



IMOLA III Results: The big picture

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IMOLA: Objectives and evolution

IMOLA III results

Conclusions and next steps



Objectives

Common template

The ELRD a semantic and interoperable artifact

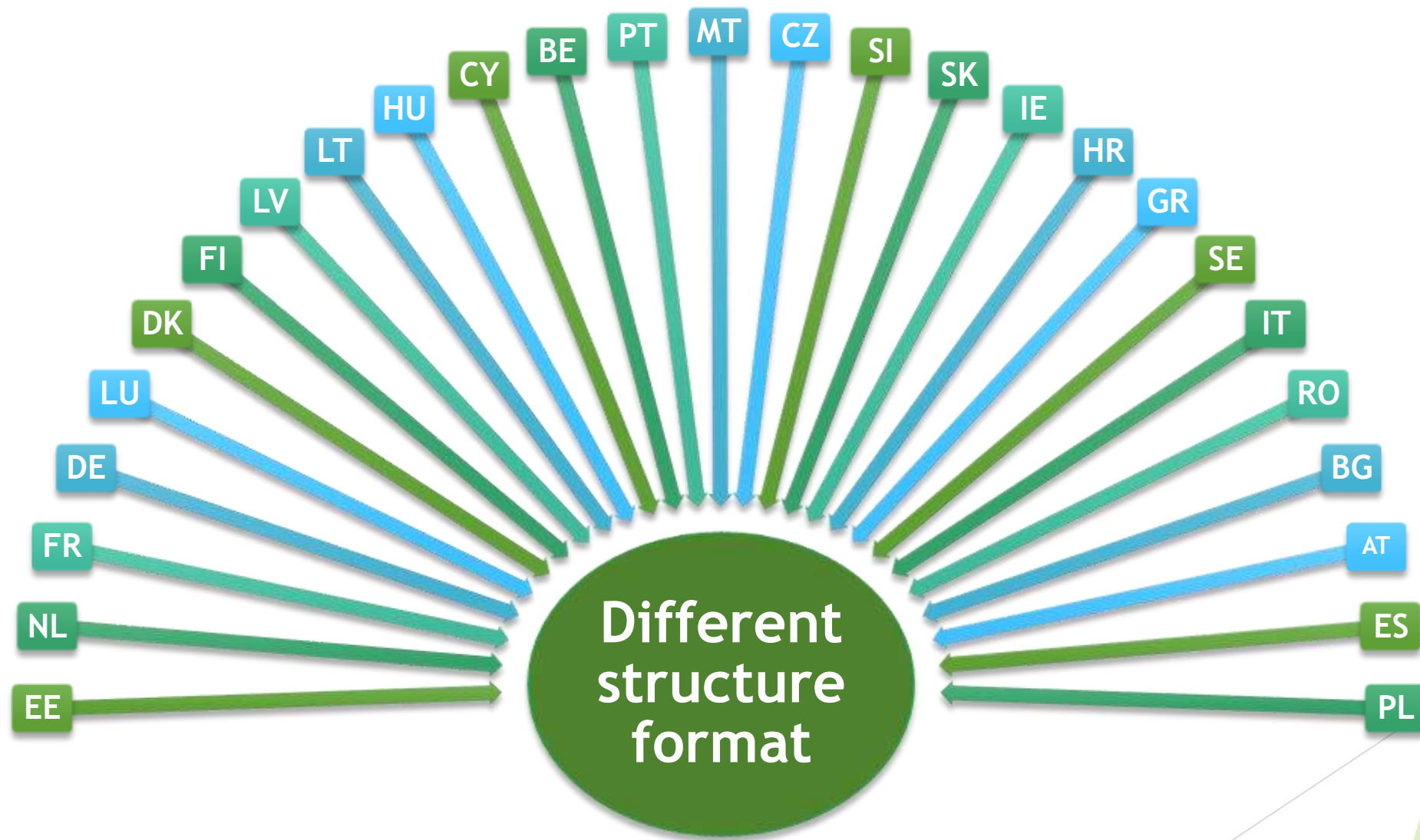
Land Registry Core Vocabulary (Corpus)
Land Registers juridical ecosystem I.KOS

IMOLA web multiuser platform
Formal retrieval system



LR Information current situation

Diversity

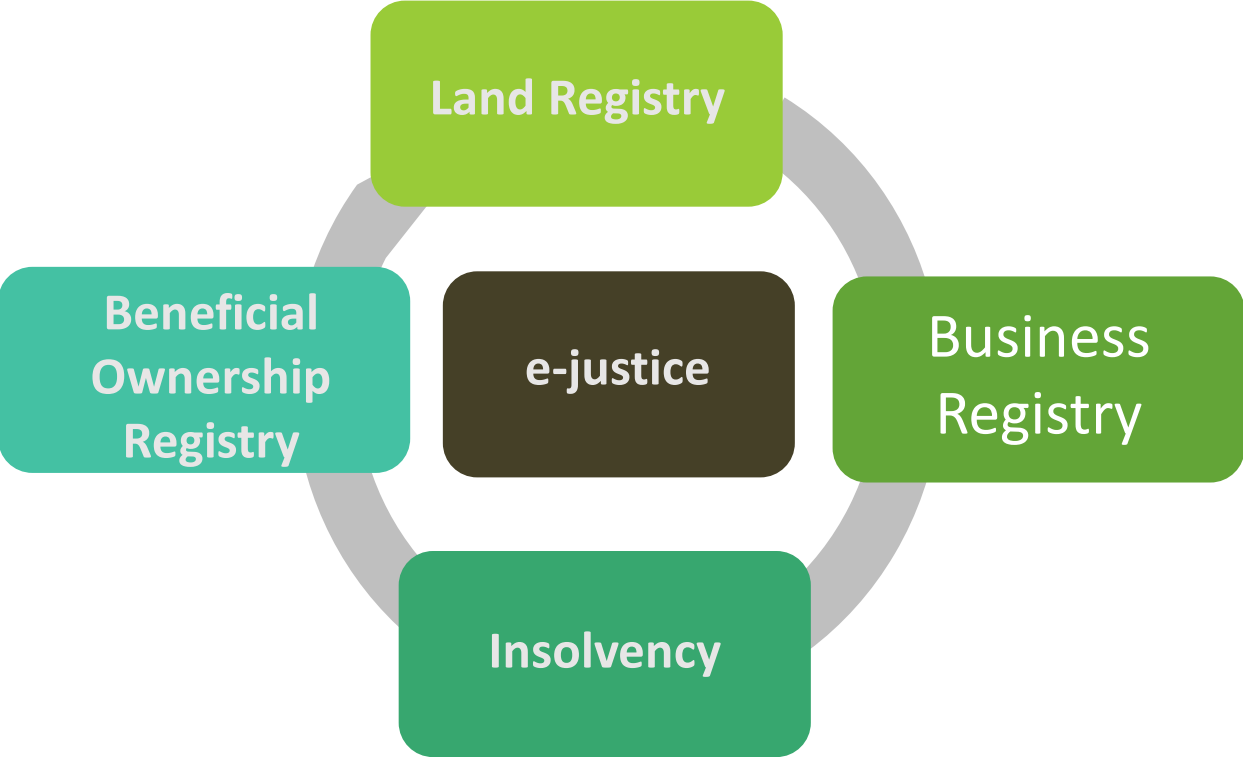


Harmonized and interoperable LR information



Juridical Registers Interconnection scheme

Interoperability
Circle of trust



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
- Last stage of IMOLA approach...by the moment



IMOLA I.KOS extended Corpus semantic
Land Registers Core Vocabulary

ELRD a semantic and interoperable artifact

IMOLA multiuser web platform and web services



ELRD: ontology structure

Bridging the diversity

A-B-C

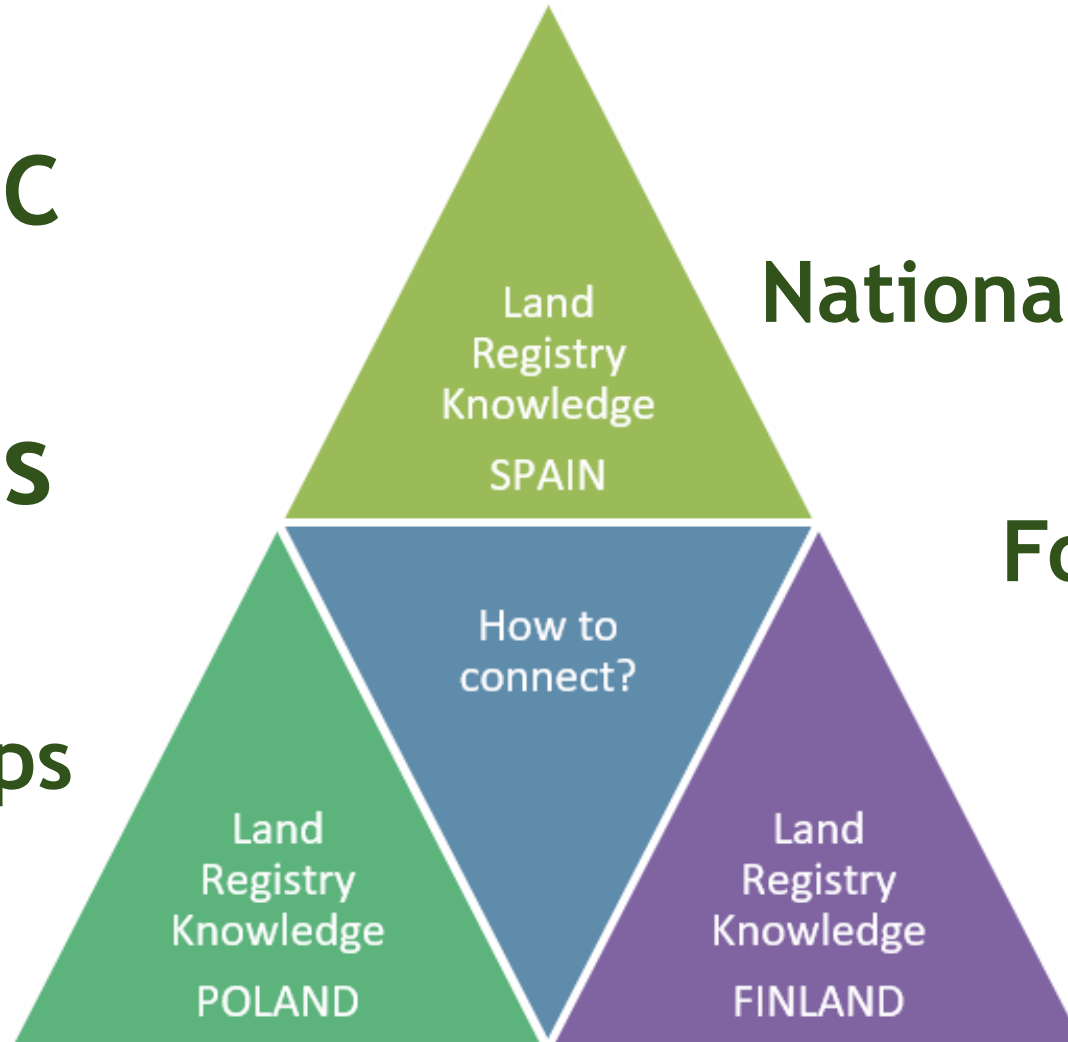
Pivots

Relationships

National Concepts

Formants

Attributes



IMOLA CORPUS SEMANTIC



ELRD/EIF interoperability layers

ISA2 (EIF)



Land Registers Juridical ecosystem

Digital unique Gateway
EU Regulation 2018/1724

ISA2 Core
Vocabularies

European Land Registry Network

E-Justice Portal

Adaptation principle

ELRD
I.KOS

Fact sheets

Formants

Attributes

European Judicial Network

INSPIRE glossary

European
Interoperability
Framework EIF

SEMIC ELRD community

AI clustering

Case Law

Semantic web

Legislation

AML patterns

Comparatives

Environmental and public limitations

ELRD Semantic Structure Pattern

Mapping/Clustering
Trento University
Universidad Carlos III
Madrid

ELRD and National DB consolidation

Attributes assignation using Formants methodology

Pivot Terms

- Identifier
- Description
- LR Domain
- ISA2
- INSPIRE
- DOT (Document Operative Terms)

Relationships

- Hierarchical
- Associative
- Synonym

National Concepts

- Identifier
- Description: English and Native Language
- Mapping to Pivot Terms

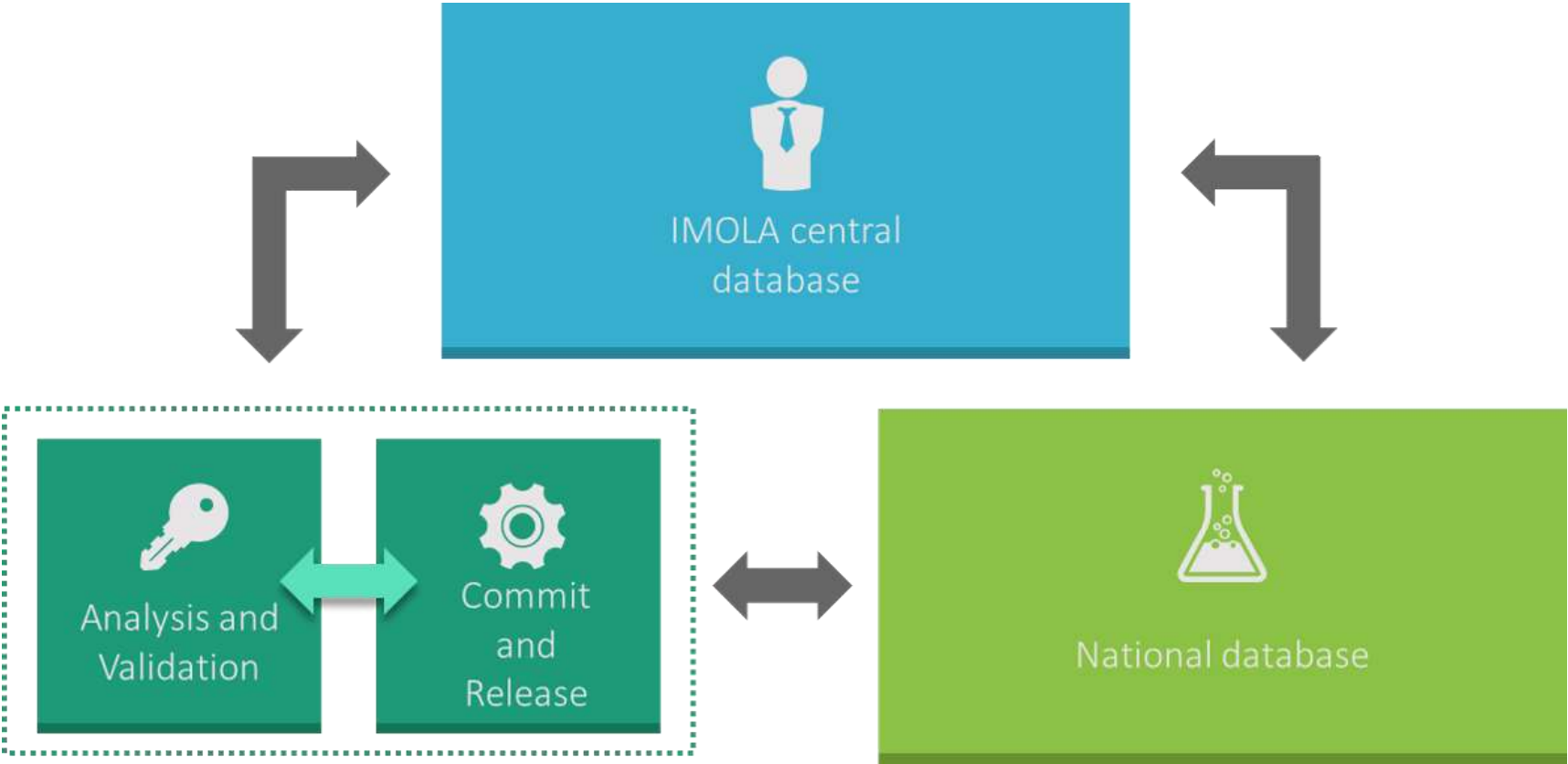
The Question

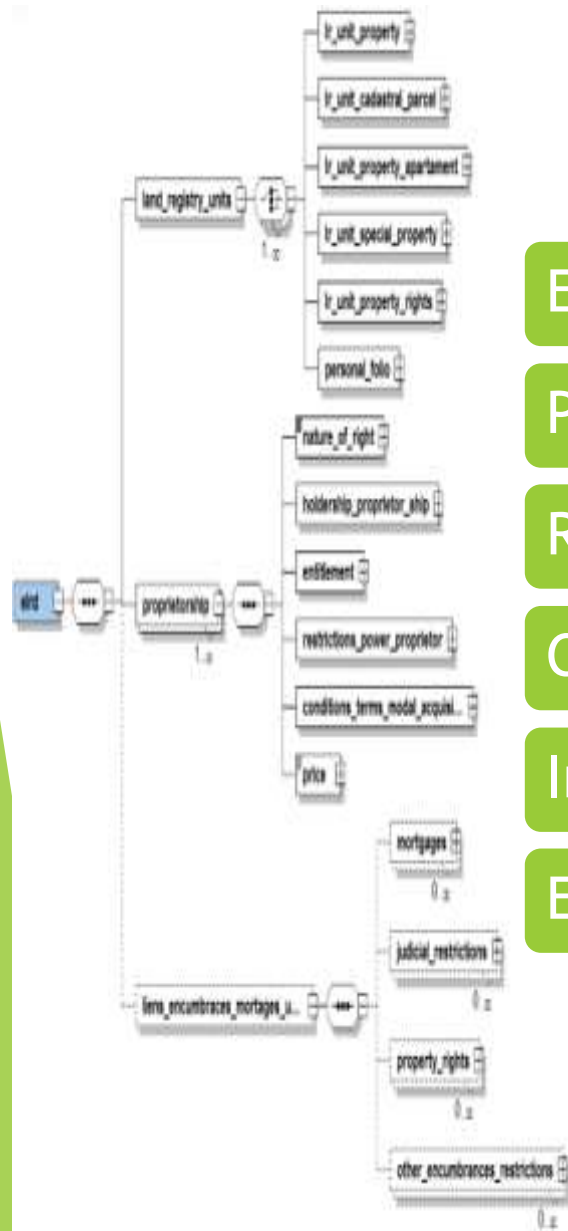
- Identifier
- Title
- Usage Note
- Meaning

The Answer: Attributes and formants

- Answer
 - Yes
 - No
 - N/A
- Formants rationale:
 - Legislative (ELI)
 - Judicial (ECLI)
 - Doctrine
 - LR Range (Factsheets)







ELRD and the interoperability layers

Pivots terms bridging the diversity

Reusing the European semantic building blocks

Connecting information stemming from different sources

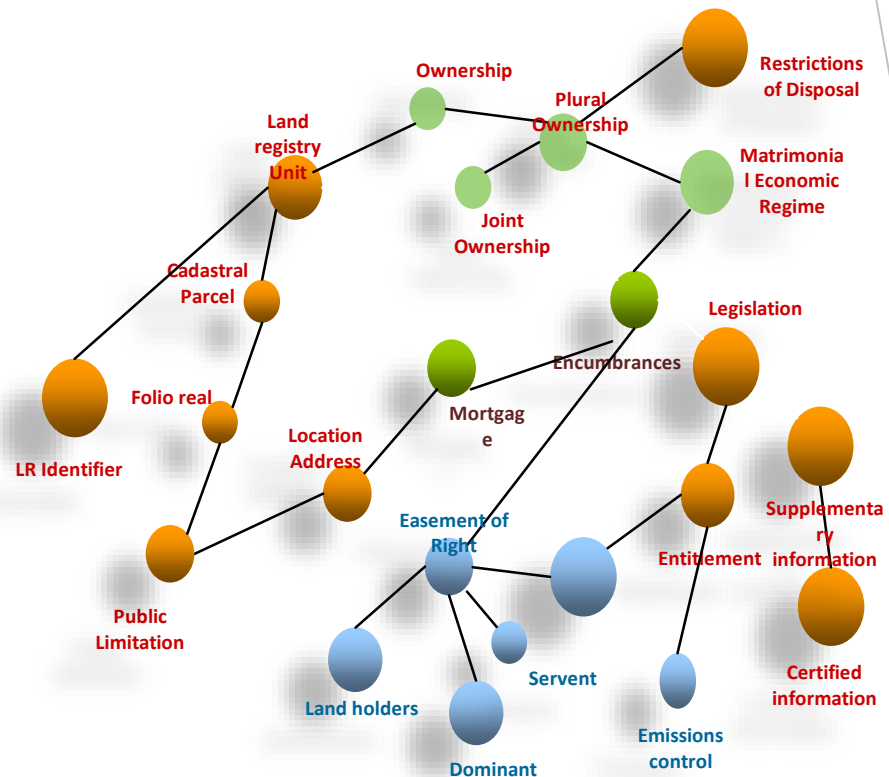
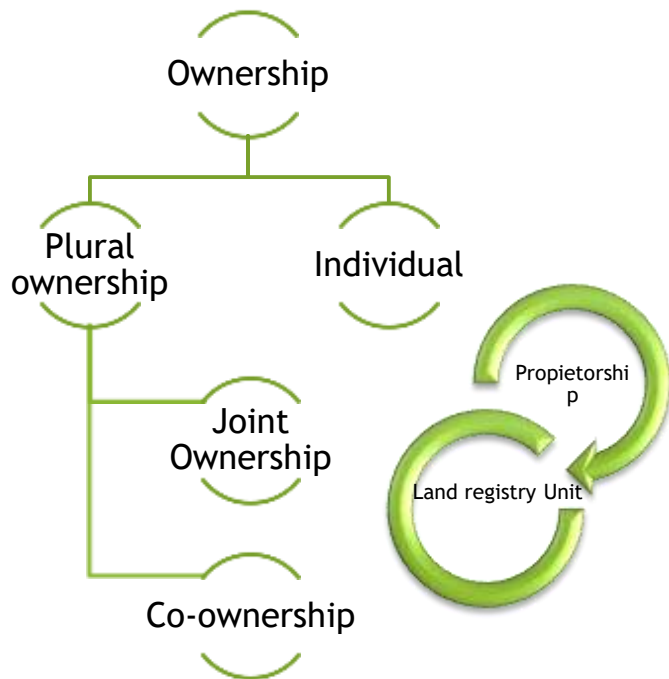
Interoperability and quality a trusted relationship

ELRD supporting Digital Transformation EU policy



Digital Justice transformation

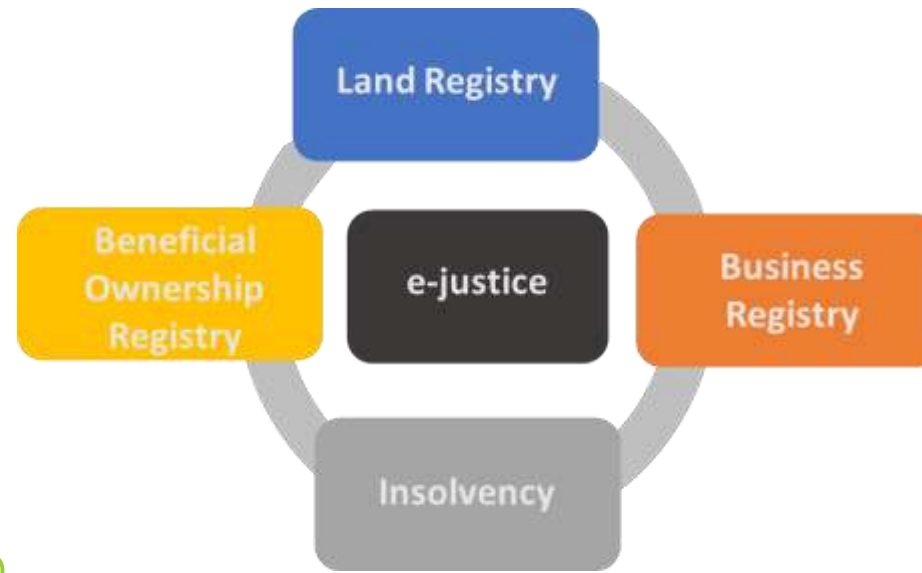
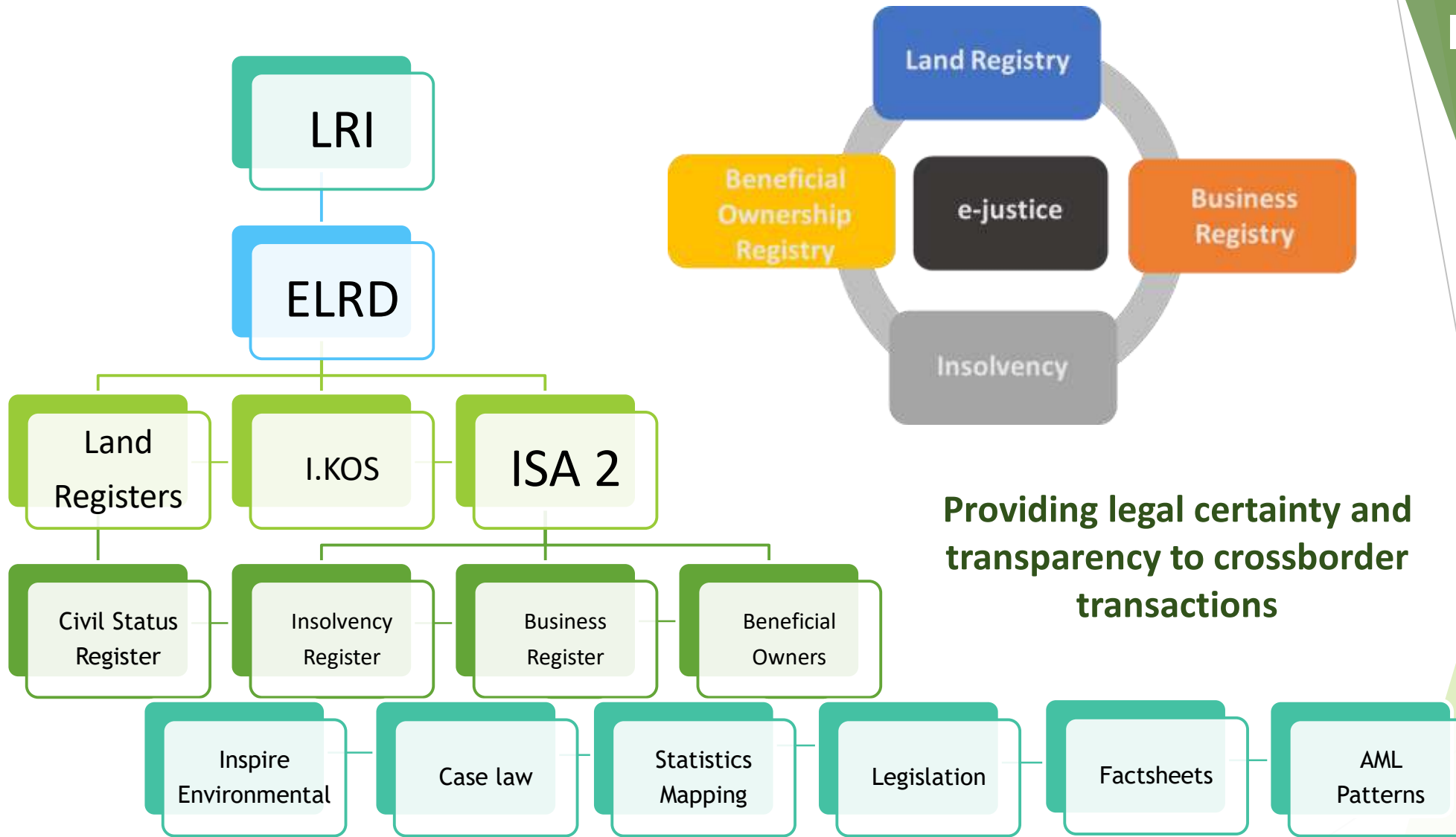
Placeholder	National synonym	Rules on national descriptions
Immovable property []*	Bien Inmueble	<p>Article 334 of the Spanish Civil Code. The following are immovable property:</p> <ol style="list-style-type: none"> 1. Land, buildings, roads and constructions of all kinds which are joined to the ground. 2. Trees and plants and pending fruits, while they are joined to the earth or form integral part of an immovable property. 3. Anything which is joined to an immovable property on a fixed basis, so that it cannot be separated therefrom without breaking the material or impairing the object. 4. Statues, reliefs, paintings or other objects of use or ornamentation, placed on buildings or on land by the owner of the immovable property, in such a way that reveals the purpose of uniting them to the land on a permanent basis. 5. Machines, vessels, instruments or utensils destined by the owner of the property to the industry or undertaking performed in the building or landed property, and which are directly destined to satisfy the needs of the undertaking itself. 6. Animal farms, dovecotes, beehives, fish tanks or analogous hatcheries, when the owner has placed or preserved them for the purpose of keeping them joined to the property or forming part thereof on a permanent basis. 7. Fertilisers destined for the cultivation of landed property, located in the land where it is to be used. 8. Mines, quarries and dumps, while their matter remains joined to the source, and flowing or stagnant waters. 9. Docks and constructions which, even if they float, are destined, as a result of their purpose and conditions, to remain in a fixed point of the river, lake or coast. 10. Administrative concessions to perform public works, and easements and other rights in rem pertaining to immovable property. <p>They are not considered immovable nor the boats, the planes or the wind mills neither the manufactured homes.</p>
Full ownership [replacing the English legal term Freehold]	Pleno Dominio	<p>Pleno dominio means full ownership related to real estates; notwithstanding in case of condominium of apartments, owners are subjected by important legal limitations, obligations and duties which condition the right of disposal, given the specific legal features of this special community</p>



- Retrieval and visualization
- Adaptation principle
- Cross border decision support
- Mapping EU property rights



ELRD Interoperability schema Common Interface



**Providing legal certainty and
transparency to crossborder
transactions**



Main challenges



Diverse stakeholders

- Languages
- Legal systems
- Culture



New domain

- Previous background in Systems Engineering
- Experience from legal sentences processing



Interconnection challenges with diverse legal systems

- Payment
- Gateways
- Authorization
- New paradigm



Keeping the net active

- Commitment
- eLearning
- Breakouts



I-KOS Knowledge Manager

ELRN
input system

The screenshot displays the I-KOS Knowledge Manager interface. The top navigation bar includes 'KNOWLEDGE Manager', 'ELRN', 'IMOLA', and 'Admin | Log out'. Below the navigation bar, there are tabs for 'Home', 'General', 'Term', 'Language', and 'Suggestion'. The main content area is titled 'Imola european land registry document > Part c > Encumbrances > Date of registration > Mortgage'. The 'TERM' section shows the definition of 'Mortgage' and a button for 'LR Pivot'. The 'MAPPINGS (12)' section shows a mapping for 'Mortgage' in LR Pivot. The 'PIVOT COMPLEMENTARY INFORMATION' section shows that there is no pivot complementary information provided for 'Mortgage' in LR Pivot. The 'PIVOT RELATIONSHIPS (3)' section shows relationships for 'Mortgage': 'Broader term' (Organizational (1)), 'Narrower term' (Organizational (1)), and 'Related Association' (0). The 'QUESTIONS (2)' section shows two questions: 'Is the mortgage entered by a constitutive registration (that is it, registration is necessary for the mortgage to exist legally)?' and 'Has the mortgage the legal status of a property right (in accordance with the national applicable law)?'. The bottom of the interface shows 'CONNECTED TO: www-01'



Automatic AI Indexing

Clustering Mapping

Encumbrances

As the matter of Part C, [encumbrances](#)¹ generally are burdens, constraints or impediments falling on the properties or [lr](#)² Units. [encumbrances](#)¹ can mean [restrictions](#)³ on the use, on the proprietor's powers of transfer, on the possession, or involve liabilities to which the properties are subject. They can be [property rights](#)⁴ or rights in rem, mortgages, judicial or [administrative](#)⁵ [restrictions](#)³ and any [other](#)⁶ type of constraints or limitations related to the properties. Strictly speaking [encumbrances](#)¹ can be considered a synonym of burdens.

LR Pivot

Land registry unit

A entity to which a [lr](#)¹ system grants a [register number](#)² or [title number](#)³ for creating a specific registry history and organizing the registrations related to it. It may include those cases of provisional or transitional registrations admitted in a given [registration](#)⁴ system as long as they have a specific [register number](#)² and registry history.

LR Pivot

EU:C:2017:755

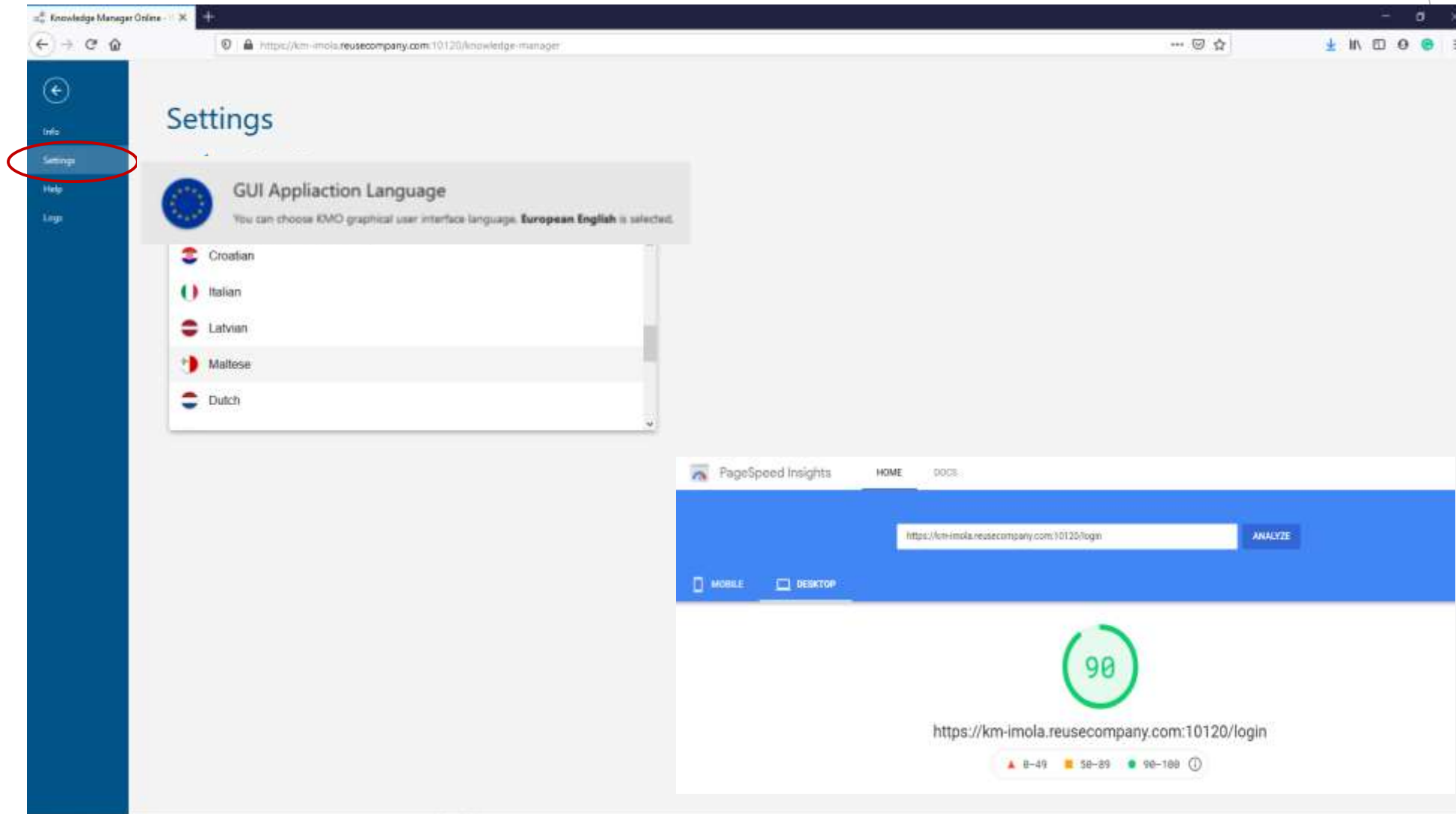
Regulation (EU) No 650/2012 — [succession](#)¹ and the European Certificate of [succession](#)¹ — Scope — Immovable property located in a Member State in which legacies 'per vindicationem' do not exist — Refusal to recognise the material effects of such a legacy. JUDGMENT OF THE [court](#)² (Second Chamber). C-218/2016 Aleksandra Kubicka. RESULT: Article 1(2)(k) and (l) and Article 31 of Regulation (EU) No 650/2012 of the European Parliament and of the Council of 4 July 2012 on jurisdiction, applicable law, recognition and [enforcement](#)³ of decisions and acceptance and [enforcement](#)³ of authentic instruments in matters of [succession](#)¹ and on the creation of a European Certificate of [succession](#)¹ must be interpreted as precluding refusal, by an [authority](#)⁴ of a Member State, to recognise the material effects of a legacy 'by vindication', provided for by the law governing [succession](#)¹ chosen by the testator in accordance with Article 22(1) of that regulation, where that refusal is based on the ground that the legacy concerns the right of [ownership](#)⁵ of immovable property located in that Member State, whose law does not provide for legacies with direct material effect when [succession](#)¹ takes place.

LR Pivot



Interface translation into diverse languages and usability

Multilingualism



I-KOS eJustice entry point

Legal
certainty

KNOWLEDGE Manager | EURL | IMOLA | Guest | Log out

Filter in Organizational view

TERM

Mortgage

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

[LR Pivot](#)

MAPPINGS (17)

Please select a different language to see its details

Section C collects all type of encumbrances available in the corresponding registers, considering as such mortgages, property rights, judicial restrictions or any other burdens or restrictions on land, according to a land register given organized by the main registry criterion, the date of registration.

[LR Pivot](#)

PIVOT COMPLEMENTARY INFORMATION

Pivot Complementary Information for **Date of registration**

PIVOT RELATIONSHIPS (4)

Relationships for Date of registration

- Broader term: Organizational (1)
- Is Used: Synonymy (3)
- Narrower term: Organizational (4)
- Related: Association (1)

QUESTIONS

Questions for **Date of registration**

There are no questions for term Date of registration in LR Pivot

CONNECTED TO *g-joker*



AML patterns

Reusing ELRD pivots applying AI:

- Tax heavens
- Suspicious transactions
- Mortgages



AML patterns: ELRD pivots

Tax heavens

- Natural person nationality
- Natural person residence
- Natural person representative nationality
- Natural person representative residence
- Registration country
- Legal entity representative nationality
- Legal entity representative residence
- Transferor nationality
- Transferor residence
- Trustor nationality
- Trustor residence
- Trustee nationality
- Trustee residence
- Beneficiary nationality
- Beneficiary residence
- Trust applicable law
- Country of fund's origin
- Legal entity Legal name
- Legal entity Legal identifier
- Natural person full name
- Natural person identifier
- Natural Person date of birth
- Deed of transfer
- Governmental act
- Judgement order

Suspicious Transactions

- Value
- Taxation value
- Price
- Payment
- Cash
- Money
- Transfer
- Bank order
- Bank check
- Compensation
- Electronic money
- Virtual currencies
- Date
- Deferred payment (months)
- Credit amount
- Call option
- Preemptive right



Mortgages

- Credit amount
- Deadline of credit
- Deadline of mortgage
- Mortgage deed date
- Mortgagee
- Mortgagor
- Notary



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>
```



Test Bed improvements (Community)

ELRD community

The screenshot shows the KMO interface with the following components:

- Left sidebar menu:
 - Session Dashboard
 - Conformance Dashboard
 - Domain Management
 - Community Management** (circled in red)
 - Data Export
 - Data Import
- Header: Knowledge Manager Online, km-imola.reusecompany.com, EU Login password initialisation, GITH
- Navigation: HOME, TESTS, ADMIN, ANABEL FRAGA
- Main content area: A table of ELRD templates with columns for ID, Full name, and Set as template. The 'Full name' column is circled in red.

ID	Full name	Set as template
	Austria	ELRD AT template
	Belgium	ELRD BE template
	Bulgaria	ELRD BG template
	Cyprus	ELRD CY template
	Estonia	ELRD EE template
	Spain	ELRD ES template
FI	Finland	ELRD FI template
FR	France	ELRD FR template
GR	Greece	ELRD GR template
HR	Croatia	ELRD HR template
IE	Ireland	ELRD IE template
IT	Italy	ELRD IT template
LT	Lithuania	ELRD LT template
LU	Luxembourg	ELRD LU template
LV	Latvia	ELRD LV template
MT	Malta	ELRD MT template
NL	Netherlands	ELRD NL template



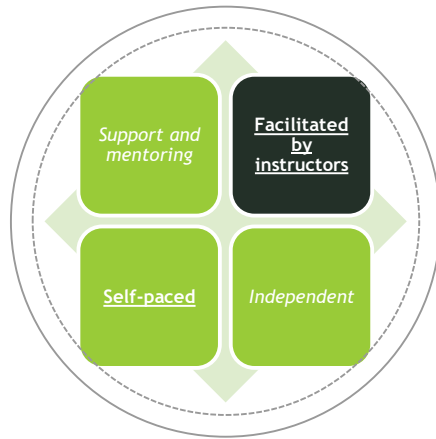
Multidisciplinary
Collaborative environment

LRI digital transformation
commitment

Team up together



Methodology: Facilitated vs self-paced



Content
Simple, interactive content, videos.

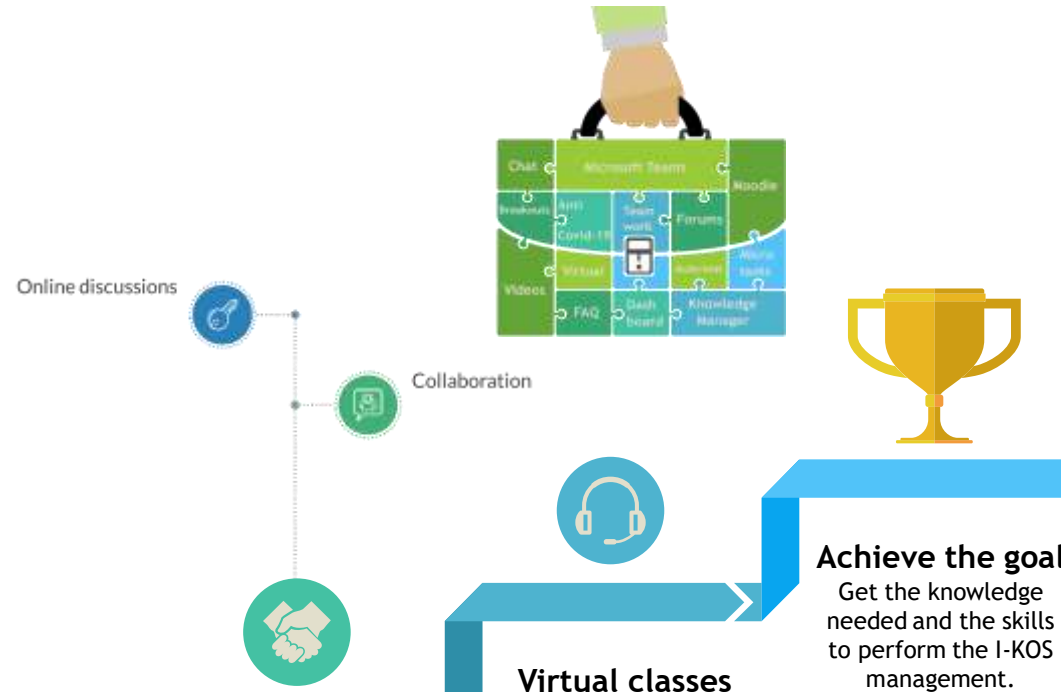
Mentoring
Human and social dimensions offered for learners to support them through the learning experience.

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.

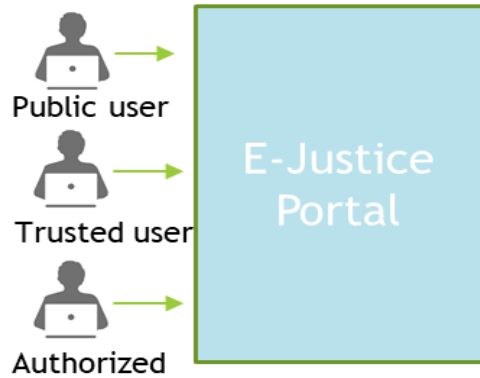
Virtual classes
A virtual classroom is the instructional method most similar to traditional classroom training, as it is led completely by an instructor.

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

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

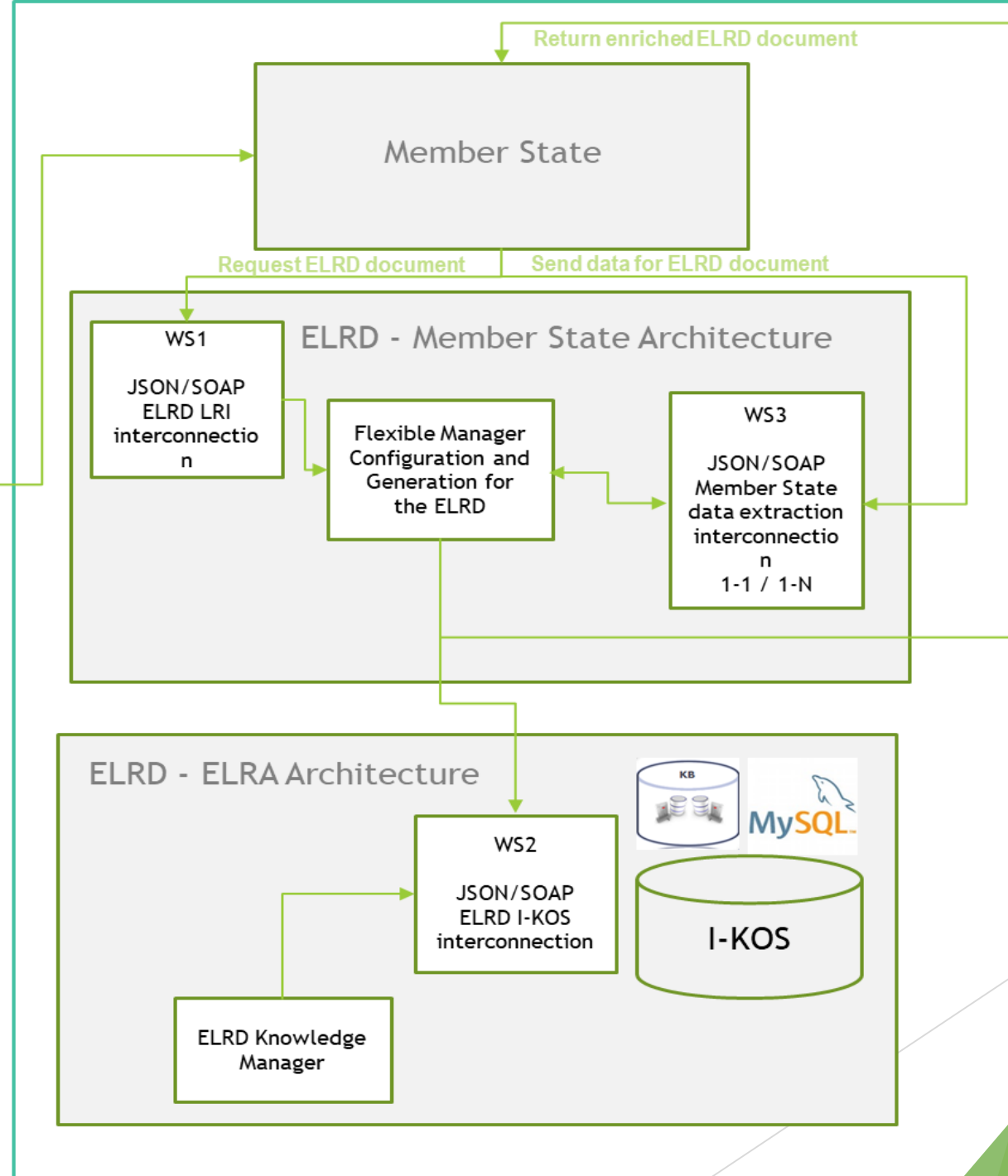


WS1: ELRD-LRI
Interconnection request
and customizer

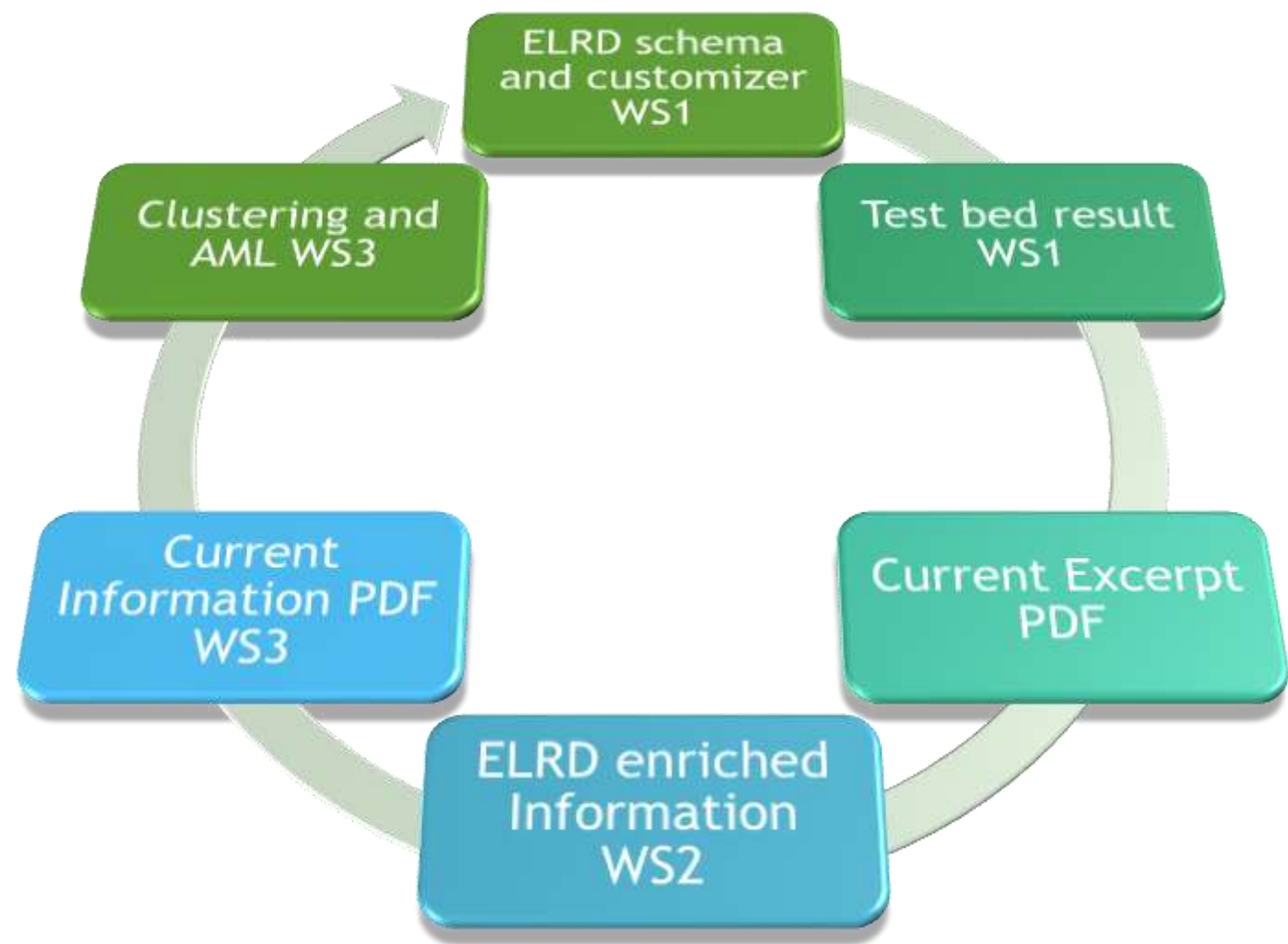


WS2: ELRD-I.KOS
Interconnection and
metadata enrichment

WS3: ELRD-data
extraction
interconnection and AML
patterns



Practical vision:
Proof of concept
Step forward



- The Netherlands
- Portugal
- Spain
- Sweden



Mirroring

Neutrality

Transparency

Interoperability

Scalability



IMOLA III

- Keep updated ELRD schema and I.KOS metadata: **ELRN and ELRA back-office**
- **Member States** technical adaptation: Matching methodology and integration of data
- **EU Commission:** LRI legislative background:
 - Legal framework and common set of data
 - Digital identity and attributes (e.IDAS)
 - Digital wallet
- **EU/MSs:** Digital transformation uptake: E-learning and training
- **EU/MSs:** Cooperation: Converging objectives on LRI

Next steps

Digitalisation of Justice
communication

2/12/2020





Team up together! Together we are Europe!