IMOLA
Interoperability Model for Land Registers

Funded by
the European Union

ELRA
European Land Registry Association

IMOLA IV
TERMS OF REFERENCE AND TECHNICAL CONDITIONS
European Land Registry Association

For the conclusion of a service contract concerning the semantic and technical realization of the IMOLA IV project.

Working package: WP3

DOCUMENT CONTROL

DOCUMENT INFORMATION

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Index

1. Background information. The IMOLA Project.

1.1 Background information

The aim of the IMOLA project is to increase the accessibility and transparency of land registry information to facilitate the European Single Market. This project is coordinated by the European Land Registry Association (ELRA) that represents 31 official land registry organisations from 27 European countries. ELRA operates with a permanent body called the European Land Registry Network (ELRN) and is composed of two Contact Points (CPs) from each association.

These approximately fifty Contact Points are expert land registrars and in addition to being the main source of information for the project, they act as a non-profit support of it.

IMOLA vision is an incremental approach emerging on the increased demand for Land Registry information in the registration of foreign documents and judicial decisions, establishing local equivalents for foreign legal rights and helping an efficient implementation of EU Regulations on civil and commercial matters.

A provision of an understandable land registry information through the e-Justice portal and the comprehension of foreign property rights will help registrars, judges, academics, solicitors, notaries, lawyers, and citizens.

The European Land Registries have a key role to play in the European Single Market. There are multiple situations where the land registry information can be used in cross-border cases as exposed by the «Report from the Commission to the European Parliament and the Council assessing the necessity and proportionality of harmonising the information included in the real estate registers and assessing the need for the interconnection of those registers» COM/2022/87 final:

- Acquisition of property in another Member State. Citizens and professionals will want to check the legal status and encumbrances of a property.

- Judicial proceedings relating to immovable property including the enforcement of judgments. In these cases, initiatives for interconnection in the judicial area (e-CODEX system) should be borne in mind.

- Exchange of information between tax authorities.

- Consultation of charges in relation to the granting of loans or credits, especially when a security interest is sought.

- Consultation of ownership of assets for the purpose of enforcing tax obligations, including enforcement and precautionary measures.

- Consultation of information in the context of inheritance and insolvency proceedings.

- Consultation of information held in land registers in connection with the prevention of money laundering and the fight against terrorism.

The Land Registries information is not useful if it is not comprehensible for the recipient of the information.

As regards to the target group of the project, the Land Registry users are almost 448.4 million European citizens, 99.5% of whom live in a flat or a house. In addition, the Land Registry information is also useful for tenants and citizens renting or buying a holiday home.

The IMOLA project is effective not only to the MS than participate but also for the non-participants as their citizens can be users of Land Registry information when they move to a participant country. Also, the learning achieve with the project will make a later incorporation easier to non-participant countries.

The IMOLA IV follow-up project aims to continue the IMOLA I, II and III Projects increasing the quantity, quality, and accessibility of the Knowledge Organization System (KOS) created.

IMOLA IV is intended to consolidate the results pursued in the previous approach built upon a broad collaborative environment as the ELRN and cooperating with the European Commission within the Land Registers Interconnection (LRI) project, providing LR best practices and knowledge expertise.

In this context, the main problems to be addressed by IMOLA IV, within the scope of LRI large scale project are the following:

- Achieve an effective implementation of ELRD at the national level to provide LR information based on IMOLA contain the specific domain, aligned with ISA core vocabularies, and enriched with I-KOS metadata.

- This target will demand the development of a new web service facilitating and reducing the works to be accomplished at the national level to assure the LRI integration (the implementation of the ELRD document). A report will be facilitated regarding the use of the IMOLA webservices and a specific report of the analysis performed on each of the beneficiaries of the project. Based on these reports, an also anonymous summary of the scenarios will be disseminated to all the interested Member States.

- Extend the ELRD ontology with new pivot terms and semantic relationships, along with a more comprehensive list of national concepts attributes.

- Improve the centralized platform that host the I-KOS repository and permit ELRN input system, increasing the security and the efficiency of IMOLA knowledge system and the permanent maintenance works.

The need for these actions derives from the studies and reports included in the previous IMOLA projects, in which a Land Registries interconnection road map is defined

following an incremental methodology, given the complexity of results aimed, and the number of actors involved.

According to this schema and the experience gained, IMOLA IV project should be deemed as a necessary approach to close the gaps still pending of development, to deal with some risk detected and to consolidate the semantic model to assure the Land Registry interconnection and the harmonization of the information.

This model for interoperability should contribute to foster a single European real estate and mortgage market, making it more efficient and transparent. EU citizens and companies, EU authorities and legal practitioners would be potential beneficiaries.

1.2   Specific objectives

The specific objectives of the project are the following:

- **To consolidate the objectives achieved with the last IMOLA projects** to improve the semantic model for the interconnection of Land Registries. This model is based on the European Land Registry Document (ELRD) and the IMOLA Knowledge Organisation System (I-KOS) as a content repository specific to the field of Land Registry. To this end, the following specific objectives are expected:

    o   Improvement of the quality of the national I-KOS databases.

    o   Creation of an automatic assisted matching system to assist the process of interconnection between the national databases and the ELRD webservices in an incremental way depending on the quality of the data of the individual member states and their content structure. Basic data should be used.

    o   Introduction of the Ref2Link solution to improve the quality of the I-KOS through the creation of hyperlinks to both national and European rules as well as to European and Member States' case law. The legal services of the EC are satisfied with this implementation and are ready to support the technical team in its development.

    o   Improvement of the usability of the data entry system and adaptation to the new functionalities.

    o   Introduction of a statistical tool to the project.

    o   Introduction of an assisting tool to reuse information provided by ELRN Contact Points.

- **To improve the project information published** in the ELRA website to achieve the following objectives:

o Promotion of IMOLA Project as part the European Interoperability Framework.

o Publication of the I-KOS restricted to the validated terms. This publication will permit:

▪ The application of the principle of adaptation of real rights established in article 31 of Regulation (EU) No 650/2012 of 4 July (Succession Regulation)

▪ The understanding of the Land Registry information provided by national organizations.

o Connection of the E-Justice portal to the published data.

o Generation of land registry information adapted to the European Land Registry Document (ELRD) for Member States with a low rate of digitisation or with scattered data.

o Restricted access to the Knowledge Manager for national Contact Points.

- **To analyse and design the development of new anti-money laundering technologies**. In particular, the following objectives will be pursued:

o Generation of information on potential money laundering cases through a standardized scheme.

o Design of a set of rules for the detection of suspicious situations of money laundering in the field of the Land Registry.

o Collaboration with anti-money laundering agencies to investigate current needs for design and development of the anti-money laundering algorithm.

o Enhancement of the IMOLA Knowledge Organization System in the field of money laundering.

- **To analyse and design new technical developments** to facilitate the adaptation of the national semantic model to the European Land Registry Document to align it with European objectives and directives. A pilot system will be implemented with the national land registries beneficiaries and associated partners of the project.

- **To increase the adaptation to the European Interoperability Framework (EIF)** of the semantic model of the Land Registry through alignment with other common vocabularies (INSPIRE, Core Vocabularies).

- **To design, develop and publish the ELRD specific vocabulary as Conceptual Model in UML (Unified Modelling Language),** the composition of the data specification, semantic assets, and artefacts to be aligned with the European Interoperability Framework following the principles of semantic interoperability,

SEMIC and the EU Commission's publication standards. This vocabulary could be publicised in the EU Vocabularies webpage.

- **To improve the comparative law study** using the following tools:

  o Improvement of the formants by Prof. Elena Ioriatti (Trento University). The formants will be revised and extended to generate rules for the artificial intelligence system to compare legal systems accurately.

  o Redesign of the fact sheets creating system. Fact sheets will be created automatically using the information available in the KM system, the ontology, and the formants.

  o Improvement of the visualization of the Land Registry information using common European style sheets. These style sheets could be used to generate the different outputs such as HTML and PDF.

2. Methodology

The IMOLA IV will be based on an agile method, SCRUM. The Scrum methodology is a process for carrying out a set of tasks on a regular basis with the main objective of working collaboratively, i.e. to encourage teamwork. In this way:

- The "scrum framework" improves interaction and communication between the different actors involved, ensuring the timely development of the work.

- The spring backlog will facilitate the control the progress of the project comparing the planning track with the construction and development track.

- The spring retrospective contains three main indicators helping the control backlog: start: what should we/start doing; Stop: What should we stop doing; Continue: What should we continue doing.

So that, validating measures are envisaged on WP1 and WP2 schemes, encompassing the following basic activities:

- Integration and functional test must be done.

- Document with the set of tests done during the development of the project.

- Regular contacts with the EC, the platform's contractor, and representatives from others e-Justice projects will be held.

The control measures to be accomplished depends on the type of output. On the activities referred to in WP 2 (Juridical and semantic issues), there will be a double quality check. The first of them will be made by the CPs using the ELRN input system, which requires the approval of two validators before to consolidate in the centralized database any of data introduced in the knowledge manager.

Furthermore, the quality of thesaurus will be tested following these indicators (plan/do/act/check): indexation, conceptualization, (length, grammar, singular/plural, monosomic descriptor), retrieval (data quality dimension/elements), interoperability based on SKOS/RDS/OWL.

The methodology will be based on:

- Continuation of the best practices gained on previous IMOLA projects to achieve the next steps for interoperability.

- Development of a teamwork by coordinating the activity of the ELRN CPs and facilitating the involvement of other ELRA members.

- Permanent contact with the authorities of the Commission in charge of the LRI project.

- Coordination with other projects related complementing at the national level the activities of all the parties involved.

- Online training since this action guarantees the permanence of the results of the project and its sustainability over time.

- Integration in the work team of the contractor and technicians to facilitate the knowledge of the business, thereby gaining efficiency in the quality of deliverables and response times - "scrum team framework"-.

- Consolidation of a project office to coordinate the activities to be developed, delivery deadlines, budget execution, quality, and documentation.

- Analysis of market tools applicable to the project and quality management during the project lifecycle.

During IMOLA IV project diverse roles should be involved:

- Land Registry experts: The Land Registers (CPs) that knows the domain concepts and its relationships in detail in the general view or in the specific view per EU country and language.

- Knowledge Architects: The experts in the semantic model and its implication in the software models to be developed. Also, an expert in the Knowledge Repository for the permanent store and efficient retrieval of the semantic data and its implications.

- Semantic Web experts: The expert in Semantic Web technologies and assessor.

- Project Manager: in charge of leading the project and resources on the right path -scrum master.

- Contractor: This role comprises the developer itself, the designers, testers, training people, and documenting person. These roles are included in one cluster

(Developer), but they have different costs per hour, and it is specified in the financial efforts overview for the project, designed by means of a tender.

The project will assure the following elements:

- Quality Control: checking quality in all the activities of the project, measurables by means of standard technical and semantic indicators, along with the functionality of deliverables.

- Support and Training: from the beginning of the project, aiding the LR Experts creating the needed knowledge to be included in the Knowledge Base and the training sessions.

The scrum framework based on Agile Methodology will enhance the interaction between different actors, supported by professors and external semantic advisers.

A gender-balanced project will be promoted both in the project coordination team and in the participants (CPs).

3. Project management

The management of the project will be done by the consortium entities according to the Governance Plan.

3.1 Management Schema

The management schema will be as follow:

- The **Steering Committee** is made up by the ELRA Board and ELRA Secretariat. It will be chaired by the ELRA President. It oversees the political and strategic control of the project. The Project Manager will attend the Steering Committee meetings to inform about the project advances. (8 persons)

- The **Executive Committee** It will be an advisory body that oversees the semantic and technical control of the project. It is chair by the project manager and made up by WP´s coordinators, a representative of each beneficiary/associated partner, a representative of the contractor, and the ELRA Secretariat. (10 persons)

- The **Project Manager** oversees the overall management of the project, coordinating the activities of different actors involved, ensuring the execution of provisions laid out in the Grant Agreement and Governance Plan.

- **Work Package (WP) coordinators** oversee the execution of the activities needed to get the objectives defined to each of them in the Grant Agreement. Supported by a group of Land Registry experts. They will keep informing the project manager.

- **ELRA Secretariat** <u>oversee administrative management activities</u>, funding execution control, documentation, dissemination, mailing, etc.

3.2   Quality assurance

As explained in the section 2 "Methodology" our monitoring process will be tied to the management methodology selected in IMOLA IV based on the agile method "SCRUM".

The process will be as follows:

- Quality tests made on the WS or by Contractor to verify the functionality of outputs and the integration with different WSs involved.

- A basic report was drawn up by each WS Coordinator and/or Contractor.

- First overview by Project Manager and Technical Director

- Medium report with analysis and conclusions of Executive Committee

- The final decision of Steering Committee

3.3   Evaluation of outreach and coverage

IMOLA project conclusions have a high degree of consensus and progress in mutual understanding so that maybe is not grandiloquent to talk about a principle of European common background for land registration. All Member States, insofar as they wish, may share them, particularly with respect to the structure, organization and distribution of the land registry information and electronic developments of the ELRD according to an XSD/XML scheme which includes validation rules.

I-KOS metadata, aligned with ISA core vocabularies, are accessible as Open Link Data through e-Justice portal. The usability of the interface to browse and retrieval must be designed oriented to users what should be specifically evaluated in collaboration with Commission officers in charge of the LRI project.

3.4   Risk management plan

One of the Consortium functions is the risk management. It should identify the risks, analyze their impact, prioritizing them, assigning responsibilities, developing risk response strategies throughout the project lifecycle.

4.   Subcontracting

According to the Project, the contractor will be assigned by means of a tender. Its relationship will be defined by a contract services award. To get efficient coordination and execution of the objectives and deliverables of the project, the technical director

assigned to the project will also attend the Executive Committee meetings. The Tender will be made for a best value criterium.

Due to the complex objectives of WP 3, a Tender exceeding 30% of the total costs is necessary. IMOLA IV aims to increase web services, implement Artificial Intelligence solutions for Anti Money Laundering, and consolidate IMOLA III's technical deliverables to ensure LRI integration and information harmonization. The project will rely on complex and usable new technologies supported by AI techniques. The technical expected results include:

- Creation of an automatic assisted matching system for interconnecting national databases and ELRD webservices.

- Implementation of the Ref2Link solution to enhance the quality of I-KOS through hyperlinks to European and national rules and case law.

- Improvement of data entry system usability and adaptation to new functionalities.

- Introduction of a statistical tool.

- Publication of restricted I-KOS, enabling various applications such as adaptation of real rights, understanding of Land Registry information, connection to the E-Justice portal, generation of ELRD-adapted land registry information, and restricted access to the Knowledge Manager for national Contact Points.

- Analysis and design of new anti-money laundering technologies, including generating information on potential money laundering cases, designing detection rules, collaborating with anti-money laundering agencies, and enhancing the IMOLA Knowledge Organization System in this field.

- Analysis and design of technical developments for aligning the national semantic model with the European Land Registry Document and implementing a pilot system with beneficiary national land registries.

- Design, development, and publication of the ELRD-specific vocabulary as a Conceptual Model in UML, aligned with the European Interoperability Framework and semantic interoperability principles.

- Redesign of the fact sheet creation system using information from the KM system, ontology, and formants.

These technical developments require a Tender process, building upon previous technical analysis and software developments conducted by technicians and web semantic experts. The subcontracting of these activities, as done in IMOLA III, is anticipated in the WS 3 schema. The role of the Contractor includes developers, designers, testers, training personnel, knowledge engineer experts, semantic experts, and documenters. Their relationships will be defined through a contract services award, and the Contractor will be integrated into the IMOLA team under ELRA's leadership.

The objectives involve several complex developments, including changes to the architecture, analysis and improvement of the KMO multiuser platform, evolution and creation of new web services, interoperability solutions for the ELRD, creation of a Conceptual Model for the SEMIC community, analysis reports, Knowledge Manager Manual and training, and analysis of beneficiary interoperability situations. The large number of activities (8) and deliverables (18), along with the support of the Contractor in WP2 and WP4, exceed 30% of the project budget.

IMOLA IV is a Semantic Web initiative, which pursues to go deeply into the creation of public specifications (data shapes) to exchange any information generated on the LRI field, by applying the principles of the Linked Data initiative and Knowledge Organization Systems (KOS). More specifically, the use of the Resource Description Framework (RDF) and SKOS (Simple Knowledge Organization System), as an input/output interface to share and exchange resources among services and people, is a key aspect onwards the standardization and collaboration of information/knowledge-related systems.

According to the project awarded with the grant the contractor must participate in WP 2, WP3 and WP 4.

The **task list** affecting the contractor is developed in Anex 1.

The **deliverable** list affecting the contractor is developed in Anex 2.

5. Objectives of the different WP

5.1 WP 2. Judicial & Semantics

- To consolidate the objectives reached with IMOLA I/II/III projects and improve the semantic model of the interconnection of the Land Registry, based on the ELRD as a fundamental basis and the I-KOS, with a specific content repository of the LR domain.

- To extend the ELRD ontology. Adaptation and improvement of the ELRD by means of analysis and deepening of the IMOLA semantic corpus to add pivot terms and semantic relations, attributes and improve the contents and quality of the I-KOS harmonizing, even more, the information of the National Members.

- To aid in the application of the Artificial intelligence solutions for the aggregation of other datasets to enrich the I-KOS: ELI, ECLI, TJEU, national legislation, fact sheets, guidelines.

- To accomplish a comparative Law analysis, rules, and methodology implementation.

- To define Anti Money Laundering (AML) rules.

- To train Contact Points through quarterly virtual seminars (eight), videoconferences, breakouts, and evolution for learning of current IMOLA web site.

5.1.1 WP 3. Technology & Services

- To consolidate the objectives reached with IMOLA I/II/III projects and improve the semantic model of the interconnection of the Land Registry, based on the ELRD as a fundamental basis and the I-KOS, with a specific content repository of the LR domain.

- To extend the ELRD ontology. Adaptation and improvement of the ELRD by means of analysis and deepening of the IMOLA semantic corpus to add pivot terms and semantic relations, attributes and improve the contents and quality of the I-KOS harmonizing, even more, the information of the National Members.

- To aid in the application of the Artificial intelligence solutions for the aggregation of other datasets to enrich the I-KOS: ELI, ECLI, TJEU, national legislation, fact sheets, guidelines.

- To accomplish a comparative Law analysis, rules, and methodology implementation.

- To define Anti Money Laundering (AML) rules.

- To train Contact Points through quarterly virtual seminars (eight), videoconferences, breakouts, and evolution for e-learning of current IMOLA web site.

5.1.2 WP 4. Conferences & Dissemination

- To collect feedback from different stakeholders

- To disclose the objectives pursued with the approach and the results expected and their impact on citizens.

- To disseminate adequately the project.

6. Payment

Deadline date for each deliverable, (including evolutive versions), is detailed in the payment schema.

7. Facilities to be provided by ELRA.

- Controlled vocabularies.

- Support of LR experts (ELRN).

- The venue for training sessions or technological tool for videoconferences.

- ELRD v3.1 Schema attached as Annex I to this tender.

8. Project management

ELRA is the Coordinator of IMOLA IV project according to the Grant Agreement and the Consortium Agreement.

A copy of the internal organization and decision-making process of the Government Plan will be provided to the contractor once approved.

9. Contact

ELRA Secretariat: secretariat@elra.eu

Pedro Pernas, Imola Project Manager: imolaproject@elra.eu

10. Location

The project will be managed and coordinated by ELRA, whose domicile is held at Brussels, and conducted in English.

Venues to hold face-to face training sessions -anywhere in EU- will be decided by ELRA Board and communicated to the contractor at least three months in advance. According to the circumstances some of them could be replaced by videoconferences and customized training sessions for different groups of CPs and other scholars.

11. Starting & Timing

The aim of the tender is the conclusion of a service contract for the technical realization of the IMOLA IV project. The contract will be concluded for a period of twenty one months and 24 days, from 8th October 2024 to 1st August 2026.

Deadline to hand over the deliverables, (include evolutive versions when appropriate), is detailed on itemized table related to them in paragraph 6.7

12. Requirements

In order to enable an effective evaluation of the submitted offers, the following requirements will be applicable:

- The offer should be presented in the period from 16th August 2024 until 13th September 2024. A prior announcement will be made at ELRA website on 5th August 2024.

- The offer will specify which means are used, (architecture, software, number of technical experts, possible risk repositories etc.), to accomplish semantic and technical conditions, aligned with the content of paragraphs related to methodology, activities to be deployed and deliverables to be produced, (2.3.1 and 2.3.2).

- The offer indicates whether the mentioned prices will be recurring or non-recurring. All mentioned prices include VAT and are indicated in Euros.

- The offer consists of a cover letter including the name of the applicant legal entity, digitally signed by a legally empowered representative of the legal entity.

- It will be accompanied by a digital copy of the offer, with the maximum length determined for each of the blocks, annexes, references and CVs. The offer and annexes must also be digitally signed by the applicant's legal representative.

- The complete offer must be submitted by e-mail to ELRA Secretariat in PDF format no later than 17.00 (CET) hours of the deadline.

- The applicant will provide the necessary references and CV's to deliver proof of its technical experience and skills and give a summary of the staff and resources he will provide, necessary to hand over the required deliveries, within time limit, with a professional degree of quality.

- The applicant will provide specific references to deliver proof of its financial solvency to accomplish this project.

- Previous experience in a legal domain and specifically in IMOLA Land Registry specific context domain will be taken into consideration.

ELRA will communicate with the contact person assigned by the applying company. Please indicate in your offer the contact person's:

- First and last name

- Address.

- Responsible position.

- Phone number.

- E-mail.

For urgent matters, in which the selected contact person cannot be reached, please indicate a second contact person together with their personal information as enumerated above.

13. Reservation and General Provisions.

By submitting the application, the applicant accepts the following provisions:

- The applicant accepts the content of the tender.

- Terms and conditions included by the applicant will not be taken into consideration and be regarded as non-existent.

- If the applicant bases his application on assumptions, which later appear to be incorrect, he and he alone will be entirely responsible for the consequences.

- The responsibility for submitting the application in time and in accordance with the requirements outlined in this tender, rests with the applicant.

- The application will contain a fixed price and a fixed processing time.

- Only one application per applicant will be accepted.

- If, on the basis of the submitted applications, ELRA concludes that more in-depth information is necessary, they may ask applicants additional questions. These questions will be sent to all parties who submitted an application.

- If the applicant is of the opinion that the tender or the relevant documents contain contradictions, mistakes, or uncertainties, or if the applicants have other objections, the applicants have to consult ELRA's contact person as soon as possible, anyway before the indicated deadline for submitting the questions has passed. After this point in time, the applicant cannot appeal against contradictions, mistakes, uncertainties, or bring forward objections anymore.

- All outcomes, deliverables and products including program source code and libraries that result from this tender will be exclusively owned by ELRA.

- Applicants are not entitled to compensation of any costs made for the preparing the application itself.

- ELRA will treat the information contained in the offer confidentially, except if a legal obligation or a judicial decision otherwise requires.

- The contractor will have to work side by side with Project Manager and WPs Coordinators and other actors involved in the project. Particularly must be highlighted the importance of the role to be deployed on training activities to Land Registers Experts.

- In case of late completion contract, penalties may be imposed and/or price may be reduced according to paragraph 8.

- Subcontracting is carried out solely under ELRA liability as referred on Grant Agreement, who is specially authorized to this effect by the Consortium beneficiaries. Therefore, the Commission won´t be party of contract derived of this tender, what is especially accepted by applicant.

14. Questions

ELRA invites applicants to submit questions in case of uncertainty. Questions should indicate the name of this tender and shall be submitted via e-mail to ELRA's contact person before **23rd August 2024**

Questions will be answered anonymously and only be published on the ELRA website. These questions and answers will be treated as being part of the tender.

15. Staff and key experts

Key experts have a crucial role in implementing the contract. These terms of reference contain the required key experts' profiles. The tender shall submit as Annexes CVs and Statements of Availability at least for the following key experts:

- Contractor Technical Director

- Analyst

- Designer

- Semantic web experts

- Graphic Designer

- Programmer

- Tester

16. Price

The maximum budget 553.696 €, (five hundred fifty-three thousand six hundred ninety-six). This budget includes VAT.

The bid must include not only the global amount offered, but also the unitary prices, properly detailed and justified, which have been used to get the final bidding price.

The contractor may be requested, when necessary, to attend some of the Work Package sessions regarding technical issues, for which travel expenses will not be paid separately.

Contractor Technical Director will work side by side with the Project Manager and other actors involved in the project and must attend the Executive Committee meetings providing assistance and support for making decisions, for which travel expenses, if necessary, will be charging on the project, (scrum team)

17. Contractual framework, payment schema and invoicing

17.1 Contractual framework

According to the Grant Agreement and Consortium Agreement, ELRA is authorized by all beneficiaries on IMOLA IV project to open a single services contract for tender, to pull of all the activities and deliverables made up of in the Grant Agreement for subcontracting, provided that the action to be implemented has to be considered as a whole, not been possible to execute separately the different activities and developments scheduled in the project.

17.2 Payment schema

Payment will be split in nine installments such as detailed in the following schema, which includes the deadline date for each of them and deliverables or previous evolutive versions, linked to each of them:

Total Tender = **553.696 €** (project *developments*)

Payment	Amount	Date	Deliverables
1	79,000.00	08/01/2025	D3.1, D3.5 (advances)
2	79,000.00	08/04/2025	D3.2 (advances), D3.7 (advances)
3	79,000.00	08/07/2025	D3.4 (advances), D3.5 (advances)
4	79,000.00	08/10/2025	D3.5 (advances), D3.6 (advances)
5	79,000.00	08/01/2026	D3.3, D3.4 (advances), D3.6 (advances)
6	79,000.00	08/04/2026	D3.4, D3.6

7	79,696.00	15/07/2026	D2.1, D2.2, D2.3, D2.4, D2.5, D3.2, D3.5, D3.7, D3.8, D3.9, D4.1, D4.2.
Total Payments	**553.696 €**		

Deliverables linked to any of partial payments are considered an incremental output. So that they are referred to evolutive versions gradually released of each of them until final version, according to GA provisions.

All payments will be formalized according to this schema whenever the contractor has fulfilled its contractual obligations accomplishing the activities and delivering the outputs according to the tables includes in Annex 2 " Deliverables List" and at any case the deliverables have to be released two weeks before the deadline in order to manage the payment in time according to the invoicing procedure, with the exception of first delivery.

The contractor will guaranty the functionality of all deliverables during the period the contract is pending and after completion, for a period of one year starting with the date of delivery of the result of the contract.

17.3 Invoicing

The different invoices will be addressed to ELRA, as subcontracting authority and Coordinator of the project to their payment. These payments will be made within two weeks after the reception of the invoices and once it has been verified that the activities and his corresponding deliverables have been successfully completed.

ELRA Secretariat will proceed to a formal validation of invoices according to the EC financial rules (description of the activity, amount, dates, etc.), previously to make the transfer to contractor within two weeks period.

When ELRA Secretariat appreciates some invoicing error or other kind of problem that may prevent the payment, shall communicate it immediately to contractor to be solved as soon as possible.

18. Evaluation procedure

As general term, the subcontract will be awarded to the contractor who submitted the most advantageous economic offer, which does not automatically entail the lowest price, because the principle of best value for money must be assured. Consequently, in the evaluation, in order to award the fairest offer, will be also taken into account some additional criteria, such as it is detailed hereafter.

So that, the bid must include not only the global amount offered, but also the unitary prices, properly detailed and justified, which has been used to get the final bidding price.

The applicants will be evaluated in relation to each other. The applicant who convinces ELRA that he/she is the most suitable party to carry out the task will be rated as the best. When it is detected that a candidate makes different proposals to this tender, with the same or different collaborators, the candidate will be automatically discarded from the selection process.

The selection will take place based on the set of evaluation criteria outlined in this tender.

Documents and references must be written in the English language.

18.1 Calendar

05/08/2024	Prior Announcement at ELRA web site
12/08/2024	Tender invitation
16/08/2024 – 23/08/2024	Possibility to ask for clarifications
16/08/2024 – 13/09/2024	Submission of offers
13/09/2024 – 27/09/2024	Selection of best offer
30/09/2024 – 07/10/2024	Contracting phase & signing of contract
08/10/2024	Start of technical activities
01/08/2026	End of technical activities

18.2 Evaluation criteria

The evaluation criteria and weight coefficient of each block are laid down on the following table:

BLOCK	
Price	30%
Activities: Methodology and design of activities aligned with the tasks determined in the annex 1.	30%
Deliverables: Methodology, activities and technical developments of software needed to accomplish the deliverables listed in the annex 2.	20%
Professional Qualification of Applicant, experience in related projects and demonstration of affinity with legal domains and specially regarding IMOLA Land Registry Specific Context Domain.	20%

The applicant can receive a maximum of 400 points, (100 points for each Block of categories), such as it is characterized on each one of following tables. **The conclusion of the service contract is dependent on a minimum score of 350 points.**

18.2.1   Block 1: Price

The bid must include not only the global amount offered, but also the unitary prices, properly detailed and justified (even licensed software if necessary and travel expenses to face-to-face training sessions and consultancy reports), which has been used to get the final bidding price, to assure the coherence and feasibility of bid.

The applicants will be evaluated in relation to each other according to the following criteria:

Block 1: Price (Maximum extension 2 pages A-4).	
Best bidder	60 points
Second bidder	40 points
Third bidder	30 points
Fourth bidder	20 points
Other bidders	15 points
Expense items specification and justifying	20 points
Proof of coherence and feasibility of the bid	20 points

18.2.2   Block 2 Activities: Methodology and design of activities

The applicant must describe his/her methodology along with the detailed design of activities envisaged in this tender, to produce the outputs contemplated on the project, specifically referred to the extension, consolidation, and management of ELRD ontology and IMOLA I.KOS, provided that IMOLA IV is a follow up project that aimed to consolidate and extend the previous results obtained in IMOLA I/II/III.

Methodology Guidelines:

- The methodology and description of activities shall be set down aligned with sorting included in the tables about the activities and deliverables detailed on annex 1 and 2 to guarantee the transparency and competitiveness of bids.

- An analysis and project planning with an indication of the relevant milestones and the activities to be accomplished.

- Explanation of how the described general and technical requirements will be fulfilled.

- Demonstration that the requested results can be achieved within the given timeframe.

- An insight into the offered semantic solution to consolidate and extend the ELRD ontology, with new pivots, relationships, concepts and attributes of them.

- Usability of multi-user platform.

- An insight into the offered technical solutions, including artificial intelligence algorithms proposed and developments.

- When necessary, the replacement of the current used licensed software should be proved, detailing the process for a smooth and secure migration of data. If the case this necessity should be based on a benchmark including at list five other products, with special justification in the case that an open source one was not fit in best.

- Description of the efforts required by land registers experts -contact points of ELRN.

- Further relevant topics as deemed necessary by applicant.

The applicants will be evaluated in relation to each other according to the following criteria. The score detailed for each concept must be considered up to a maximum.

Block 2: Activities

Methodology and design of activities

(Maximum extension 5 pages A-4)

Description of methodology proposed, and activities aligned with the tasks for the effective implementation of ELRD at national level. Extension, consolidation, and management of ELRD ontology and IMOLA I.KOS.

This scope refers to all the activities itemized in the number 1 to 18 of the annex 1 which must be described separately, with indication regarding quality check methodology and measures envisaged.

The maximum score for each of the deliverables is shown on annex 1. The maximum score for block 2 should be 100 points. The following elements will be considered:

1. Usability and web platform

2. Adaptation of the ELRD at Member States level

3. ELRD functional technology

4. ELRD technological enrichment

5. Content of juridical ecosystem evolution on the I-KOS

6. IMOLA web-based multiuser manager of the content and I-KOS

7. Web services for interconnection

8. E-learning platform, technical and didactical support for virtual training and seminars. Material proposed and FAQ.

9. IMOLA web for public access in a SMART way

10. Consultancy and Analysis customized to beneficiaries.

The maximum score for each of the task is shown below. The maximum score for block 2 should be 100 points.

Number	WP	Name	Max Score
1	WP2	T2.1 Adaptation and improvement of the ELRD	5
2	WP2	T2.2 Forms and discussions	5
3	WP2	T2.3 Formants and attributes expert advice	10
4	WP2	T2.4 Semantic Corpus improvement	10
5	WP2	T2.5 Aggregation of new set of data	5
6	WP2	T2.6 Improvements and evolution of the e-learning platform	5
7	WP2	T2.7 Training	5
8	WP3	T3.1 Analysis of the evolution of the web platform	5
9	WP3	T3.2 ELRD and IMOLA technological enrichment	10
10	WP3	T3.3 UML Conceptual Model	5
11	WP3	T3.4 Evolution of the juridical ecosystem on the I-KOS	5

12	WP3	T3.5 Evolution and creation of new Webservices	5
13	WP3	T3.6 e-learning platform, technical and didactical support for virtual training and seminars	5
14	WP3	T3.7 IMOLA public website for the IKOS evolution	5
15	WP3	T3.8 Beneficiaries / partners Consultancy Analysis of a pilot system for interoperability of the MS	10
16	WP4	T4.1 Kick-off conference	5
17	WP4	T4.2 Closing conference	5
18	WP4	T4.4 E-Book	5

18.2.3 Block 3 Deliverables: Technical developments of the needed software

Block 3: Deliverables

Technical development of the needed software

(Maximum extension 5 pages A-4)

This block is aimed to know the proposed methodology, activities to accomplish the technical developments of software needed to the analysis, design, and implementation of the deliverables 1 to 13 listed in the table on annex 2.

This scope is referred to all deliverables which must be described separately, with indication regarding quality check and validation measures envisaged to test the software and systems developed in this block.

The maximum score for each of the deliverables is shown below. The maximum score for block 3 should be 100 points.

Number	WP	Name	Max Score
1	WP2	D2.1 ELRD Schema	5
2	WP2	D2.2 Semantic Corpus	10
3	WP2	D2.3 Seminars	5

4	WP2	D2.4 Breakouts	5
5	WP3	D3.1 Technical Report on changes needed	5
6	WP3	D3.2 IMOLA KMO multiuser platform	10
7	WP3	D3.3 IMOLA Webservices evolution and creation of new webservices	10
8	WP3	D3.4 Evolution of the ELRD	10
9	WP3	D3.5 Conceptual Model for the SEMIC community	10
10	WP3	D3.6 Analysis report of webservices and websites developed	5
11	WP3	D3.7 Knowledge Manager Manual	5
12	WP3	D3.8 – Analysis and consultancy template	5
13	WP3	D3.9 – Analysis on specific countries	10
14	WP4	D4.1 – E-Book	5
15	WP4	D4.3 – Kick Off Conference	5
16	WP4	D4.4 – Closing Conference	5

18.2.4 Professional qualification of the applicant, experience in related projects and demonstration of affinity with legal domains and specially regarding IMOLA Land Registry context specific Domain.

The applicants should explain why they are qualified to carry out the task outlined in this tender. This includes a description of the applicant's qualifications that are deemed necessary to successfully complete the activities and deliverables outlined in this tender.

The applicant must demonstrate his/her **affinity with semantic web architecture** and technologies. Hereby, the applicant describes and explains his knowledge and experience in this field. This includes for example a description of the relevant project(s) that the applicant has been involved in and the technical model(s) that the applicant has developed in the past.

In addition, the applicant guarantees that he/she as well as the legal person that he/she represents, is **not subject to an insolvency proceeding** and that they will not be subject to such a proceeding in the foreseeable future. Further, the applicant includes a copy of his CV.

The applicant shall attach a minimum of **three relevant European projects** related to the tasks of this tender as references, which are able to give evidence of the applicant's qualifications and working method.

Additionally, the **skill of applicant to explain semantic and technical issues to non-technicians** will be valued, as well as the ability of creating a collaborative environment that enhances the efficiency of training and the input system. As it is an innovative project, academic experience, and competence to provided and certified this technical and semantic knowledge to LR experts will also be a criterion of assessment. Additionally, diversity, equity and inclusion values in the proposal will be valued according to the European Union founding values, as expressed in Article 2 of the Treaty on European Union.

The applicant should demonstrate his/her **affinity with legal domains**, concerning semantic web architecture and technologies. Hereby, the applicant describes and explains his knowledge and experience in this field. This includes for example a description of the relevant project(s) that the applicant has been involved in and the technical model(s) that the applicant has developed in the past. The applicant shall attach a minimum of one relevant project related to the legal domain, as reference, which will give evidence of the applicant's qualifications and working method in related domains.

The applicants will be evaluated in relation to each other according to the following criteria.

The score detailed for each concept must be considered up to a maximum.

Block 4: Professional Qualification of the Applicant	
Professional qualification of the applicant, experience in related projects and demonstration of affinity with legal domains and specially regarding IMOLA Land Registry Specific Context Domain. (Maximum extension 5 pages A-4)	
Professional qualification of applicant and affinity with semantic web technologies and architecture	
Description of the applicant's qualifications and CVs	20 points
Certified training and innovation experience	20 points
Experience in related projects. Degree of importance and similarity and quantity will be considered. Additional projects will be evaluated in case of draw on this partial score.	
Minimum of two relevant European projects related to the task of this tender	20 points

Demonstration of affinity with legal domains and specially regarding IMOLA Land Registry Specific context Domain.	
Knowledge about the use of pivot terms, their relationships with national concept according to SKOS semantic language and the management and assignation of attributes using "formants" methodology, within the European Interoperability Framework.	
Knowledge and experience in this field	40 points

18.3 Award of contractor

The members of the Steering Committee will be involved in the analysis, evaluation of bids and selection of contractor. To support and facilitate this activity, the Executive Committee will make up a report regarding the bids submitted two weeks after the deadline to apply.

Based on this analysis and evaluation process a ranking will be set up. This ranking will not be published; applicants who were not awarded the contract will be informed of the shortcomings about the assigned Contractor.

The applicants will be evaluated in relation to each other. The applicant who convinces ELRA that he/she is the most suitable party to carry out the task will be rated as the best.

The Board of ELRA will carry full responsibility for the determination of the winning party.

19. Clauses with respect to not fulfilling or late completion of contract

Either party commits a breach of contract where it fails to fulfil its obligations in accordance with the provisions of the contract. Where a breach of contract occurs, the party injured by the breach is entitled to the following remedies: damages; and/or termination of the contract. The damages may be either general damages or liquidated damages.

Should the Contractor fail to perform any of its obligations in accordance with the provisions of the contract, the Contracting Authority is without prejudice to its right to claim for damages, also entitled to the following remedies: suspension of payments, and/or reduction or recovery of payments in proportion to the failure's extent.

The Contracting Authority is entitled to deduct such damages from any sums due to the Contractor or call on the appropriate guarantee.

The Contracting Authority shall be entitled to compensation for any damage which comes to light after the contract is completed in accordance with the law governing the contract.

The Contracting Authority is entitled to impose financial penalties. It may deduct such financial penalties from any sums due to the Contractor or call on the appropriate guarantee. These financial penalties may represent a 3% by each month of delay, up to 10% of the total value of the contract, without prejudice the possibility of termination of contract.

20. Termination by the contracting authority

The Contracting Authority may, by giving seven days' notice to the Contractor, terminate the contract in any of the following cases:

(a) the Contractor is in serious breach of contract for failure to perform its contractual obligations.

(b) the Contractor fails to comply within a reasonable time with the notice given by the Project Manager requiring it to make good the neglect or failure to perform its obligations under the contract which seriously affects the proper and timely performance of the services.

(c) the Contractor refuses or neglects to carry out any administrative orders given by the Project Manager.

(d) the Contractor assigns the contract or subcontracts without the authorization of the Contracting Authority.

(e) the Contractor is bankrupt, subject to insolvency or winding up procedures, is having its assets administered by a liquidator or by the courts, has entered an arrangement with creditors, has suspended business activities, or is in any analogous situation arising from a similar procedure provided for under any national law or regulations relevant to that Contractor.

(f) any organizational modification occurs involving a change in the legal personality, nature or control of the Contractor, unless such modification is recorded in an addendum to the contract.

(g) any other legal disability hindering performance of the contract occurs.

(h) the Contractor fails to provide the required guarantees or insurance, or the person providing the earlier guarantee or insurance is not able to abide by its commitments.

(i) the Contractor has been guilty of grave professional misconduct proven by any means which the Contracting Authority can justify.

(j) it has been established by a final judgment or a final administrative decision or by proof in possession of the Contracting Authority that the Contractor has been guilty of

fraud, corruption, involvement in a criminal organization, money laundering or terrorist financing, terrorist related offences, child labor or other forms of trafficking in human beings or has committed an irregularity.

(k) the Contractor, in the performance of another contract financed by the EU budget/EDF funds, has been declared to be in serious breach of contract, which has led to its early termination or the application of liquidated damages or other contractual penalties or which has been discovered following checks, audits or investigations by the European Commission, the Contracting Authority, OLAF or the Court of Auditors.

(l) after the award of the contract, the award procedure or the performance of the contract proves to have been subject to substantial errors, irregularities, or fraud.

(m) the award procedure or the performance of another contract financed by the EU budget/EDF funds proves to have been subject to substantial errors, irregularities or fraud which are likely to affect the performance of the present contract.

(n) the Contractor fails to perform its obligation in accordance with conduct code or conflict of interest

(o) the Contractor is unable to provide a suitable replacement to an expert, the absence of which affects the proper performance of the contract.

The cases of termination under points (e), (i), (j), (l), (m) and (n) may refer also to persons who are members of the administrative, management or supervisory body of the Contractor and/or to persons having powers of representation, decision, or control with regard to the Contractor.

The cases of termination under points (a), (e), (f), (g), (i), (j), (k), (l), (m) and (n) may refer also to persons jointly and severally liable for the performance of the contract.

21. Settlement of disputes

The parties shall make every effort to settle amicably any dispute relating to the contract which may arise between them.

Once a dispute has arisen, a party shall notify the other party of the dispute, stating its position on the dispute and any solution which it envisages, and requesting an amicable settlement. The other party shall respond to this request for amicable settlement within 30 days, stating its position on the dispute. Unless the parties agree otherwise, the maximum period laid down for reaching an amicable settlement shall be 120 days from the date of the notification requesting such a procedure. Should a party not agree to the other party's request for amicable settlement, should a party not respond in time to that request, or should no amicable settlement be reached within the maximum time period, the amicable settlement procedure is considered to have failed.

In the absence of an amicable settlement, a party may notify the other party requesting a settlement through conciliation by a third person. If the European Commission is not a party to the contract, it may accept to intervene as conciliator. The other party shall respond to the request for conciliation within 30 days. Unless the parties agree otherwise, the maximum period laid down for reaching a settlement through conciliation shall be 120 days from the notification requesting such a procedure. Should a party not agree to the other party's request for conciliation, should a party not respond in time to that request, or should no settlement be reached within the maximum time period, the conciliation procedure is considered to have failed.

If the amicable settlement procedure and, if so requested, the conciliation procedure fails, each party may refer the dispute to either the decision of the national jurisdiction or arbitration according to it this contract is governed.

22. Applicable law

This contract shall be governed by the Belgium law given that it is the country of the Contracting Authority.

23. Data protection

Any personal data included in the contract shall be processed pursuant to Regulation (EC) No 45/2001 on the protection of individuals regarding the processing of personal data by the Community institutions and bodies and on the free movement of such data. The data shall be processed solely for the purposes of the performance, management, and monitoring of the contract by the Contracting Authority without prejudice to possible transmission to the bodies charged with monitoring or inspection in application of EU law. The Contractor shall have the right to access his/her personal data and to rectify any such data. Should the Contractor have any queries concerning the processing of his/her personal data, s/he shall address them to the Contracting Authority. The Contractor shall have right of recourse at any time to the European Data Protection Supervisor.

Where the contract requires processing personal data, the Contractor may act only under the supervision of the data controller, in particular with regard to the purposes of processing, the categories of data which may be processed, the recipients of the data, and the means by which the data subject may exercise his/her rights.

The data shall be confidential within the meaning of Regulation (EU) 2016/679 General Data Protection Regulation of the European Parliament and of the Council on the protection of individuals regarding the processing of personal data by Community institutions and bodies and on the free movement of such data. The Contractor shall limit access to the data to staff strictly needed to perform, manage, and monitor the contract.

The Contractor undertakes to adopt technical and organizational security measures to address the risks inherent in processing and in the nature of the personal data concerned to:

a) prevent any unauthorized person from having access to computer systems processing personal data, and especially:

    a. unauthorized reading, copying, alteration or removal of storage media.

    b. unauthorized data input, unauthorized disclosure, alteration, or erasure of stored personal data.

    c. unauthorized persons from using data-processing systems by means of data transmission facilities.

b) ensure that authorized users of a data-processing system can access only the personal data to which their access right refers.

c) record which personal data have been communicated, when and to whom.

d) ensure that personal data processed on behalf of third parties can be processed only in the manner prescribed by the contracting institution or body.

e) ensure that, during communication of personal data and transport of storage media, the data cannot be read, copied or erased without authorization.

f) design its organizational structure in such a way that it meets data protection requirements.

Annex 1. Task list.

Task name	WP	Description
T2.1 Adaptation and improvement of the ELRD	2	Analysis to adapt the ELRD schema and requirements given by the new parties to be involved and to align it with ISA core vocabularies for reuse.
T2.2 Forms and discussions	2	Launch forms and discussion forums among the ELRN CPs to create an agreement on a set of juridical information to be used as the basis for the new ELRD.
T2.3 Formants and attributes expert advice	2	Deepening the use of the formant's methodology for the assignment of attributes to national concepts. This will serve to make a comparative study of the diverse juridical systems of the ELRN CPs according to SKOS language using Artificial Intelligence (AI) techniques.
T2.4 Semantic Corpus improvement	2	Analysis and study to enrich the ELRD ontology with new semantic relationships as well as its conceptualization and formalization.
T2.5 Aggregation of new set of data	2	Analysis of AI solutions as well as their conceptualization and formalization. Analysis for the conceptualization and formalization of associable information: ELRA Fact sheets, repository clauses, guides, and guidelines. Analysis of AI solutions for the aggregation of data sets related to the content specific domain.
T2.6 Improvements and evolution of the e-learning platform	2	Analysis of the objectives and content requirements of the training sessions and platform of the ELRN to evolve it into an e-learning system.
T2.7 Training	2	Quarterly virtual seminars, videoconferences, breakouts, judicial material, and presentations.

T3.1 Analysis of the evolution of the web platform	3	Analysis of the management tool, to guarantee its continual suitability to the project, and to improve its usability and multi-user management for the networks of the registries systems: • Allowing indexing and retrieval of the information. • Analysis of the usability issues reported by the CP to be used in the interfaces and adaptable to the judicial domain. • Integrate new semantic information: dictionaries, hyperlinks as Ref2Link. • Review of the functional and technical platform to facilitate its permanent maintenance adapted to the operation of ELRA and Contact Points, as well as security measures and accessibility through accommodation in CPDs under the management of ELRA. Design of the maintenance plan, accommodation and security of the platform and tools after the first year of project start-up
T3.2 ELRD and IMOLA technological enrichment	3	Generation of an enriched ELRD using XML/XSD technological languages to be send to the requester through e-justice, to facilitate the extraction of information at the national level: • Improvement of national databases needs. • Improvement of data quality process. • ELRD structure review based on new requirements and juridical concepts. • Semantic Corpus: evolve and improve the list of terms, relationships, and attributes. • Redesign and development of the set of formants used to join the judicial concepts among the Member States. • Ref2Link implementation. • Comparative Law new developments of comparison report. • AML new developments. • Re-design and implementation of the management tool. • Technical analysis of the platform to facilitate the operation of ELRA and MS with the IMOLA platform to be installed and set into operations at the end of the project. • Support available during the project. • Technical Documentation. • Integration tests with LRI and I-KOS web services.

T3.3 UML Conceptual Model	4	UML Base Registries in the EU Commission (publication of the ELRD context-specific vocabulary). And use of the European GitHub. ELRD Vocabulary to be reused and used for interoperability. Create a new schema XSD/XML for the ELRD using the new web-based platform at the end of the project.
T3.4 Evolution of the juridical ecosystem on the I-KOS	4	Integration and evolution of the content of the juridical ecosystem and the Content Specific Land Registry Vocabulary: Integrate IMOLA Knowledge Organization System (I-KOS) by natural language processing, indexing, conceptualization, and formalization techniques: Fact Sheets, guidelines. Interoperability solution for joining concepts related to the Court of Justice of the EU (CJEU), the European Case Law Identifier (ECLI), and the European Legislation Identifier (ELI). Integrate doctrine and other resources to facilitate cross border transactions by new enhanced viewpoints. Integrate artificial intelligence solution for automatic translation features. Facilitate the knowledge of the judicial ecosystems at each MS by indexing its legislation and available national descriptions links integrating ref2link with assistance of the Legal Services. Review and establish links to the national repositories and thesauri. Integrate more resources like ISA Core Vocabularies, INSPIRE, FAO, etc. and its evolution according to SEMIC.

T3.5 Evolution and creation of new Webservices		Design and implementation of the interconnection web services for the Member States and the ELRD enriched document generation: Redesign and implementation of the web service for the reception of information requests coming from e-justice. Redesign and implementation of the enrichment of this information with the I-KOS metadata. Redesign and implementation of the ELRD manager/flexibilization broker at national level. Improvement of the web service generated during IMOLA III (WS2). Application to facilitate the use of the national databases and the ELRD (national match (facilitate it) with the pivot). Automate the process to map with the ELRD and with the Webservice. Redesign the shared and flexible broker that will disseminate an effective implementation of the ELRD at Member States level. Adaptive manager for customizing the ELRD parts to be used for each MS redesign and integration in the web platform. Creation of four new webservices in the Architecture and redesign and new developments of the other five available web services and websites.
T3.6 e-learning platform, technical and didactical support for virtual training and seminars	3	Analysis, design, and implementation of the e-learning IMOLA web platform. Design and implementation of the training and dissemination website. Planning and performance of the training. Training technical and semantic material preparation for all the seminars, including guides, guidelines, conferences, and virtual sessions. Permanent contact and support to the Contact Points and the IMOLA team. Diploma at the end of the project according to participation.

T3.7 IMOLA public website for the IKOS evolution	4	Redesign and implementation of the Website to review the public information of the ELRD. Analysis of the improvements and needs of the current website available to be aligned to the policies of the EU Commission. Redesign and alignment of usability of the I-KOS dissemination public Website as reported by stakeholders.
T3.8 Beneficiaries / partners Consultancy Analysis of a pilot system for interoperability of the MS	4	Analysis and consultancy to the partners to facilitate the national data extraction for assembling the ELRD document, in the mode of a pilot for each beneficiary. Analysis to be performed during one week at each partner including the necessary support A report on the use of IMOLA web services will be provided. A specific report of the analysis performed on each of the beneficiaries of the project.
T4.1 Kick-off conference	4	Kick off Conference – November, 5th. Around 70 persons (1-day duration): hiring location, selecting speakers, facilitating hotel accommodation and travel of participants. Venue: Brussels.
T4.2 Closing conference	4	Closing Conference – around May- June 2026. For around 70 persons (1-day duration): hiring location, selecting speakers, facilitating hotel accommodation and travel of participants. Venue: Brussels.
T4.4 E-Book	4	Creation of a collaborative book to disseminate the results of the project.

Annex 2. Deliverables list

Deliverable name	WP	Description	Type	Format	Dissemination level	Due date
D2.1 – ELRD Schema	2	Report of the ELRD Schema (PDF/EN) of approximately 50 pages. This report will explain the improvements made during the project facing the European Interoperability Framework and a synopsis of the Core Vocabulary employed, the changes required for this new project and the addition of the new vocabularies.	Other	PDF/EN	PU - Public	24
D2-2 – Semantic Corpus	2	Report (PDF/EN) of approximately 250 pages that establish the elements that permit a comparative study of the diverse juridical systems of the ELRN. To achieve this, a deepening of the formant's methodology for the assignment of attributes to national concepts will be used. Artificial Intelligence (AI) techniques will be used to achieve the comparative law study using ELRA Fact sheets, repository clauses, guides, and guidelines.	R — Document, report	PDF/EN	PU - Public	
D2.3. – Seminars	2	Report (PDF/EN) with the agenda, attendance sheets/extracts, documentation related to the topic, seminar presentations of 8 online seminars of around two hours each for around 45 persons to be made. The participants will be ELRN Contact Points, judicial authorities, EC officers, legal practitioners and academics experts. The objective will be the development of the project though technical training in the platform and the exposure of the modifications in European law affecting the Land Registry Interconnection System.	R — Document, report	PDF/EN	SEN - Sensitive	24

D2.4. – Breakouts	2	Report (PDF/EN) with the agenda, attendance sheets/extracts, material of the expected 68 breakout sessions to beld in an online platform. These breakouts of 0,5 hours (2 sessions/ year = 4 sessions x 17 associations x 0,5 hours = 34h) will permit solving the specific questions each association have with the platform and the project. Depending on the requirements of the associations more breakouts will be scheduled.	R — Document, report	PDF/ EN	SEN - Sensitive	
D3.1 – Technical Report on changes needed	3	Technical Report (PDF/EN) of the necessary changes for the evolution the project. It will address the evolution of the KM platform and the improvement of the structure/architecture using the feedback of the Project Manager and Contact Point.	R — Document, report	PDF/ EN	SEN - Sensitive	6
D3.2 – IMOLA KMO multiuser platform	3	Multi-user Website to maintain the I-KOS (HTML/EN). It will be a new generation of the input platform (KMO) to be used by the Contact Points, following the new improvements given by the Project Manager, and usability advancement reported by the Contact Points, Project Manager and the IMOLA Staff. The system shall consider the Corpus Semantic, the new formants and the adaptation of the Ref2link.	DEM — Demonstrator, pilot, prototype	HTM L/EN	SEN - Sensitive	22

D3.3 – IMOLA Webservices evolution and creation of new webservices	3	New services to be used by the national land registries organizations. The Project will create new webservices in the platform (Knowledge Manager). The main improvements will be: • New web services to interoperate and generate the enriched ELRD documents in PDF. • New website to manage the ELRD structure at each Member States (EN). • New PDF template for the ELRD document. - New web service to facilitate Member States with less technical the option capabilities the possibility to send the data of the ELRD document. • New web service for automatic reception of information requests coming from e-justice. • Improvement of the web service generated during IMOLA III (Webservice 2). • Redesign and implementation of the flexible broker implemented during the IMOLA III project. • Redesign and implementation of the adaptive manager for customizing the ELRD parts for each Member States.	DEM — Demonstrator, pilot, prototype		SEN - Sensitive	19
D3.4 – Evolution of the ELRD	3	XSD Schema (XML/EN). Technological evolution of the XSD schema related to the ELRD document.	DATA — data sets, microdata, etc	XML/ EN	PU - Public	19

D3.5 – Conceptual Model for the SEMIC community	3	UML (Unified Modelling Language) conceptual model (UML / EN). It will comprehend the design and creation of an UML Class Diagram of the ELRD document following the EU Commission guidelines.	DATA — data sets, microdata, etc	UML/ EN	PU - Public	21
D3.6 – Analysis report of webservices and websites developed	3	Report on the technological changes in IMOLA Project architecture and webservices report (PDF/EN). This report will explain the modifications introduced in the Knowledge Manager according to the deliverable D.3.3.	R — Document, report	PDF/ EN	SEN - Sensitive	24
D3.7 – Knowledge Manager Manual	3	Knowledge Manager manual for the new web-based platform (PDF/EN). The input system user guide for the final version of the KMO.	R — Document, report	PDF/ EN	SEN - Sensitive	24
D3.8 – Analysis and consultancy template	3	This report (PDF/EN) will stablish a template for the analysis of the situation of the countries regarding the adaptation of their technical systems common schema for European land registry information (European Land Registry Document).	R — Document, report	PDF/ EN	SEN - Sensitive	24

D3.9 – Analysis on specific countries	3	Three national reports (PDF/EN) using the "Analyssis and consultancy template" D3.8. This report will permit the identification of the specific changes that must be made in the analysed countries for the implementation of the European Land Registry Document. The national organizations participating in the Project (Colegio De Registradores de la Propiedad y Mercantiles de Espana -Spain-; Instituto dos Registos e do Notariado -Portugal-; and the Agentia Nationala de Cadastru si Publicitate Imobiliara -Romania) will collaborate to make their national report. The specific countries can be replaced by other European countries with justification.	R — Document, report	PDF/EN	SEN - Sensitive	24
D4.1 – E-Book	4	Electronic Book (PDF/EN) of approximately 100 pages. This book for the dissemination of the project will contain the ELRN Contact Points experiences, the institutional view and the scholars' vision. Its target group will be ELRA members, ELRN CPs, legal officers of Land Registry in EU, judicial authorities, EC officers, legal practitioners and academics experts. At least 200 views are expected to be received.	R — Document, report	PDF/EN	PU - Public	24
D4.3 – Kick Off Conference	4	Number of participants: around 70 persons Target group: ELRA members, ELRN CPs, legal officers of Land Registry in EU, judicial authorities, EC officers, legal practitioners and academics experts. Duration: 1-day Format: Hybrid Venue: Brussels Language used: English Elements: invitation; agenda; signed attendance sheets/extracts with participants from the online platform; photos; minutes; presentations Dissemination: pictures, social media, ELRA website	DEC — Websites, patent filings, videos, etc		SEN - Sensitive	24

| D4.4 – Closing Conference | 4 | Number of participants: around 70 persons
Target group: ELRA members, ELRN CPs, legal officers of Land Registry in EU, judicial authorities, EC officers, legal practitioners and academics experts.
Duration: 1-day
Format: Hybrid
Venue: Brussels
Language used: English
Elements: invitation; agenda; signed attendance sheets/extracts with participants from the online platform; photos; minutes; presentations
Dissemination: pictures, social media, ELRA website | DEC — Websites, patent filings, videos, etc | | SEN Sensitive | - | 24 |