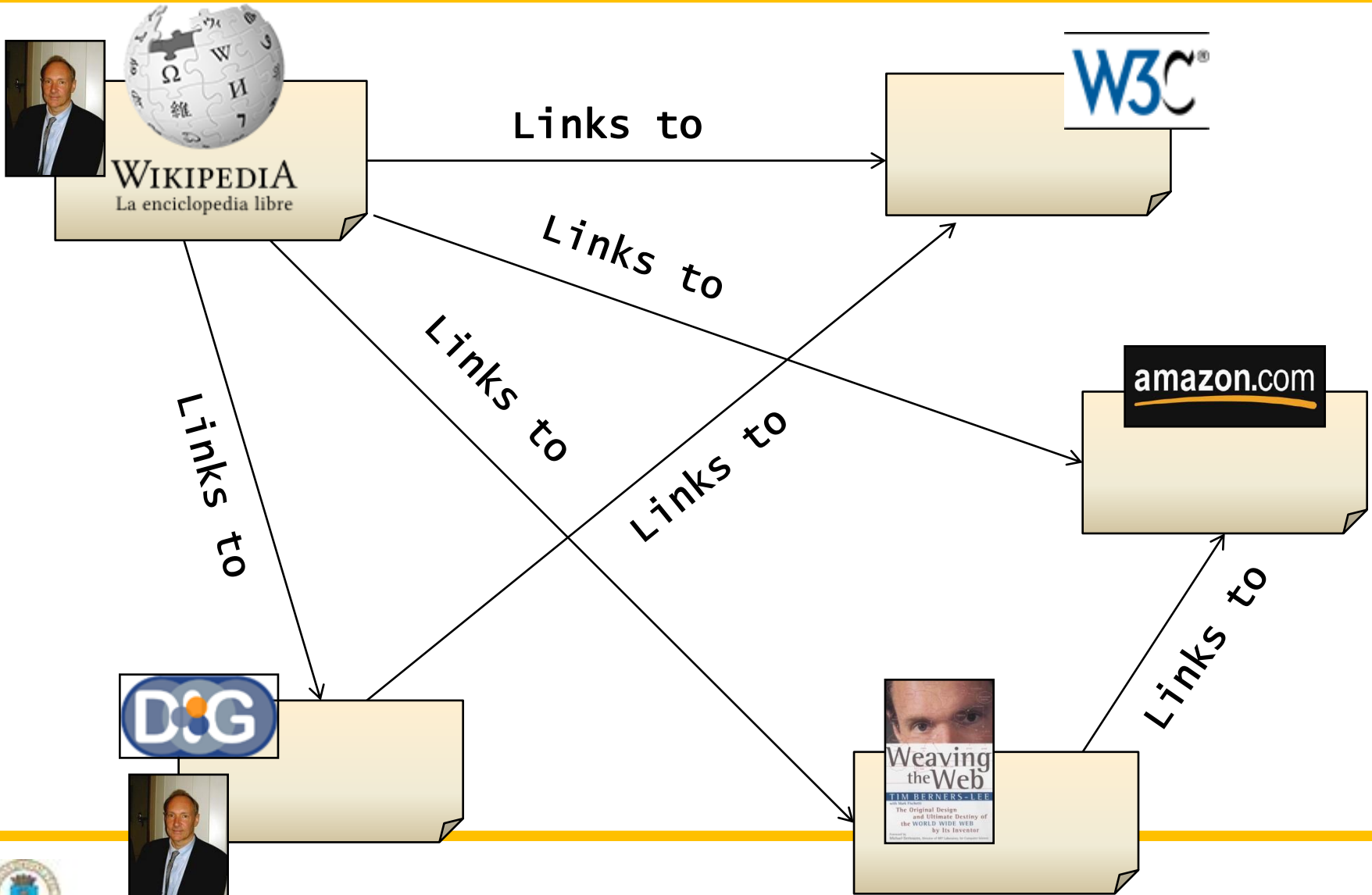
Join us!

<http://lider-project.eu>



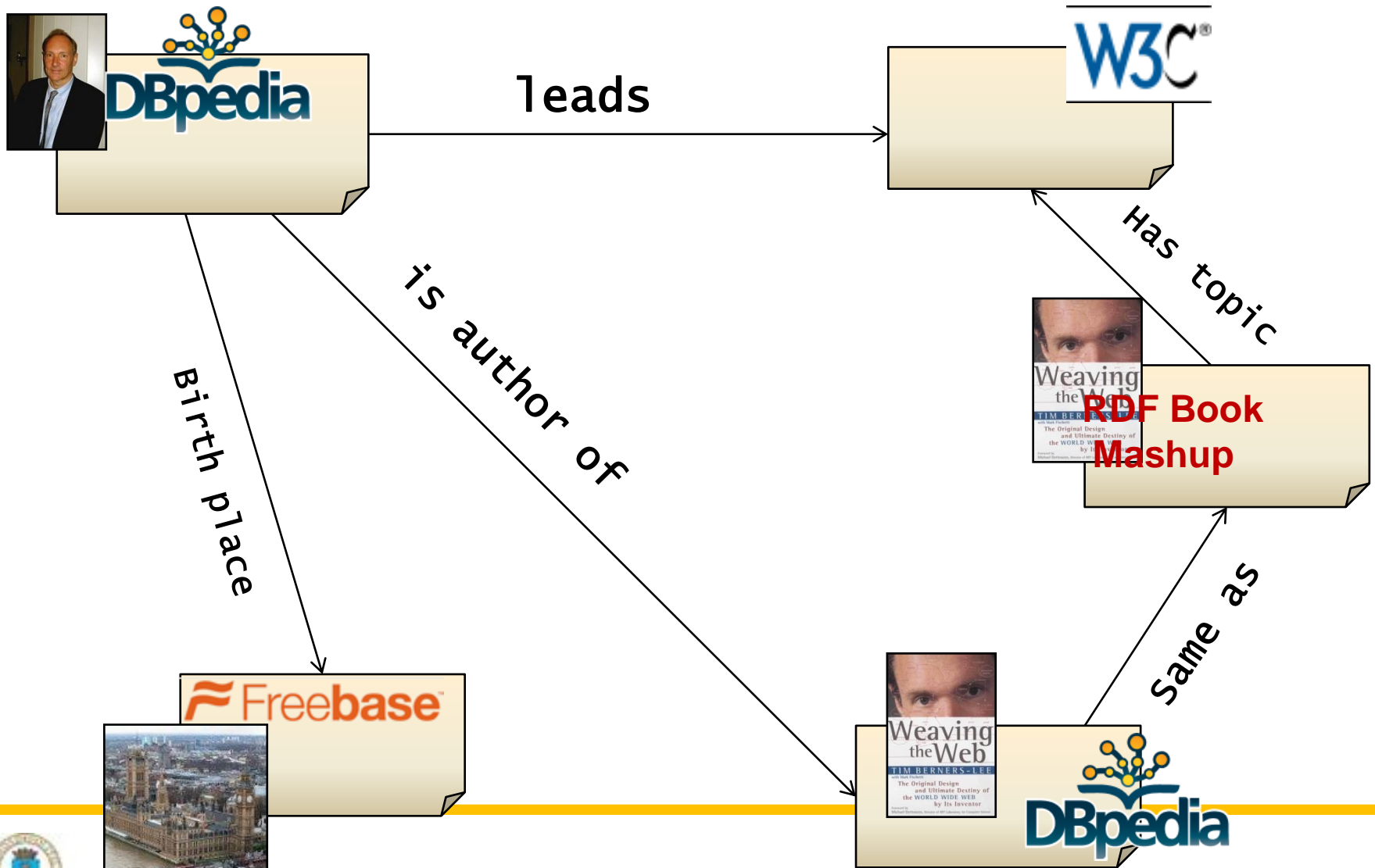
**Linked Data for Language Technologies
Community Group (LD4LT)**





07/05/2014





07/05/2014

Open Data

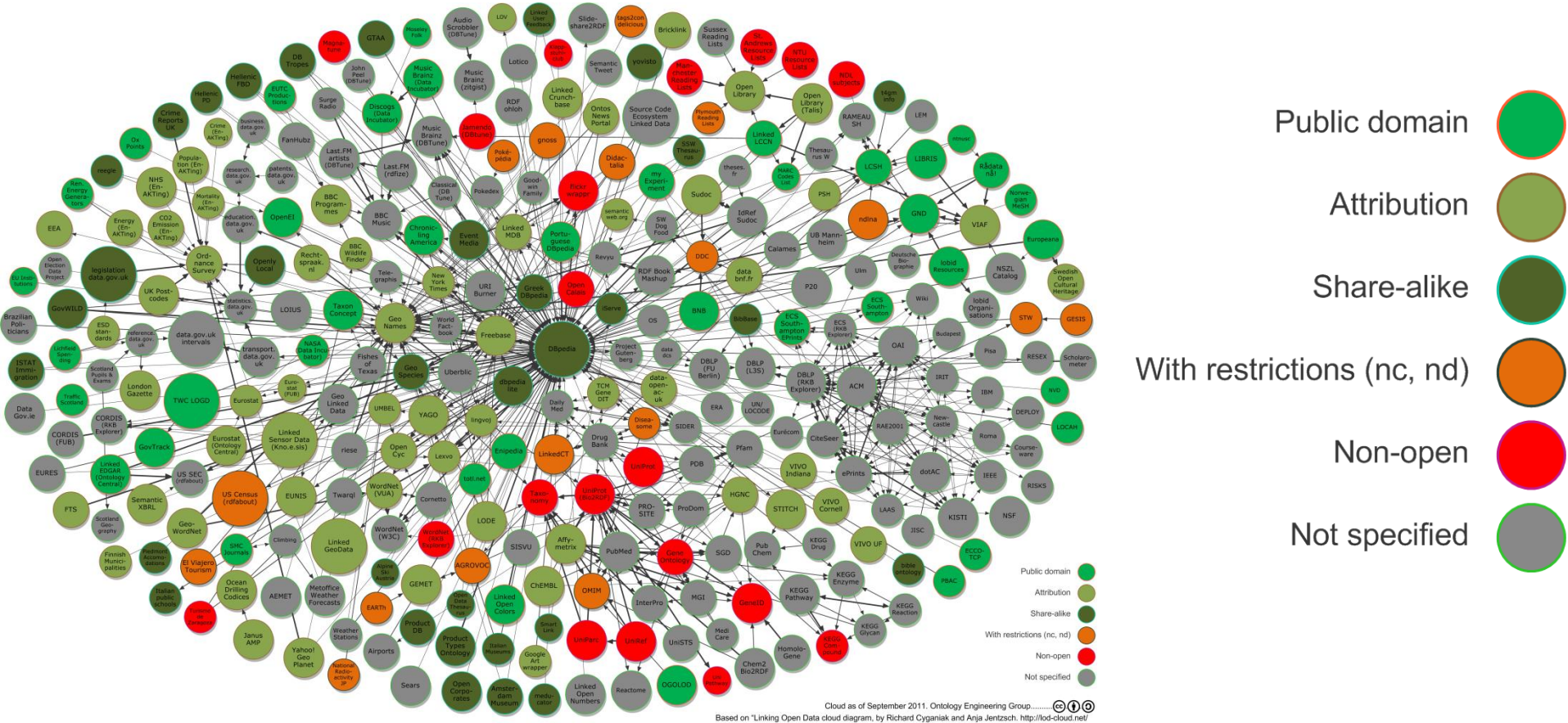


Gain visibility
Encourage re-use

Proprietary Data



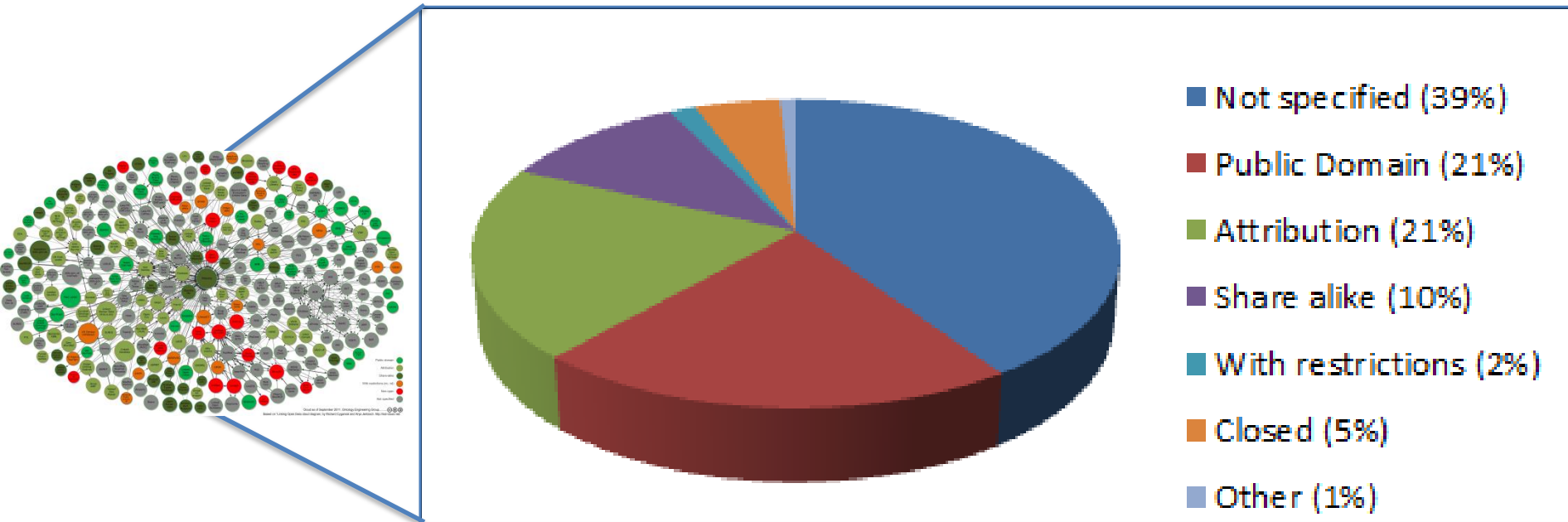
Protect your data
Enable ways to track usage
Think about new business models



[1] Rodriguez-Doncel, Victor et al., 2013. Rights declaration in Linked Data. in Proc. of the 3rd Int. W. on Consuming Linked Data O. Hartig et al. (Eds) CEUR vol. 1034 (2013) 07/05/2014



- 338 datasets in 

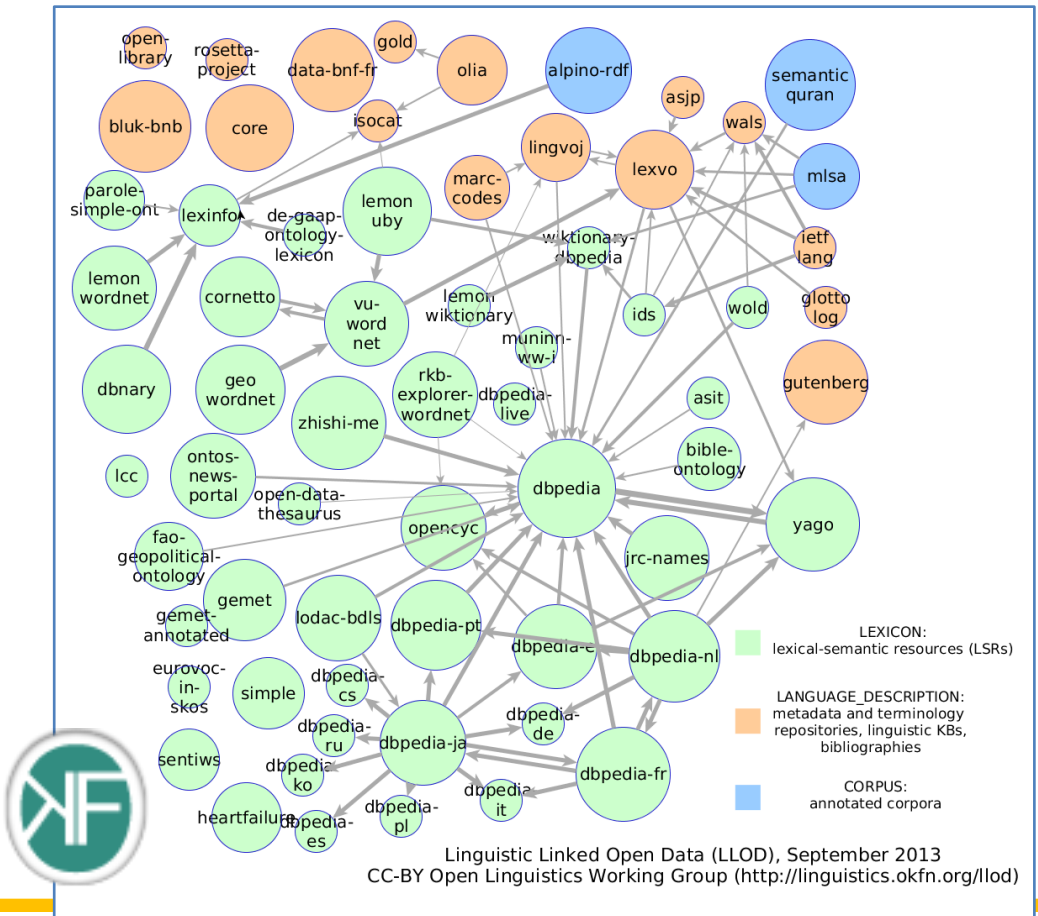


[1] Rodriguez-Doncel, Victor et al., 2013. Rights declaration in Linked Data.
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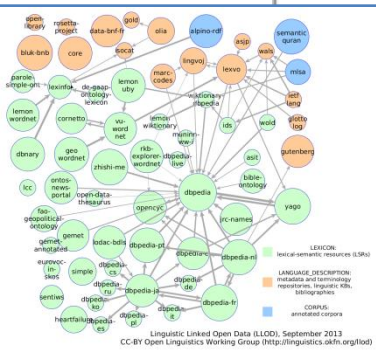
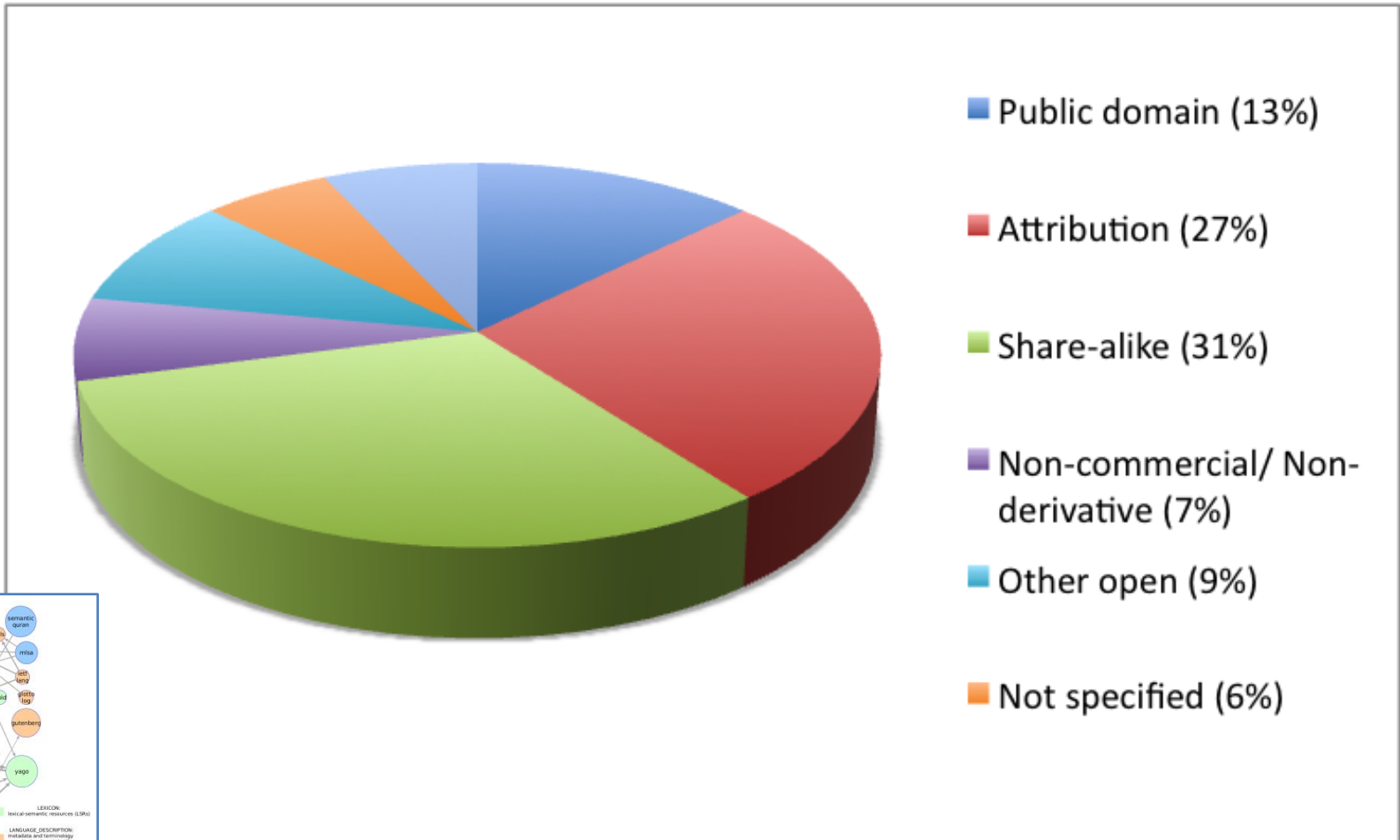
Linguistic LOD (LLOD) cloud

Language resources as Linked Data:

- Lexica
- Language descriptions
- Corpora
-



¹ "Open Data and Linguistics" working group, Open Knowledge Foundation, see more <http://linguistics.okfn.org/>



3LD

Linguistic Linked Licensed Data



3LD

Linguistic Linked Licensed Data

Language resources such as:

- *Lexica*
- *Corpora*
- *Dictionaries ..*

3LD

Linguistic Linked Licensed Data

*Linguistic data as Linked Data using **RDF** and standard data models (vocabularies):*

- *Lexica*

- *Corpora ..*

lemon 

NIF

NLP Interchange Format



lemon 

NIF

NLP Interchange Format

3LD



Linguistic Linked Licensed Data

Linguistic Linked Data published along with a machine-readable license.



ODRL

Open Digital Rights Language

1

Add "rights" metadata in the **dataset description**
(e.g., VOID, DCAT)

DCAT 
Data catalog vocabulary



1

Add "rights" metadata in the dataset description
(e.g., VoID, DCAT)



2

Use **standard predicates** to declare "rights" statements
(e.g., Dublin Core terms: `dc:rights`, `dct:license`)



1

Add "rights" metadata in the dataset description
(e.g., VoID, DCAT)



2

Use standard predicates to declare "rights" statements
(e.g., Dublin Core terms: `dct:rights`, `dct:license`)



Standard license available



mulider Guideline: Licensing models & mechanisms

1

Add "rights" metadata in the dataset description
(e.g., VOID, DCAT)



2

Use standard predicates to declare "rights" statements
(e.g., Dublin Core terms: `dc:rights`, `dct:license`)



Standard license available



Yes



3a

Use **URI of standard license** e.g., CC0



mulider Guideline: Licensing models & mechanisms

1

Add "rights" metadata in the dataset description
(e.g., VoID, DCAT)

DCAT 
Data catalog vocabulary

2

Use standard predicates to declare "rights" statements
(e.g., Dublin Core terms: `dc:rights`, `dct:license`)

Standard license available



 **creative commons**



Yes



No



ODRL

Open Digital Rights Language

3a

Use **URI of standard license** e.g., CC0

3b

Use **rights declaration language**, e.g., ODRL



- **Prototype** developed at the Ontology Engineering Group.
- A **licenses-aware Linked Data server** and a **data policies and licenses manager**
- Using Web standards (DCAT descriptions, SPARQL constructs, ODRL RDF policies, etc.)



Resources can be provided with **provenance** and flexible **licenses**. For example, specifying availability only for research institutions of a territory.

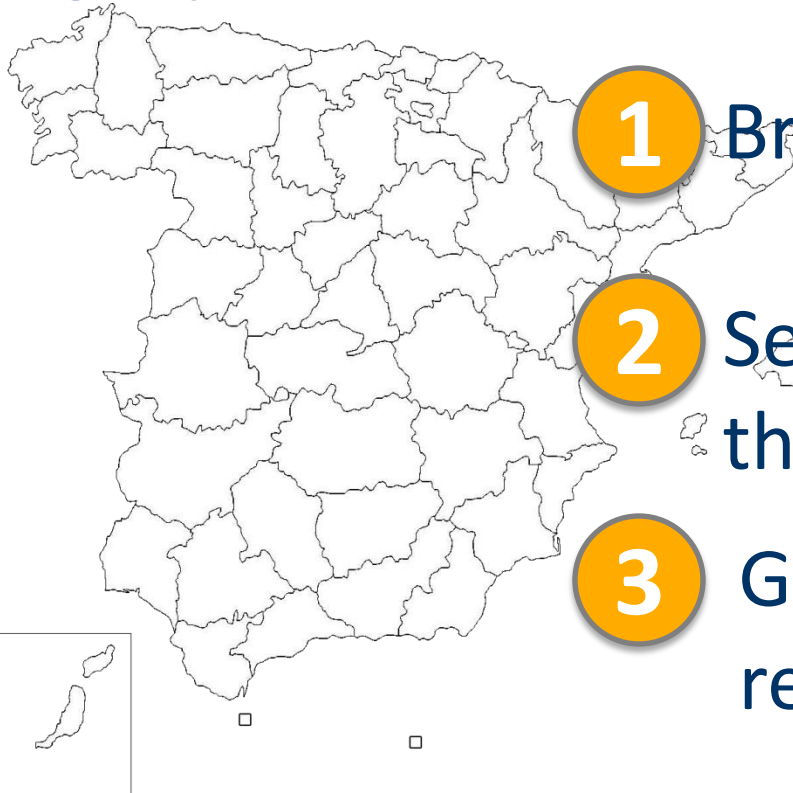
```

@prefix rdf:    <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix rdfs:  <http://www.w3.org/2000/01/rdf-schema#> .
@prefix dcat:  <http://www.w3.org/ns/dcat#> .
@prefix dct:   <http://purl.org/dc/terms/> .
@prefix odrl:  <http://www.w3.org/ns/odrl/2/> .
@prefix prov:  <http://www.w3.org/ns/prov#> .

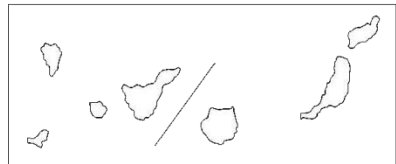
<http://example-lr.com> a dcat:Dataset ;
    dct:license [ a          odrl:Policy;
        rdfs:comment  "Gives access to the resource to Spanish research institutions.
            Redistributing or transforming the work is forbidden" ;
        odrl:permission [ a odrl:Permission;
            odrl:action odrl:reproduce;
            odrl:constraint [ a          odrl:Constraint;
                odrl:industry  "Research"
            ],
            [ a          odrl:Constraint;
                odrl:location  "ES"
            ]
        ] ;
        odrl:prohibition [ a odrl:Prohibition;
            odrl:action odrl:derive, odrl:distribute
        ] ;
    ];
    prov:wasGeneratedBy [
        prov:endedAtTime "Thu Apr 03 00:07:07 CEST2014"^^xsd:date ;
        prov:wasAssociatedWith "http://lr-provider.com"
    ] .
    
```



- Spanish geographical data: Administrative units, geopositions, links to DBpedia



- 1 Browse the data (user)
- 2 Set policies for parts of the dataset (admin)
- 3 Gain access to the restricted data (user)



Demo available at:

<http://conditional.linkeddata.es>





Conditional access to Linked Data

Resource info

Demo data

- What is this?
- Introduction
- Technical details
- User's view (demo)
- Browse dataset
- Offers
- Admin's view (demo)
- Control panel
- Accountability

Barcelona (Provincia)

Open triples

Property	Value
type	Provincia
tieneCapital	Barcelona
formaParteDe	Cataluña
label	Barcelona
formadoPor	Barcelona

Limited access triples

Property	Value
geometry	Limited access (Offer)
exactMatch	Limited access (Offer --- Per RDF Statement)
exactMatch	Limited access (Offer)

```
<http://localhost:99/ldr/resource/Provincia/Barcelona>  
  a      <http://localhost:99/ldr/ontology/Provincia> ;  
<http://www.w3.org/2000/01/rdf-schema#label>  
  "Barcelona"^^<http://www.w3.org/2001/XMLSchema#string> ;  
<http://localhost:99/ldr/ontology/formadoPor>  
  <http://localhost:99/ldr/resource/Municipio/Barcelona> ;  
<http://localhost:99/ldr/ontology/tieneCapital>  
  <http://localhost:99/ldr/resource/Municipio/Barcelona> ;
```

```
<http://www.w3.org/2003/01/geo/wgs84%2C%20pos#geometry>  
  <http://localhost:99/ldr/policy/cdaddba4-fc2e-4ee0-a784-e62f1db259bc> ;
```





Conditional access to Linked Data Control panel

What is this?

Introduction

Technical details

User's view (demo)

Browse dataset

Offers

Admin's view
(demo)

Control panel

Accountability

Assignment of policies to resources

Choose licenses/policies for each pre-defined dataset

Datasets

[default](#)

[Geo](#)

[Hidden](#)

[Mappings](#)

Dataset management

Geo

Description: Dataset including the coordinates of the geographical entities

Number of triples: 100

Dataset license: [License10euros]

License10euros

Add

Remove



Conditional access to Linked Data

Control panel

What is this?

Introduction

Technical details

User's view (demo)

Browse dataset

Offers

Admin's view
(demo)

Control panel

Accountability

Assignment of policies to resources

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Datasets

[default](#)

[Geo](#)

[Hidden](#)

[Mappings](#)

Dataset management

Geo

Description: Dataset including the coordinates of the geographical entities

Number of triples: 100

Dataset license: [Open Data Commons Attribution License]

Open Data Commons Attri

Add

Remove



Conditional access to Linked Data

Resource info

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Barcelona (Provincia)

Open triples

Property	Value
type	Provincia
tieneCapital	Barcelona
formaParteDe	Cataluña
label	Barcelona
formadoPor	Barcelona
geometry	41.3948528938705, 2.17465899138105

Limited access triples

Property	Value
exactMatch	Limited access (Offer --- Per RDF Statement)
exactMatch	Limited access (Offer)

```
<http://localhost:99/ldr/resource/Provincia/Barcelona>
  a      <http://localhost:99/ldr/ontology/Provincia> ;
  <http://www.w3.org/2000/01/rdf-schema#label>
    "Barcelona"^^<http://www.w3.org/2001/XMLSchema#string> ;
  <http://localhost:99/ldr/ontology/formadoPor>
    <http://localhost:99/ldr/resource/Municipio/Barcelona> ;
  <http://localhost:99/ldr/ontology/tieneCapital>
    <http://localhost:99/ldr/resource/Municipio/Barcelona> ;
  <http://www.w3.org/2003/01/geo/wgs84%2C%20pos#geometry>
    <http://localhost:99/ldr/resource/wgs84/41.3948528938705%2C%202.17465899138105> ;
```





Conditional access to Linked Data

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Open triples

Property	Value
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label	Barcelona
formadoPor	Barcelona

Limited access triples

Property	Value
geometry	Limited access (Offer)
exactMatch	Limited access (Offer --- Per RDF Statement)
exactMatch	Limited access (Offer)

License: License1Cent

Rule (Permission)

Rights
reproduce,

Constraints
Pay (Pay 0.01 EUR) - per unit,

Target

To be acted on <http://localhost:99/ldr/resource/Provincia/Barcelona> - <http://www.w3.org/2004/02/skos/core#exactMatch>

 [View license in RDF](#)

 [purchase](#)

```
<http://localhost:99/ldr/policy/ee32f675-ccae-4ca9-a544-3c07abf0b16e>
  a      <http://www.w3.org/ns/odrl/2/Policy> , <http://www.w3.org/ns/odrl/2/Set>;
  <http://www.w3.org/2000/01/rdf-schema#comment>
    "Individual triples are available upon payment of 1 euro cent" ;
  <http://www.w3.org/ns/odrl/2/permission> ...
```



Conditional access to Linked Data

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Open triples

Property	Value
type	Provincia
tieneCapital	Barcelona
formaParteDe	Cataluña
label	Barcelona
formadoPor	Barcelona
exactMatch	Provincia de Barcelona

THANK YOU
FOR YOUR ATTENTION

QUESTIONS ?