



IMOLA IV Project

IMOLA IV Closing Conference

Anabel Fraga
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Project Name: Interconnexion Model for
Land Registries (IMOLA) IV
Coordinator Contact: European Land
Registry Association (ELRA)
Grant Agreement Number: 101160423

ELRA
European Land Registry Association

IMOLA I

- Consensus: A-B-C structure and glossary (bottom up project)

IMOLA II

- ELRD ontology and first XSD/XML schema reusing ISA2 CVs

IMOLA III

- The consolidation

IMOLA IV

- Improvement of the ELRD and First pilots



Project Overview

► Target groups

- Legal officers of European land registry organizations
- Judicial authorities, legal practitioners, and EU citizens
- Financial Intelligence Units (FIUs) and competent authorities on money laundering prevention

► Budget

- Total Budget: €771,275.55
- EU Contribution: 90% (€694,148.00)
- Partners' Contribution: 10% of eligible costs



Management Schema

Steering Committee: Oversees political and strategic control

Executive Committee: Oversees semantic and technical control

Project Manager: Coordinates overall management

WP Coordinators: Manage specific work packages

ELRA Secretariat: Handles administrative tasks



Working packages



WP1: Project Management & Coordination

Objectives: Manage project activities, document and report progress, financial control

Deliverables: Governance Plan, Progress Report, General Management Report



WP2: Juridical and Semantics Information

Objectives: Improve semantic model, extend ELRD ontology, apply AI solutions

Deliverables: ELRD Schema, Semantic Corpus, Seminars, Breakouts



WP3: Technological & Services

Objectives: Implement ELRD at national level, improve virtual platform, enhance national databases

Deliverables: Technical Report, Multi-user Platform, Webservices, Conceptual Model, Analysis Reports




WP4: Conferences and Dissemination


Objectives: Collect feedback, disclose project objectives, disseminate results

Deliverables: E-Book, Updated Webpage, Kick Off Conference, Closing Conference




Objectives of the Project


 Consolidate and improve the semantic model for Land Registries


 Enhance project information on the ELRA website

 Facilitate adaptation to the European Land Registry Document

 Increase alignment with the European Interoperability Framework

 Develop and publish a Land Registry specific vocabulary

 Improve comparative law studies

 Foster a single European real estate and mortgage market



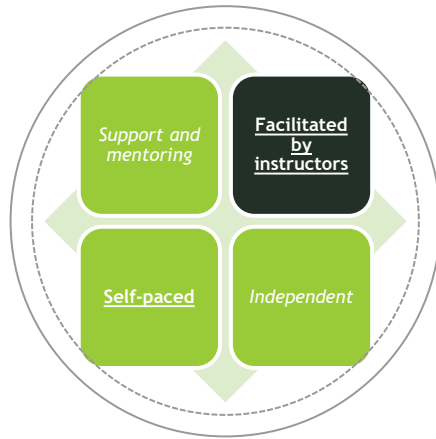
Results

- Land Registry Core Vocabulary UML
- Improvement of the ELRD
- Formants, Atributes and Ref2Link
- Generator webservice
- 🔪 Facilitate implementation of EU regulations
- 📄 Development of a Comparative Law Study
- 🗄️ Consultancy with three MS



Methodology: Facilitated vs self-paced

Training
e-Learning



Content
Simple, interactive content, videos.

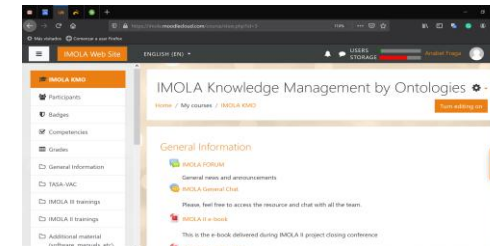
Mentoring
Human and social dimensions offered for learning to support them through the learning experience.

Collaborative
Collaborative activities range from discussions and knowledge-sharing to working together on a common project. Social software, such as chats, discussion forums and blogs, are used for online collaboration among learners.

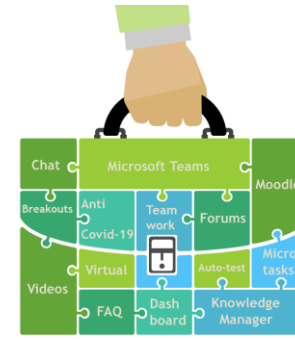
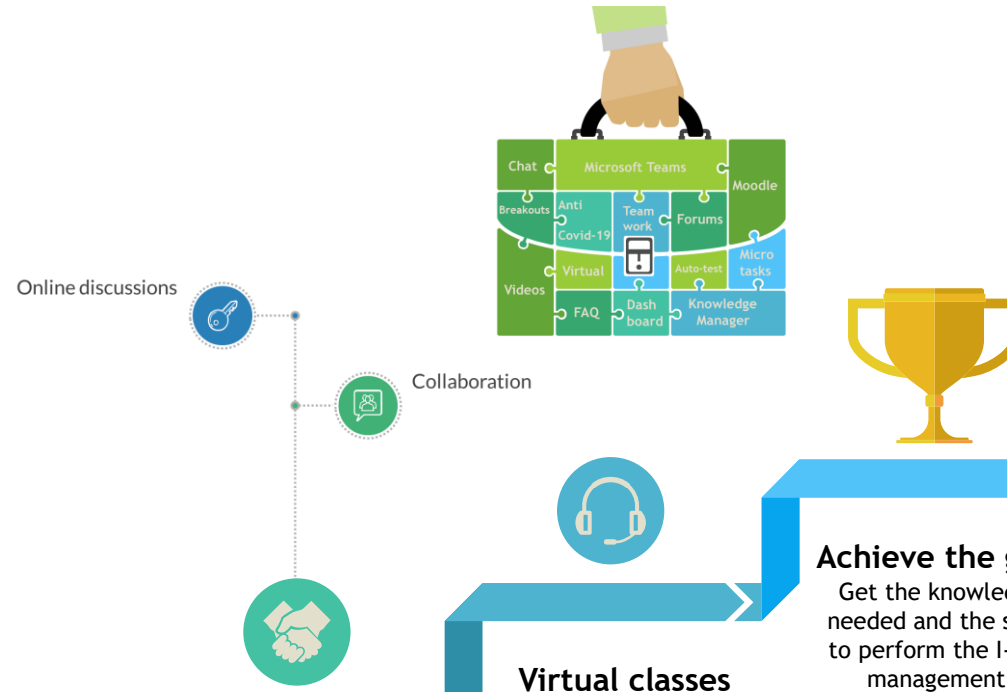
Virtual classes
A virtual classroom is the instructional method most similar to traditional classroom training, as it is led completely by an instructor.

Achieve the goal
Get the knowledge needed and the skills to perform the I-KOS management.

<https://imola.moodlecloud.com/>

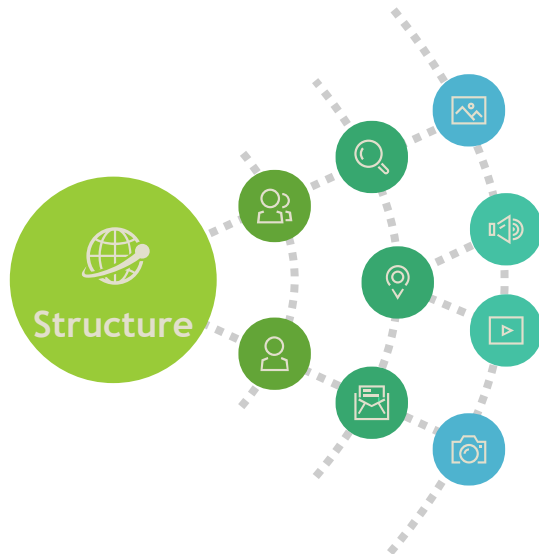


Synchronous	Asynchronous
<ul style="list-style-type: none"> > Chat and IM > Video and audio conference > Live webcasting > Application sharing > Whiteboard > Polling 	<ul style="list-style-type: none"> > E-mail > Discussion forum > Wiki > Blog > Webcasting



Activities done I

- ▶ **Seventh Virtual training sessions**
 - ▶ Invited speaker,
 - ▶ new topics on the content manager,
 - ▶ improving the semantic corpus and more.
- ▶ **Three Breakout sessions**
 - ▶ Small groups practical work on assignments. ELRA Secretariat, Pedro and Anabel will email the CPs and arrange a slot.
- ▶ Additional breakouts on demand.



Breakout January 22nd, 2025:

Austria 10:30 – 11:00

Belgium 11:05 – 11:35

Italy (Agenzia delle Entrate) 11:40 – 12:10

The Netherlands 12:15 – 12:45

Breakout February 5th, 2025:

Bulgaria 10:30 – 11:00

Italy (Libro Fondiario) 11:05 – 11:35

Estonia 11:40 – 12:10

Latvia 12:15 – 12:45

Breakout February 19th, 2025:

Malta 10:30 – 11:00

Croatia 11:05 – 11:35

Finland 11:40 – 12:10

Poland 12:15 – 12:45

Breakout March 5th, 2025:

Portugal 10:30 – 11:00

Romania 11:05 – 11:35

Spain 11:40 – 12:10

Sweden 12:15 – 12:4

Spring 2025



Activities done II

Breakout October 15th, 2025:

Austria 10:30 – 11:00

Belgium 11:05 – 11:35

Italy (Agenzia delle Entrate) 11:40 – 12:10

The Netherlands 12:15 – 12:45

Breakout October 29th, 2025:

Bulgaria 10:30 – 11:00

Italy (Libro Fondiario) 11:05 – 11:35

Estonia 11:40 – 12:10

Latvia 12:15 – 12:45

Breakout November 12th, 2025:

Malta 10:30 – 11:00

Croatia 11:05 – 11:35

Finland 11:40 – 12:10

Poland 12:15 – 12:45

Breakout November 26th, 2025:

Portugal 10:30 – 11:00

Romania 11:05 – 11:35

Spain 11:40 – 12:10

Sweden 12:15 – 12:45

Fall 2025

Breakout January 21st, 2026:

Austria 10:30 – 11:00

Belgium 11:05 – 11:35

Italy (Agenzia delle Entrate) 11:40 – 12:10

The Netherlands 12:15 – 12:45

Breakout February 4th, 2026:

Bulgaria 10:30 – 11:00

Italy (Libro Fondiario) 11:05 – 11:35

Estonia 11:40 – 12:10

Latvia 12:15 – 12:45

Breakout February 18th, 2026:

Malta 10:30 – 11:00

Croatia 11:05 – 11:35

Finland 11:40 – 12:10

Poland 12:15 – 12:45

Breakout March 4th, 2026:

Portugal 10:30 – 11:00

Romania 11:05 – 11:35

Spain 11:40 – 12:10

Sweden 12:15 – 12:45

Spring 2026



Activities done III

▶ Virtual training sessions

- ▶ November 5th 2024 (during the Kick-off): reminders and presentation of the activities
- ▶ January 15th 2025 (11:00-12:30)
- ▶ March 26th 2025 (11:00-12:30)
- ▶ June 12th 2025 (11:00-12:30)
- ▶ September 17th 2025 (11:00-12:30)
- ▶ December 17th 2025 (11:00-12:30)
- ▶ March 18th 2026 (11:00-12:30)
- ▶ **4th June 2026 (the Closing)**

Here we are!



Knowledge Manager Questions

KNOWLEDGE Manager

Home General Term **Questions** Relationship Language Suggestion

Languages LR Pivot Question Menu

Filter in Question menu view X

Question menu LANGUAGE

Mortgage

TERM

Mortgage

A lien on the property or any LR¹ Unit related to a loan or other² obligation to be fulfilled and in respect of which the mortgage³ has a purpose of security or guarantee. The legal qualification of mortgage³ corresponds to the national systems; what national laws legally consider as such will be considered a mortgage³ and consequently the information about mortgages⁴ will taken to Section C-Subsection Mortgages⁵.

LR Pivot

QUESTIONS

Questions for Mortgage

There are currently 57 questions for the term Mortgage. Create question

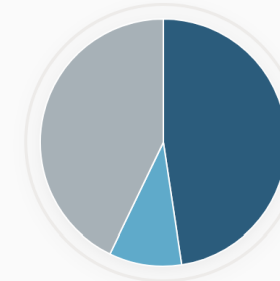
- Is the mortgage entered by a constitutive registration (that is it, registration is necessary for the mortgage to exist legally)?
- Has the mortgage the legal status of a property right (in accordance with the national applicable law)?
- Is the mortgage collateral according to the applicable law?
- Does the mortgage guarantee a money debt?

Total items: 963

Organizational All Terms x Question Menu x

CONNECTED TO 'imola-pre'









Response Statistics



- Yes:** 10 (47.62%)
- No:** 2 (9.52%)
- N/A:** 0 (0%)
- No Response:** 9 (42.86%)

Hover your mouse over the answers to show the languages

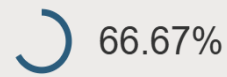


- Filter in Question menu view 
-  Question menu *LANGUAGE*
 - ↳  Monument
 - ↳ Moors and heathland
 - ↳ Mortgage
 - ↳  Mortgage (jurisprude...)
 - ↳ Mortgage deed date
 - ↳ Mortgage Interest
 - ↳  Mortgage liability
 - ↳ Mortgage liability guaran...
 - ↳  Mortgage of bill of ex...
 - ↳  Mortgage sum
 - ↳ Mortgagee
 - ↳  Mortgages

◀ Total items: 963

← Answers

Questions answered for the term **Hipoteca**



QUESTION

Does the mortgage guarantee a money debt?

USAGE NOTES

The answer should be affirmative in the event that mortgage guarantees money debts like loans or other money credits. The answer should be negative in the event that guarantees non-monetary obligations.

ANSWER

- Yes The mortgage guarantees a money debt.
- No The mortgage does not guarantee a money debt.
- N/A This question is not applicable for the current legal system.

LEGISLATIVE RATIONALE

Yes

Previous Question

Save

Next Question



Questions and FactSheets Quality

You can submit questions to review using the icon that appears in the answered questions boxes. This available for all roles.

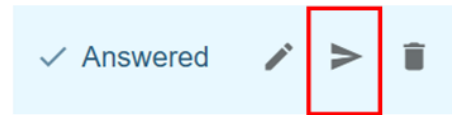
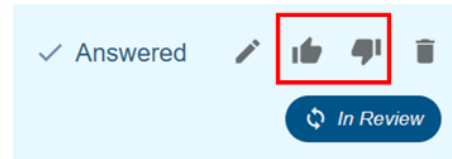


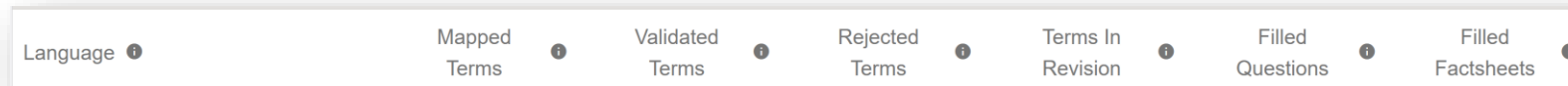
FIGURE 1

After clicking the icon, you submit the question to review and it is marked as "in review."

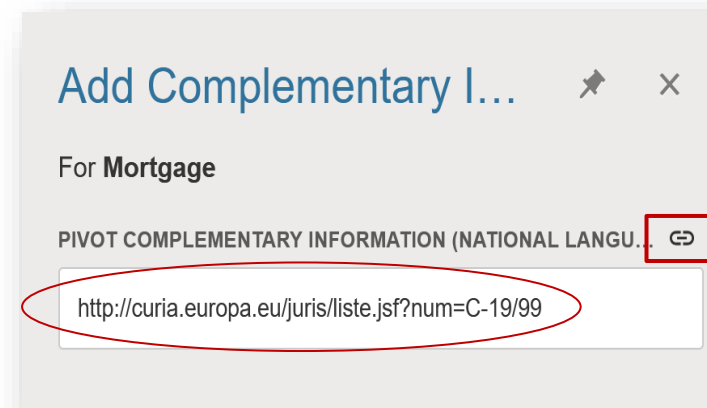
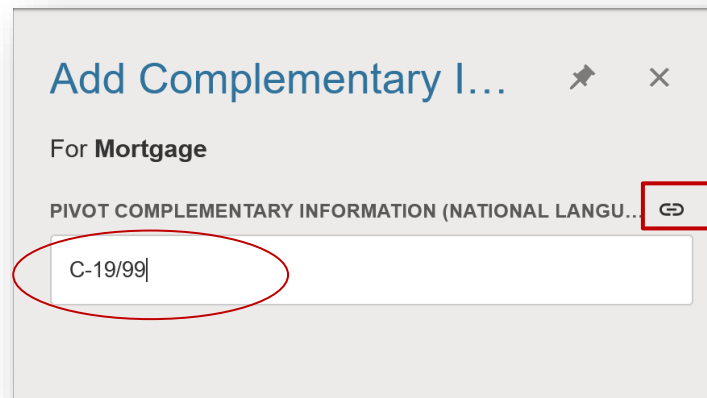


Ref2Link and new reports

- ▶ New centralized I-KOS platform: functionalities and user manual
 - ▶ New report of the whole semantic information system as SKOS document. And Questions results in Excel.
 - ▶ Concurrency checks and quality checks in the database. Thanks to all the contact points for the help!
 - ▶ Language statistics improvements.



- ▶ Ref2Link improvements.



New Filters and Status

- ▶ New centralized I-KOS platform: functionalities and user manual
 - ▶ New view to recognize ORGANIZATIONAL terms in the National views.

The screenshot displays the KNOWLEDGE Manager interface. At the top, there is a navigation bar with the logo and the text 'KNOWLEDGE Manager'. Below this, there are tabs for 'Home', 'General', 'Term', 'Questions', 'Factsheet Questions', 'Relationship', 'Language', and 'Suggestion'. A secondary navigation bar contains various tools and options: '+ Add View', 'X Remove View', 'List View', 'More', 'Show Statistics', 'Export Report', 'Screenshot', 'Languages', 'LR Pivot', 'Advanced Search', 'All Notifications', 'Pivot Notifications', and 'Quality'. On the left side, a filter menu is open, showing several options: 'Show only not reviewed terms', 'Show only in review terms', 'Show only terms that need a r...', 'Show only validated terms', and 'Show only rejected terms'. The main content area shows a term detail view for 'Información asociada'. It includes a 'TERM' section with a description: 'Any type of territorial information which could be linked to the registered properties for purposes of providing the land context or information about land uses, characteristic of the soil¹, land planning or other² related territory in which the property is inserted.' Below this, there is a 'MAPPING TO CURRENT LANGUAGE' section for 'Spanish (Spain)', which includes a 'Needs Revision' button highlighted with a red box. Other sections include 'NATIONAL COMPLEMENTARY INFORMATION' and 'NATIONAL RELATIONSHIPS'. At the bottom, there is a status bar showing 'Total items: 1' and a list of active tabs: 'Organizational', 'All Terms', 'Factsheet Questions Menu', 'Statistics', 'Language statistics', and 'Spanish (Spain)'.

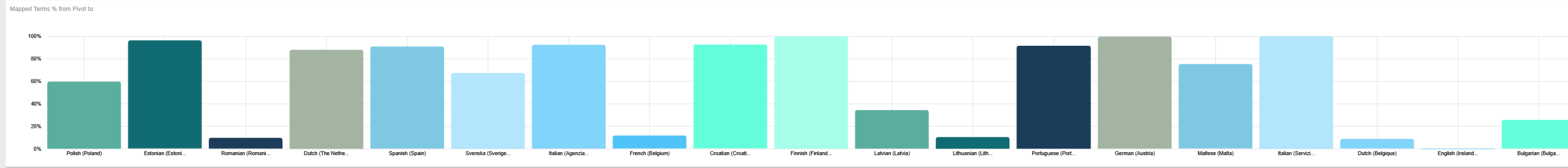
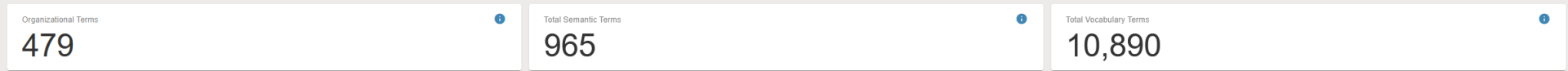


Language Statistics

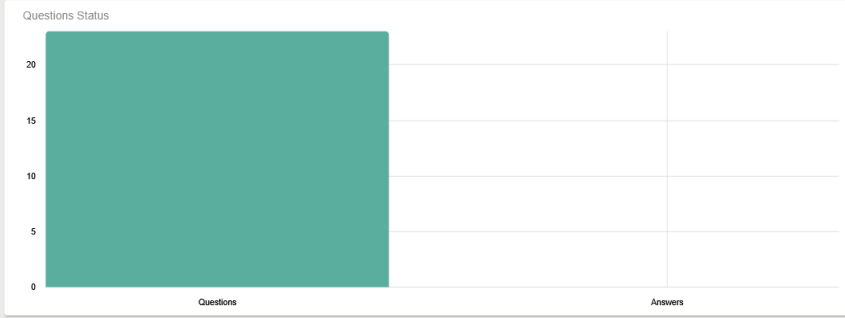
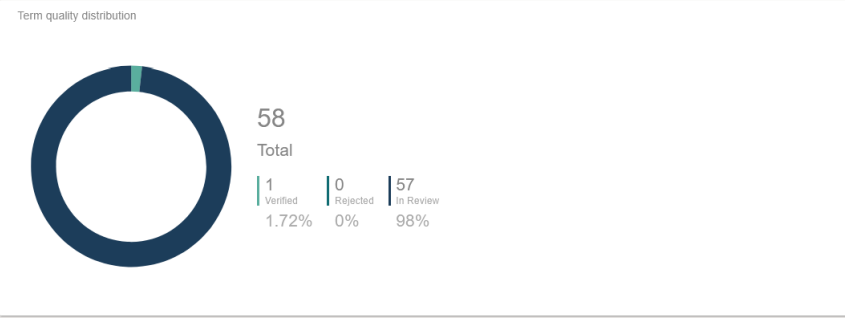
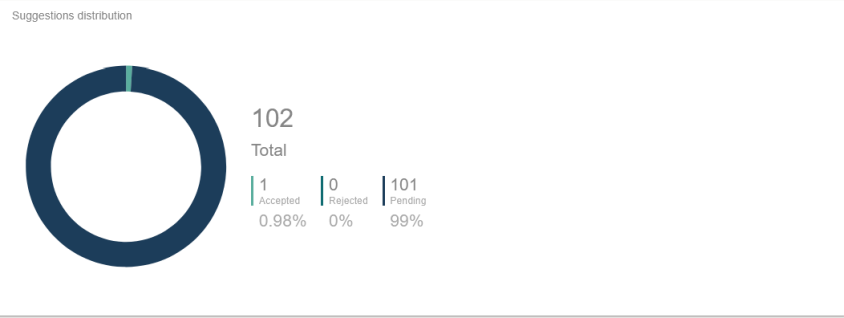
[Export Report](#)

Language	Mapped Terms	Validated Terms	Rejected Terms	Terms In Revision	Questions Filled
Polish (Poland)	59.71%	0.00%	0.00%	0.00%	0.00%
Estonian (Estonia)	96.45%	87.01%	0.00%	0.22%	100.00%
Romanian (Romania)	9.81%	0.00%	0.00%	65.96%	0.00%
Dutch (The Netherlands)	88.10%	82.70%	0.00%	0.00%	100.00%
Spanish (Spain)	91.02%	31.88%	0.00%	51.61%	78.26%
Svenska (Sverige)	67.43%	0.00%	0.00%	0.00%	100.00%
Italian (Agenzia delle Entrate)	92.48%	0.23%	0.00%	0.00%	100.00%

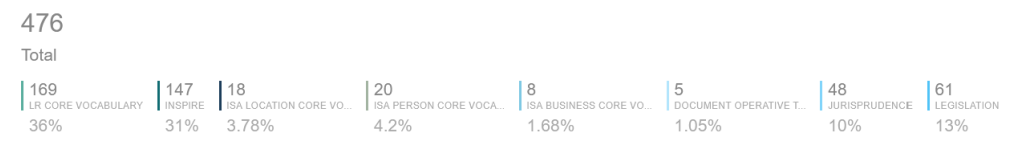
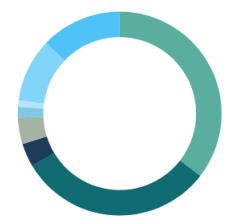
General Stats



Stats by Language: LR Pivot



Term source distributions



IMOLA Webservices

- ▶ Knowledge manager (<https://km-imola.elra.eu/>).
- ▶ Customizer (<https://customizer.elra.eu>).
- ▶ Generator (<https://generator.elra.eu/main>).
- ▶ Validator (<https://validator.elra.eu/>).
 - ▶ Anti Money Laundering.
- ▶ Open platform (<https://ejustice.elra.eu/knowledge-manager>).



ELRD Customizer

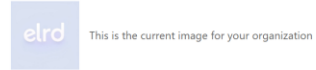
elrdcustomizer.reusecompany.com says

The file provided does not meet the requirements for uploading.

OK

Step 2: Upload Organization Logo (Optional)

You can upload your organisation's logo which will then be reflected in the final PDF generated by the web services.
The image must be in png format, its dimensions must be 500 x 500 pixels and the opacity must be at 50%.



Update Remove

Step 3: Edit Schema

Please, select your Member State and Language, then swap, select or deselect the ELRD sections you want to locate in the final PDF document generated through the web services.

ORGANIZATIONAL

- ▼ Imola european land registry document
 - ▼ Front page
 - ▼ Attached documents
 - ↳ Associated information
 - ↳ Supplementary information
 - ↳ Disclaimer
 - > Legal value of document
 - > Pending documents
 - > Type of document
 - > Part a
 - > Part b
 - > Part c



ELRD Generator

IMOLA Document Generator

Import XML

Export XML

1 Front Page

2 Part A

3 Part B

Part C

Encumbrances

Date of Registration

Judicial Restrictions

+ Add Judicial Restriction

1/10 judicial restrictions

▼ Judicial Restriction 1

Delete

Formal Title

Formal Title Details

Previous

Generate PDF



ELRD Generator

Select your language and template to continue

Language

No language selected



Select your language and template to continue

Language

Spanish (Spain)

Template

No template selected

No template selected

ES_default

Report number 3

Spanish Land Registry Report

You are currently using the language

Reminders!

generator.elra.eu says

Do you want to include Anti-Money Laundering (AML) analysis?

If you select "OK", a ZIP file will be downloaded containing both the PDF and an AML XML report.

If you select "Cancel", only the PDF will be downloaded.

OK

Cancel

The user must fill at least one identifier and location field.



ELRD Validator

Welcome to IMOLA'S ELRD Validator

Here you can validate the xml files downloaded from [ELRD Customizer](#) choose first the language and drop the xml file.

Oops! Something bad happened!

[Details](#)


Step 1: Language to validate


Please, select any language

-  Flemish (Belgique)
-  French (Belgium)
-  French (France)
-  French (Luxembourg)
-  German (Austria)

Successfully Validated!

Select report file and download it

 Download as PDF

 Download as AML-XML

ELRD Validator

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<ArrayOfAMLWarning xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema"/>
```



EU Land Registry Document (ELRD)

Front page

Part A: Identification and description of property

Land registry unit basics

Identifier

Cadastral parcel number: 21943701597

Location

Address: Str. 345



Appendix

IMOLA european land registry document - Common template for information about any European land register unit, made up on the basis of the national information where that unit lies, which has a tripartite structure —ABC— in order to classify properly the information and facilitate a mutual understanding, and is supported by a controlled vocabulary.

Document de carte funciara europeana Imola - Model comun de informații despre orice carte funciara europeană, alcătuit pe baza informațiilor existente in sistemul national, care are o structură tripartită —abc— pentru a clasifica corect informațiile și a facilita înțelegerea reciprocă și este susținut de un vocabular controlat.

Part a - This section of the European Land Registry Document is devoted to identifying and describing the property, or —more properly- any given land register unit with a title or register number of a national register system, having to be flexible about this issue.

AML patterns triggered XML

AML
warning

```
<?xml version="1.0" encoding="UTF-8"?>
<ArrayOfAMLWarning xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <AMLWarning>
    <type>Tax Heavens</type>
    <message>Element: registrationCountry contains country: Bahamas which is registered as a Tax Heaven</message>
    <landRegistryUnitIdentifier>100</landRegistryUnitIdentifier>
  </AMLWarning>
  <AMLWarning>
    <type>Tax Heavens</type>
    <message>Element: registrationCountry contains country: Andorra which is registered as a Tax Heaven</message>
    <landRegistryUnitIdentifier>100</landRegistryUnitIdentifier>
  </AMLWarning>
  <AMLWarning>
    <type>Tax Heavens</type>
    <message>Element: trustorCountryResidency contains country: Greenland which is registered as a Tax Heaven</message>
    <landRegistryUnitIdentifier>100</landRegistryUnitIdentifier>
  </AMLWarning>
  <AMLWarning>
    <type>Tax Heavens</type>
    <message>Element: trusteeCountryResidency contains country: HongKongSAR which is registered as a Tax Heaven</message>
    <landRegistryUnitIdentifier>100</landRegistryUnitIdentifier>
  </AMLWarning>
  <AMLWarning>
    <type>Tax Heavens</type>
    <message>Element: trusteeCountryResidency contains country: Iraq which is registered as a Tax Heaven</message>
    <landRegistryUnitIdentifier>100</landRegistryUnitIdentifier>
  </AMLWarning>
</ArrayOfAMLWarning>
```




Testing for all MS Webservice

<https://endpoint.elra.eu/>

Welcome to IMOLA'S ELRD Endpoint Test

This service is just a tool to use the PDF generation endpoint with a graphic UI. Each step will simulate the different parameters that the endpoint accepts. To use use this endpoint in your own application, please refer to the official documentation.

Step 1: Select XML file

 Browse XML file

Step 2: Select Language

Please, select a language 

Step 3: Version

Version

4.3

Step 4: Include AML Report

Include AML No

 Call Endpoint

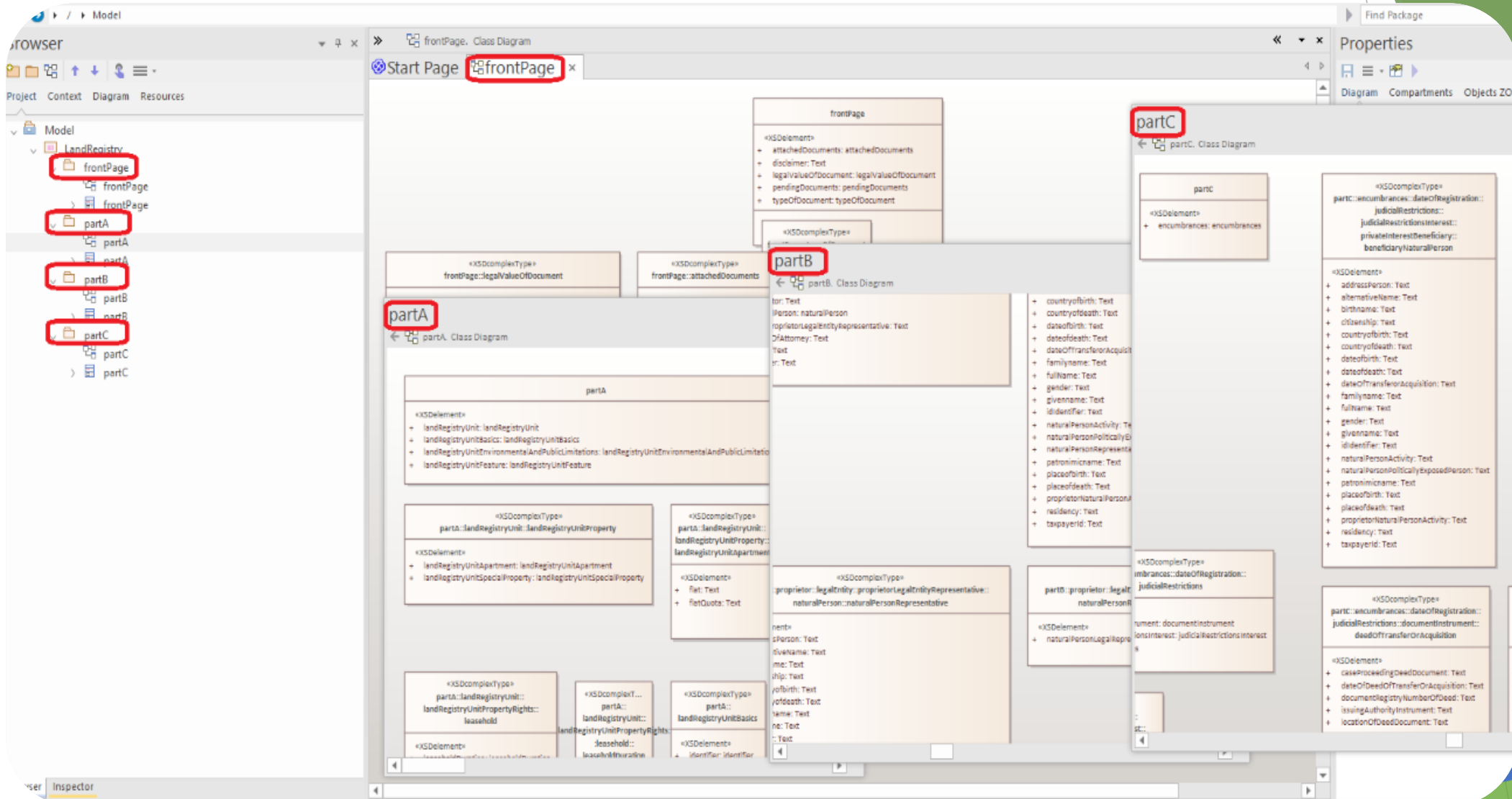
Video to the installation and first use

<https://youtu.be/7fFgfivOwl0>

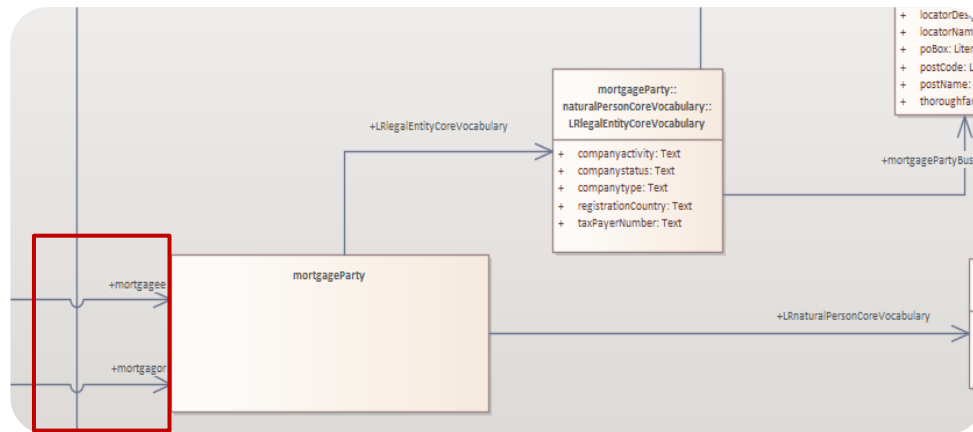
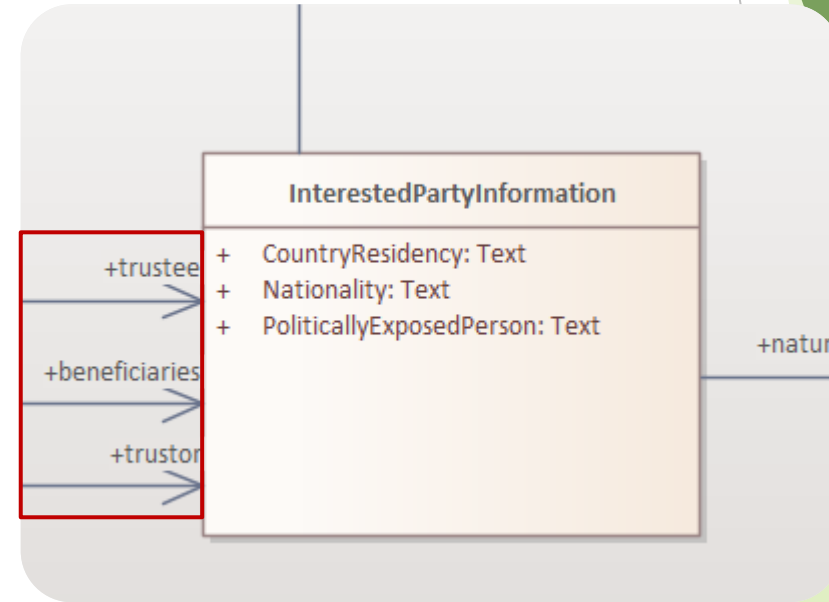
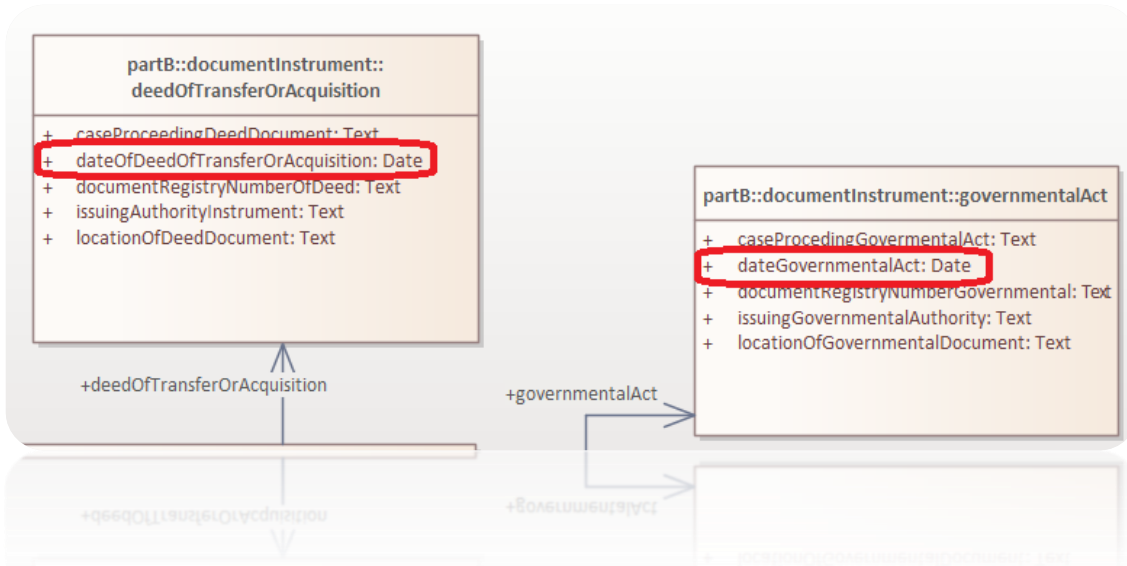
UML Land Registry Vocabulary



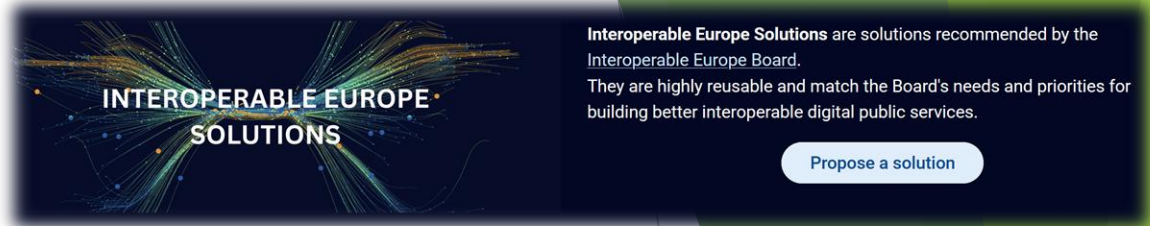
UML improvement: separate each root



UML improvement: data types adaptation and associations



UML recognition on the way



Interoperable Europe Portal [redacted]

14 de abril de 2026 a las 12:40

Responder a: Interoperable Europe Portal [redacted]

Para: [redacted]

Dear [redacted]

Thank you for submitting your input through the **General Criteria for Interoperable Solutions** form. We appreciate your contribution - your responses will support the ongoing evaluation and identification of high-quality interoperability solutions within the Interoperable Europe framework.

We will review your submission shortly. Should any clarifications be needed, we may contact you directly.

Your submission

Below is a copy of your submission for your records:

Introduction

I recommend to the Interoperable Europe Board to give the label 'Interoperable Europe Solution' to the specified interoperability solution.

Yes

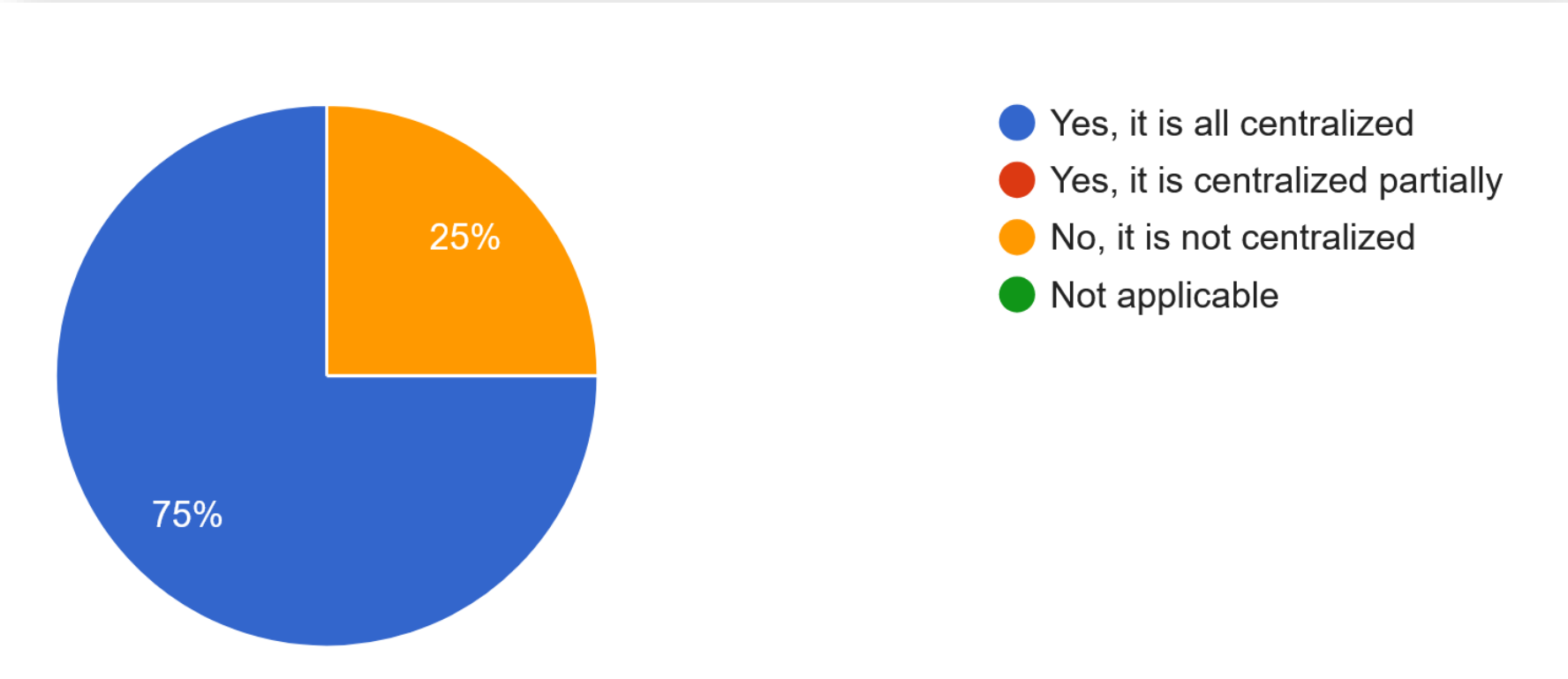
Name of the solution

Land Registry Core Vocabulary



Consultancy Analysis Report

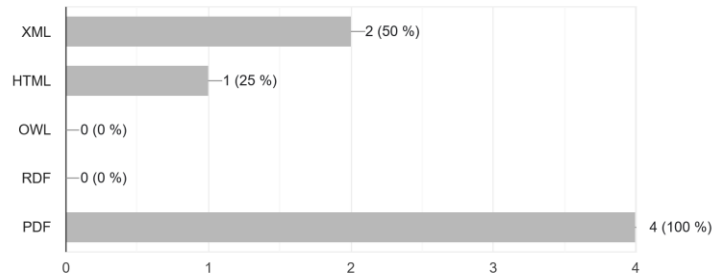
Centralized database



Database

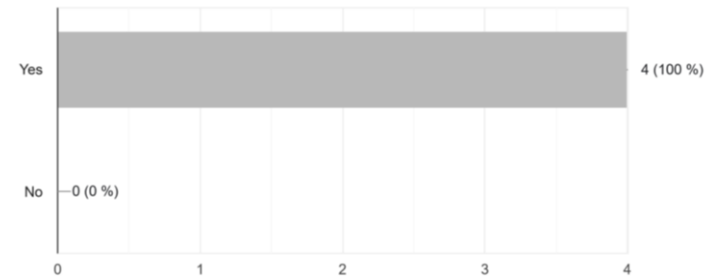
Do you use another formats to store the data in the Member State?

4 respuestas



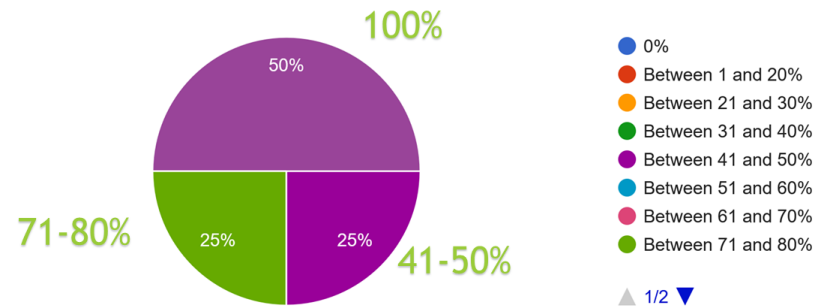
Do you process the information or data stored in the Member State?

4 respuestas



Please, could you indicate what you consider is the level of digitalization in your Land Registry organization? (in percentage)

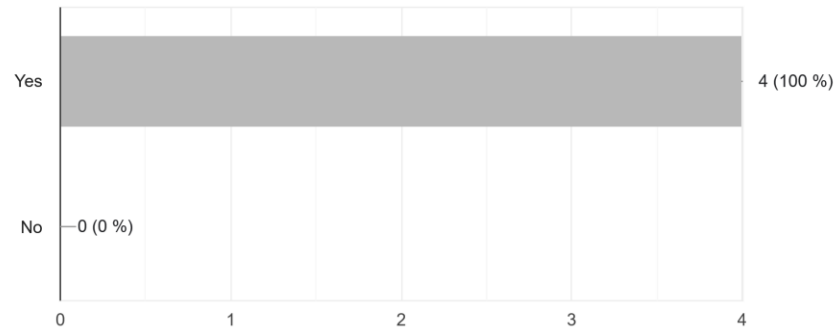
4 respuestas



Use of Webservices

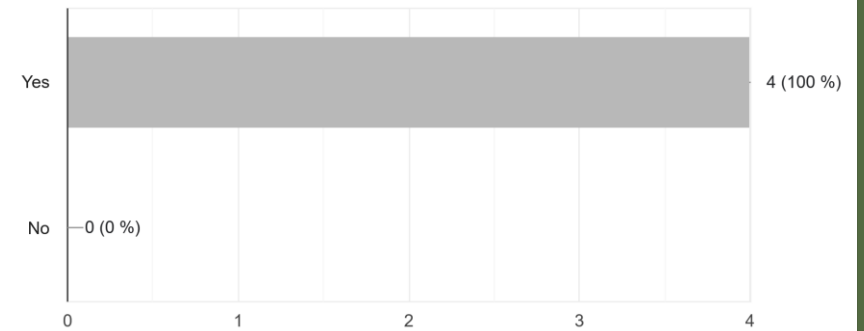
Do you consider useful the IMOLA IV webservice available at VALIDATOR to create an ELRD document?

4 respuestas



Do you consider useful the IMOLA IV webservice available at GENERATOR to create an ELRD document?

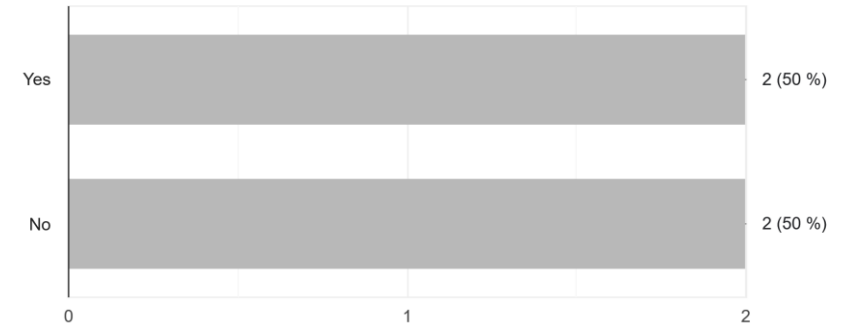
4 respuestas



XML & Automation

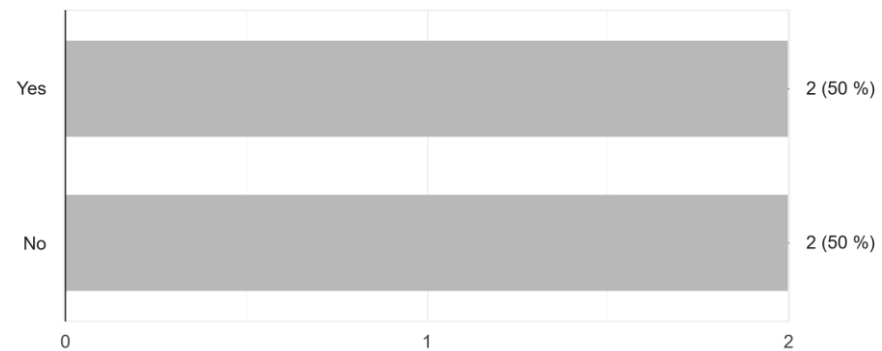
Could your current national system be automated to generate the ELRD document and connect automatically or manually with the web services generated in the IMOLA project?

4 respuestas



Does your current system allow import/export of national data to XML?

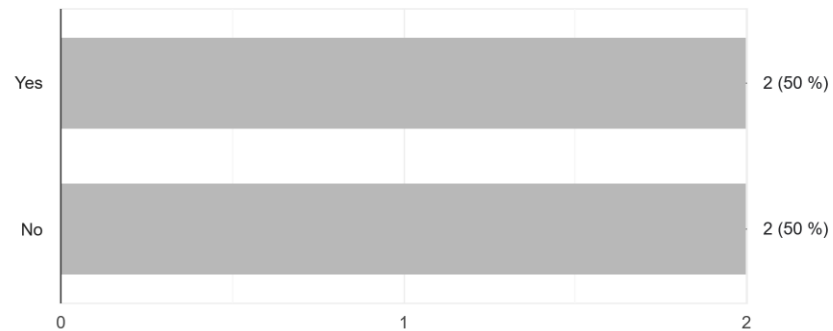
4 respuestas



ELRD interconnection is planned?

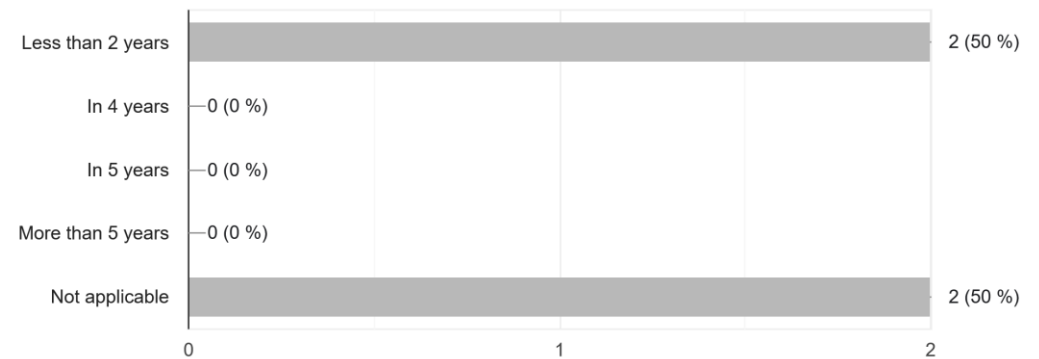
Do you plan a change in your Land Registry system to permit the use of the ELRD and the Land Registry Interconnection?

4 respuestas



If you are preparing your Land Registry system to use the ELRD and the Land Registry Interconnection, could you please indicate the time frame you are estimating for them?

4 respuestas

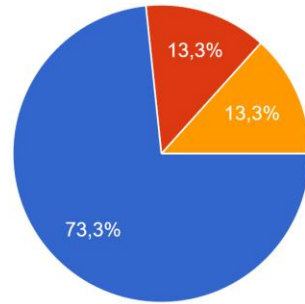


Extended study

Non beneficiaries

Do you use a centralized database in the Member State?

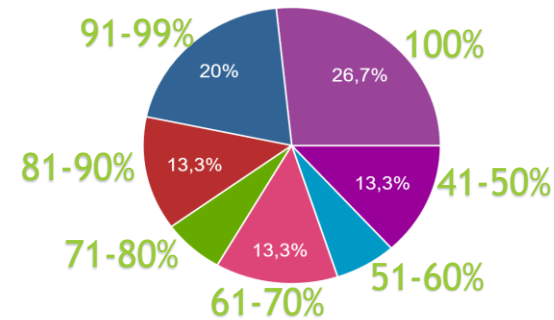
15 respuestas



- Yes, it is all centralized
- Yes, it is centralized partially
- No, it is not centralized
- Not applicable

Please, could you indicate what you consider is the level of digitalization in your Land Registry organization? (in percentage)

15 respuestas



- 0%
- Between 1 and 20%
- Between 21 and 30%
- Between 31 and 40%
- Between 41 and 50%
- Between 51 and 60%
- Between 61 and 70%
- Between 71 and 80%

▲ 1/2 ▼





































- General Trend: **73.3% of organizations do not yet have a change plan to permit full ELRD use within a timeframe under 4 years**, indicating a need for continued long-term support and **LRI dependency**.



Evolution so far...

Language i	Mapped Terms i	Validated Terms i	Rejected Terms i	Terms In Revision i	Filled Questions i	Filled Factsheets i
Polish (Poland) ▼	59%	0%	0%	0%	0%	0%
Estonian (Estonia) ▼	100%	59%	0%	0%	100%	100%
Romanian (Romania) ▼	10%	0%	0%	67%	0%	17%
Dutch (The Netherlands) ▼	100%	100%	0%	0%	100%	100%
Spanish (Spain) ▼	97%	52%	0%	0%	100%	100%
Svenska (Sverige) ▼	86%	0%	0%	0%	100%	100%
svenska (Sverige) ▲	86%	0%	0%	0%	100%	100%
svenska (Sverige) ▲	86%	52%	0%	0%	100%	100%



Italian (Agenzia delle Entrate) 	 100%	 79%	2%	0%	 100%	 100%
French (Belgium) 	 99%	0%	0%	0%	0%	 100%
Croatian (Croatia) 	 100%	 76%	0%	0%	 100%	 100%
Finnish (Finland) 	 100%	 27%	0%	 43%	 100%	 100%
Latvian (Latvia) 	 34%	0%	0%	0%	0%	0%
Lithuanian (Lithuania) 	 10%	0%	0%	0%	0%	0%
Portuguese (Portugal) 	 100%	1%	0%	 19%	 100%	 100%
German (Austria) 	 99%	0%	0%	0%	0%	0%
German (Austria) 	 99%	0%	0%	0%	0%	0%
Portuguese (Portugal) 	 100%	1%	0%	 19%	 100%	0%



Maltese (Malta)	99%	0%	0%	0%	0%	100%	100%
Italian (Servizio del Libro fondiario)	100%	13%	0%	0%	0%	100%	100%
Dutch (Belgique)	99%	0%	0%	0%	0%	100%	0%
English (Ireland)	0%	0%	0%	0%	0%	0%	0%
Bulgarian (Bulgaria)	25%	2%	0%	1%	0%	100%	0%
Երկրագրքային (Երկրագրքային)	52%	5%	0%	1%	0%	100%	0%

National consolidation and quality verification is a crucial process



Team up together! Together we are Europe!

