



# Spanish Legislation as Linked Data

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2nd Workshop on Technologies for Regulatory Compliance (TERECOM)  
within 31st International Conference on Legal Knowledge and Information  
Systems (JURIX)

Groningen, Netherlands, 12 December 2018

# European Legislation Identifier

[https://www.youtube.com/watch?v=BOB\\_Q7sh0xl](https://www.youtube.com/watch?v=BOB_Q7sh0xl)

The **European Legislation Identifier (ELI)** is a system to make legislation available online in a standardised format, so that it can be accessed, exchanged and reused across borders



- ★ an ELI identifier based on HTTP URIs



- ★ ELI metadata based on a common ontology



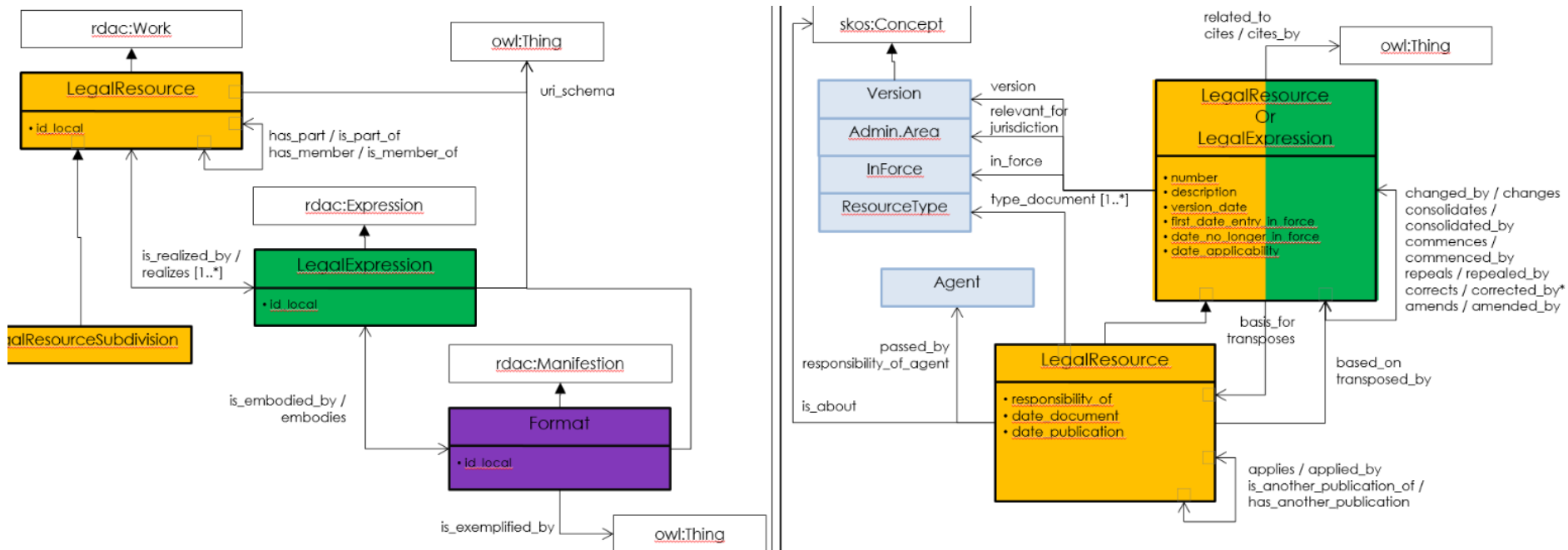
- ★ publication of ELI metadata in a semantic web format so that it can be reused

# ELI Identifiers. URI templates...

PAISES	PLANTILLA
UE	{typedoc} /{year}/{naturalnumber}/version/{language}
Dinamarca	{year}/{natural identifier}
Francia	eli/{type}/{year}/{month}/{day}/{naturalidentifier}/{version}/ {level}
Irlanda	{year}/{type}/{Natural identifier}/{Level 1...}/{Version}/{Point in Time}/{language}
Italia	id/{yyyy}/{mm}/{dd}/{codiceRedazionale}/{tipoSerie}/{lingua}
Luxemburgo	etat/leg/{type}/{year}/{month}/{day}/{id}
Noruega	{type}/{year}/{month}/{day}/{natural_identifier}/{level}/{version}/{point in time}/{language}/
Portugal	{type}/{number}/{year}/{region}/version/{language}
Reino Unido	id/{type}/{year}/{number}/{section}

# Common ELI Ontology

- Last updated November 2018



# RDFa (“semantic web format”)

← → ↻ <https://www.w3.org/2012/pyRdfa/>



## RDFa 1.1 Distiller and Parser

**Warning:** This version implements [RDFa 1.1 Core](#), including the handling of the [Role Attribute](#) (XHTML content uses the RDFa 1.0 DTD and/or sets the version attribute). The [package available](#) on this service.

Distill by URI

Distill by File Upload

Distill by Direct Text Input

### Distill by URI

URI:

<https://www.boe.es/eli/es-cl/l/1996/0>

Output Format:

Turtle ▼

Returned content:

Only core triples ▼

Expand vocabularies:

No ▼

Generate warnings for non  
RDFa 1.1 Lite usage:

No ▼

► [More \(non-standard\) options](#)

# ELI advantages

- **Better-quality, more reliable legislation data** ELI helps improve the quality and reliability of legal information online through the use of persistent identifiers and structured metadata.
- **Greater interoperability** ELI encourages interoperability among information systems by structuring legislation in a standardised way, while taking account of the specific features of different legal systems.
- **Better access to legislation** Thanks to search engine optimisation, ELI makes it easier to locate legal data, which can thus be more widely used.
- **It promotes the development of new services** Making legislation available in a structured way helps develop value-added services.
- **Cost savings** ELI makes information flows more effective and shortens the time taken to publish legislation.
- **It promotes transparency** By improving access to legal information, ELI makes it easier to follow up work done by governments, and promotes greater accountability.

# Future advantages

- Google richer information on legislation

## EUR-Lex – 31980L0181 – EN – EUR-Lex

Council Directive of 20 December 1979 on the approximation of the laws of the Member States relating to units of measures ...

Status : Currently in force    About : metrology, measuring equipment, approximation of laws  
Original version (20/12/1979) | latest consolidation (27/05/2009)

# Example of structured legislation online

<http://www.legislation.gov.uk/ukpga/2018/12/contents/enacted>

<http://www.legislation.gov.uk/ukpga/2018/12/contents/enacted/data.rdf>

<http://www.legislation.gov.uk/ukpga/2018/12/contents/enacted/data.akn>



## Data Protection Act 2018

CHAPTER 12

```
<?xml version="1.0" encoding="UTF-8" ?>
<rdf:RDF xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#" xmlns:owl="http://www.w3.org/2002/07/owl#" xmlns:dct="http://purl.org/dc/terms/"
  xmlns:foaf="http://xmlns.com/foaf/0.1/" xmlns:frbr="http://purl.org/vocab/frbr/core#" xmlns:metalex="http://www.metalex.eu/"
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#" xml:lang="en">
  <rdf:Description rdf:about="http://www.legislation.gov.uk/id/ukpga/2018/12" >
    <owl:sameAs rdf:resource="http://www.legislation.gov.uk/id/ukpga/2018/12/" />
    </rdf:Description>
    <frbr:Work rdf:about="http://www.legislation.gov.uk/id/ukpga/2018/12">
      <rdf:type rdf:resource="http://www.metalex.eu/metalex/2008-05-02#BibliographicWork"/>
      <rdfs:label>Data Protection Act 2018</rdfs:label>
      <rdfs:isDefinedBy rdf:resource="http://www.legislation.gov.uk/ukpga/2018/12/" />
      <foaf:isPrimaryTopicOf rdf:resource="http://www.legislation.gov.uk/ukpga/2018/12/" />
      <metalex:realizedBy rdf:resource="http://www.legislation.gov.uk/ukpga/2018/12/enacted/" />
      <frbr:realization rdf:resource="http://www.legislation.gov.uk/ukpga/2018/12/enacted/" />
      <metalex:realizedBy rdf:resource="http://www.legislation.gov.uk/ukpga/2018/12/enacted/" />
    </dct:identifier>
    <dct:type rdf:resource="http://purl.org/dc/dcmitype/Text" />
    <dct:title>Data Protection Act 2018</dct:title>
    <dct:created rdf:datatype="http://www.w3.org/2001/XMLSchema#date">2018-05-23</dct:created>
    <dct:validityPeriod rdf:datatype="http://www.w3.org/2001/XMLSchema#date">2018-05-23</dct:validityPeriod>
  </rdf:Description>
  <metalex:fragment rdf:resource="http://www.legislation.gov.uk/id/ukpga/2018/12/section/1/" />
  <metalex:fragment rdf:resource="http://www.legislation.gov.uk/id/ukpga/2018/12/section/10/" />
  <metalex:fragment rdf:resource="http://www.legislation.gov.uk/id/ukpga/2018/12/section/100/" />
</rdf:RDF>
```

(Metalex)

# Example of structured legislation online

<http://www.legislation.gov.uk/ukpga/2018/12/schedule/19/paragraph/290/enacted>

<http://www.legislation.gov.uk/ukpga/2018/12/schedule/19/paragraph/290/enacted/data.rdf>

<http://www.legislation.gov.uk/ukpga/2018/12/schedule/19/paragraph/290/enacted/data.akn>

```
</ukm:statistics>
</proprietary>
</meta>
<portionBody>
  <hcontainer name="schedules" eId="d1e56">
    <heading>SCHEDULES</heading>
    <hcontainer name="schedule" eId="schedule-19">
      <num>SCHEDULE 19</num>
      <heading>Minor and consequential amendments</heading>
      <part eId="schedule-19-part-2">
        <num>PART 2</num>
        <heading>Amendments of other legislation</heading>
        <paragraph eId="schedule-19-paragraph-290">
          <num>290</num>
          <heading>
            Data Protection (Processing of Sensitive Personal Data) (Elected Representatives) Order 2002 (
              <ref href="http://www.legislation.gov.uk/id/ukSI/2002/2905">S.I. 2002/2905</ref>
            )
          </heading>
          <content>
            <p>
              The Data Protection (Processing of Sensitive Personal Data) (Elected Representatives) Order 2002 is re
            </p>
          </content>
        </paragraph>
      </part>
    </hcontainer>
  </hcontainer>
</portionBody>
</portion>
</akomaNtoso>
```

(Akoma Ntoso)

# Spain

- Complex case: 1+17
- Latest report from April 2018 “Technical Specification for the implementation of ELI in Spain (Phase 1)”
- Expected to be implemented at the end of 2019 (State) and 2020 (Autonomous Communities)

# Spain: URI template

/eli/{jurisdiction}/{type}/{year}/{month}/{day}/{number}/{version}/{version\_date}/{language}/{format}

URI elements				
Name (ELI)	Description	Format	Values	Comments
<b>jurisdiction</b>	Jurisdicción	Limited list of alphabetic values	List of controlled values	ISO 3166 alfa 2: ISO 3166-1 for the State ISO 3166-2 for the Autonomus Communi
<b>type</b>	Rango de la norma	Limited list of alphabetic values	List of controlled values (1-4 letters)	The types will be identified by acronyms,
<b>year</b>	Año de disposición	YYYY	2001, 2002 ...	Date of signature (yyyy/ mm/dd)
<b>month</b>	Mes de disposición	MM	01, 02 ...	
<b>day</b>	Día de disposición	DD	01, 02 ...	
<b>number (natural identifier)</b>	Alfanumérico	Numeric and alphanumeric values		In general, the number is the official numl resource

Búsqueda

## Normativa



# DECRETO 83/2018, de 29 de mayo, por el que se r de Protección de Datos de la Administración Públ Comunidad Autónoma de Euskadi.

## Identificación

**Ámbito territorial:** Autonómico

**Rango normativo:** Decreto

**Órgano emisor:** Gobernanza Pública y Autogobierno

**Estado vigencia:** Vigente

## Ámbito temático

**Materia:** Actividades Económicas; Organización administrativa

**Submateria:** Información y comunicaciones; Gobierno y Administración Pública

## Boletín oficial

**Boletín oficial:** BOPV @prefix ns1: <http://data.europa.eu/eli/ontology#> .

**Nº boletín:** 105 @prefix ns2: <http://schema.org/> .

**Nº orden:** 2882 @prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax

**Nº disposición:** 83 @prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .

**Fecha de disposició** @prefix xml: <http://www.w3.org/XML/1998/namespace> .

**Fecha de publicació** @prefix xsd: <http://www.w3.org/2001/XMLSchema#> .

<http://id.euskadi.eus/eli/es-pv/d/2018/05/29/83/dof/

ns1:embodies <http://id.euskadi.eus/eli/es-pv/d/2

ns1:format <http://www.iana.org/assignments/media

ns1:licence <http://creativecommons.org/licenses/

ns1:published\_in\_format <http://www.legegunea.eus

ns1:publisher\_agent <http://datos.gob.es/recurso/

ns1:rightsholder\_agent <http://datos.gob.es/recu

ns2:mainEntityOfPage <http://www.legegunea.euskad

## Descriptores

INFORMACION Y COM

PROTECCION DE DAT

<http://id.euskadi.eus/eli/es-pv/d/2018/05/29/83/dof/

ns1:embodies <http://id.euskadi.eus/eli/es-pv/d/2

ns1:format <http://www.iana.org/assignments/media

ns1:licence <http://creativecommons.org/licenses/

ns1:published\_in\_format <http://www.euskadi.eus:8

ns1:publisher\_agent <http://datos.gob.es/recurso/

ns1:rightsholder\_agent <http://datos.gob.es/recu

Está Vd. en > [Inicio](#) > [Buscar](#) > **Documento BOE-A-1970-369**

## Ley 1/1970, de 4 de abril, de caza.

**Publicado en:** «BOE» núm. 82, de 6 de abril de 1970, páginas 5348 a 5356

**Sección:** I. Disposiciones generales

**Departamento:** Jefatura del Estado

**Referencia:** BOE-A-1970-369



[PDF de la disposición](#)



[XML de la disposición](#)



[Análisis](#)



[Texto consolidado](#)



# Spanish Legislation as Linked Data

The following raw files are available for download:

- [lkg.zip](#) (~80Mb - all)
- [Ley.zip](#) (~30Mb - Ley)
- [RealDecretoLey.zip](#) (~3Mb - Real Decreto Ley)
- [RealDecreto.zip](#) (~40Mb - Real Decreto)

An SPARQL endpoint is available at:

- <http://sparql.lynx-project.eu>

## Legal note

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# Legal Resources for Compliance

This is a small [Lynx](#) pilot to demonstrate the access to legislation as data.

Jurisdiction All jurisdictions ▼

10 ▼

## Resources

[Real Decreto 330/2008, de 29 de febrero, por el que se adoptan medidas de control a la importación de determinados productos respecto a](#)

[Real Decreto 83/1996, de 26 de enero, por el que se aprueba el Reglamento orgánico de los institutos de educación secundaria.](#)

[Real Decreto 1427/1989, de 17 de noviembre, por el que se aprueba el Arancel de los Registradores de la Propiedad.](#)

[Ley 10/2015, de 26 de mayo, para la salvaguardia del Patrimonio Cultural Inmaterial.](#)

[Ley 56/2003, de 16 de diciembre, de Empleo.](#)

[Real Decreto 999/2002, de 27 de septiembre, sobre la valoración como mérito del tiempo de servicios prestados en las Fuerzas Armadas e](#)

# Links to Wikipedia and nicks

- SPARQL queries in Wikipedia/DBpedia and Wikidata in order to obtain laws
  - Attending to the category of the article
  - Attending to the links to BOE
  - Attending to Wikipedia redirections and owl:sameAs

```
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX dbo: <http://dbpedia.org/ontology/>
PREFIX dbp: <http://dbpedia.org/resource/>
PREFIX owl:<http://www.w3.org/2002/07/owl#>
SELECT ?uri ?label ?sameAs_link ?redirect ?redirect_label ?external_redirect
WHERE {
  ?uri rdfs:label ?label.
  FILTER regex( ?uri, "http://es.dbpedia.org/resource/Ley" )
  ?sameAs_link (owl:sameAs|^owl:sameAs) ?uri.
  #?sameAs_link rdfs:label ?sameAs_label.
  ?uri dbo:wikiPageRedirects ?redirect.
  ?redirect rdfs:label ?redirect_label.
  ?redirect dbo:wikiPageExternalLink ?external_redirect
  FILTER regex( ?external_redirect, "http://www.boe.es" )
}
```

# Links to Wikipedia and nicks

## Services in the Internal Market Directive 2006

From Wikipedia, the free encyclopedia

The **Services in the Internal Market Directive 2006/123/EC** (also called the "**Bolkestein Directive**") is an EU law aiming at establishing a single market for services within the European Union (EU). Drafted under the leadership of the former European Commissioner for the Internal Market Frits Bolkestein, it has been popularly referred to by his name. It was seen as an important kick-start to the Lisbon Agenda which, launched in 2000, was an agreed strategy to make the EU "the world's most dynamic and competitive economy" by 2010.

### Directive 2006/123/EC

#### European Union directive

<b>Title</b>	Directive on services in the internal market
<b>Made by</b>	European Parliament & Council
<b>Made under</b>	Articles 47(2) and 55
<b>Journal reference</b>	L376, 27 December 2006, pp. 36-68

#### History

<b>Date made</b>	12 December 2006
------------------	------------------

# Other entities annotated

- Types of entities
  - *Corporate bodies* (named authority lists, NALs in the EU Metadata Registry) and DIR3 (*Directorio Común de Unidades Orgánicas y Oficinas*)
  - *Legal References, Persons, Localizations and others*
- Main strategy: regular expressions

```
Pattern[] articulo = {
    Pattern.compile("articulo\\s[0-9]{0,5}.[a-zA-Z]{1}"),
    Pattern.compile("articulo\\s[0-9]{0,5}.[0-9]{0,5}"),
    Pattern.compile("artículos\\s[0-9]{0,5}.[0-9]{0,5}.[0-9]{0,5}[0-9]{0,5},\\s[0-9]{0,5}\\s[0-9]{0,5}"),
    Pattern.compile("(art.|articulo|artículos|ART.) [0-9]{0,5} (CE|LRJSP)"),
};
Pattern[] Constitution = {
    Pattern.compile("CE\\w[0-9]{4}"),
    Pattern.compile("CE-[0-9]{1,7}-[0-9]{1,5}")
};
Pattern[] LeyOrganica = {
    Pattern.compile("Ley [0-9]{1,5}/[0-9]{1,5}"),
    Pattern.compile("(LRJSP|RDL) [0-9]{1,5}/[0-9]{4}")
};
```

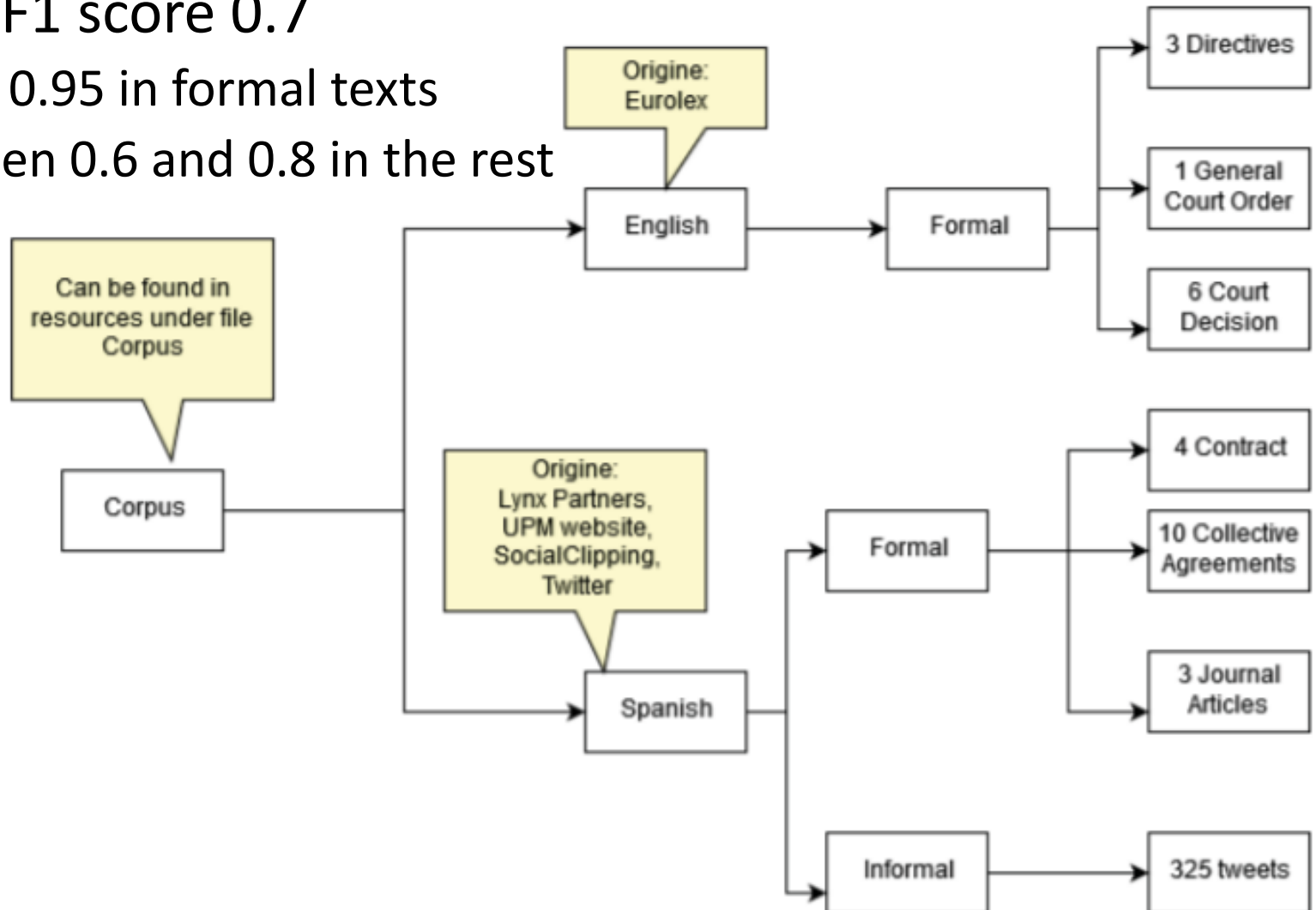
- *Corporate bodies* (named authority lists, NALs in the EU Metadata Registry) and DIR3 (*Directorio Común de Unidades Orgánicas y Oficinas*)
- *Legal References, Persons, Localizations and others*

- *Legal References, Persons, Localizations and others*

[illegible]

# Evaluation

- Average F1 score 0.7
  - About 0.95 in formal texts
  - Between 0.6 and 0.8 in the rest





# Spanish Legislation as Linked Data

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Elena Montiel-Ponsoda and Pompeu Casanovas

2nd Workshop on Technologies for Regulatory Compliance (TERECOM)  
within 31st International Conference on Legal Knowledge and Information  
Systems (JURIX)

Groningen, Netherlands, 12 December 2018



- **Identification of legislation:** URI templates at the European, national and regional levels based on a defined set of components
- **Properties describing each legislative act:** Definition of a set of metadata and its expression in a formal ontology
- **Serialisation of ELI metadata elements:** Integration of metadata into the legislative websites using RDFa