EU4Environment – Water Resources and Environmental Data

TERMS OF REFERENCES FOR LOCAL CONTRACTOR

DEVELOPMENT OF THE E-MONITORING INFORMATION AND ANALYTICAL SYSTEM FOR STATE AGENCY FOR WATER RESOURCES IN UKRAINE

MARCH 2023

1. Financing
European Union (ENI/2021/424-550)
Co-financing by Austria (Austrian Development Agency) and France (Artois Picardy Water Agency)

2. Procedure
Simplified procedure according to EU PRAG[1]

3. Contracting Authority
International Office for Water (OiEau) - France

4. Nature of contract
Service contract

5. Time period of implementation
May 2023 – October 2023

6. Contract amount (optional)
Max. amount: 40 000 EUR

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[1] Practical Guide to Contract Procedures for EU External Actions

7. Background information

I.   Background and Objectives

The Programme "EU4Environment – Water resources and Environmental data" (hereinafter - the Programme) aims to operationalise several key mechanisms to preserve natural resources, enabling countries' green growth in line with the European Green Deal and a post-COVID-19 green recovery. This will contribute towards longer-term environmental, climatic, and socio-economic resilience, and improved human health and wellbeing, as well as the achievement of the Sustainable Development Goals (SDGs).

The Programme's specific objectives are:
• Specific Objective 1 "Water resources management": Water policies and practices support more sustainable use of freshwater resources and help reduce the adverse impacts of human activities on water quality and ecosystems.
• Specific Objective 2 "Environmental statistics and open data": The use of sound environmental statistics by the partner countries is extended and improved, and better availability of policy-relevant data to decision-makers and citizens is ensured.

The Programme, co-financed by the European Union, is implemented in close cooperation and coordination with the Implementing Partners: three Member State agencies: Umweltbundesamt GmbH (also called "UBA" or "Environment Agency Austria"), Austrian Development Agency (ADA) and International Office for Water (OiEau, France) as well as two international organisations (OECD and UNECE).

This assignment concerns the development of the E-monitoring Information and Analytical System for State Agency for Water Resources in Ukraine.

The main objective is to create an open web-based system to meet the needs of the State Water Resources Agency of Ukraine and stand-alone basin water resources departments, the public, and integrated with other monitoring entities. The web-based system will automate the procedures for maintaining, analysing and visualising monitoring data, determining the ecological and chemical state of surface water bodies to obtain analytical information on the state of Ukraine's water resources with additional opportunities to generate multi-stage queries following the needs of users based on the integrated use of modern information technologies. **The System should meet the requirements of the national policy on the publication and disclosure of open data.**

II.   Scope of work

The following blocks should be created for implementation:

• Subsystem for access to registers via API – provides interaction of the system with external services through the implementation of open protocols based on REST, GraphQL, SOAP; the protocols and principles of their interaction may be changed in the process of development and implementation depending on the requirements of the Customer.
• Data transfer service – provides the ability to transfer data to the System from sources that determine the storage environment at the time of the System launch.
• Service of integration with external systems – provides interaction of the system with external services through the open protocols based on REST, GraphQL, SOAP; the protocols and principles

of their interaction may be changed in the process of development and implementation depending on the current state of the systems where to data should be transferred.

- Service of integration with internal systems – provides interaction of the system with internal services, interaction rules should be developed, and protocols for processing information from the integrated services should be integrated into the system. The Contractor shall perform the integration process.
- Subsystem of user access formation based on security policies – provides distribution of access rights based on Role Based Access Control (RBAC), allows a user with the rights of the Role Administrator to distribute and configure rules for access to information in the system.
- Signing service – forms interaction with centres that provide support for QES and forms the ability to use QES in the system when performing operations that require the use of QES in their business process.
- Template-based document generation service – allows for using document templates and generating original documents based on them.
- Template registry service – allows for editing document templates, creating new types of templates or preparing template replacements, previewing documents based on test data, and creating a general document registry.
- Subsystem for record keeping and formulating rules of document processing at different stages of data collection (user roles, sector employee, Laboratory Chief/Deputy Chief, BWRA/RWRO, Water Agency Representative) – accounts are built on the principles of SPA (Single Page Application), which provides users with a visual interface for interaction with internal modules available to them within their business processes: obtaining laboratory findings, administrative services; provides for the formation and control of record keeping processes for each type of document, rules for preparing these documents; shaping the process of making and approving decisions on documents; the path and stages of signing documents; generation of outgoing document packages and their integrity and storage control.
- Interface-based access control system.
- The public part (thematic layers, search module, reports, and measurement orders) is to be created as a web application and allows the user to interact with the system within the framework of the access rights granted, which is provided by the user access control subsystem based on security policies. It provides protection of data transmission between the User and the System.
- Reporting subsystem – provides an option to generate statistical reports, to form and view them.
- Notification subsystem – provides feedback from the System to the User about the occurrence of an event in the System and forms a mechanism for notifying the User of an event by generating a notification in the System, sending information to the Messenger or to the Electronic mailbox.
- Directories – a register of additional modules that provide the formation of related data for building business processes and creating an interface for record keeping.
- Other related modules (logging, monitoring, security, ensuring the smooth operation of the system, etc.)
- A tool for public involvement includes a module for sending messages by public or pre-registered system users regarding the quality of water bodies, deterioration of their state or special needs for analysis. The user should have the option to inform with the help of geo-referencing and photo and video materials. Sent messages should be automatically sent to the systems of institutions responsible for monitoring the state of water resources.
- A tool for metadata catalogue (directory) for Ukraine using Geonetwork. A specialist should be trained to create the catalogue data and update it with Geonetwork. Formation based on catalogue data on the official resource using Geonetwork API.

III.   Schedule & implementation modality

Deliverables	Languages of deliverable	Due date for the draft report (M = signing of the contract)	Final version
1. Report about tools and detail outputs agreed with beneficiaries and OiEau concerning expected blocks : - Subsystem for access to registers via API - Data transfer service - Service of integration with external systems - Service of integration with internal systems - Subsystem of user access formation based on security policies - Template-based document generation service and template registry service - Subsystem for record keeping and formulating rules of document processing at different stages of data collection - The public part - Reporting subsystem - Notification subsystem - Directories - A tool for public involvement and a tool for metadata catalogue - Other related modules	Ukrainian /English	M+1	M+2
2. User manual, Users training and installation of the databases and system for test at the level of the main final users	Ukrainian /English	M+3	M+4
3. Adaptation and final installation of databases and system at the level of the beneficiary	Ukrainian /English	M+4	M+5
4. Administrator manual and training systems administrators	Ukrainian /English	M+5	M+6

Works shall be implemented by a Ukrainian company or group of NGO(s), university, research institution, etc. that are not representing the project beneficiaries. The studies will be closely coordinated, assisted and monitored by the project team (OiEau) and the beneficiary (State Agency for Water Resources). Close coordination shall be ensured with the beneficiaries who will take full ownership of the E-monitoring System produced.

Technical issues will be discussed regularly with the beneficiary and project team (if needed).

Requirements for the Contractor:

- The Contractor's team shall have professionals of the appropriate qualification level to perform the work.
- The Contractor agrees that in carrying out the work, it shall maintain regular communication and agree on solutions with the Customer, the agencies concerned and the Acquirer's technical specialists and advisers.
- The Contractor agrees that he is ready to provide relevant information support regarding the development process, to provide appropriate explanations to all interested parties as agreed with the Customer and the Acquirer, as well as to participate in events that may be held by the Customer or the Acquirer to ensure the high quality of the work.
- The Contractor may involve subcontractors and other contractors, provided that they submit the relevant documents/certificates confirming their qualifications.
- The Contractor shall notify the Customer and the Acquirer of involving subcontractors before signing the contract; the Customer and/or the Acquirer, for their part, shall have the right to refuse the proposed subcontractors.
- The risk of accidental destruction of, or accidental damage to, the result of the work (its stages) before its transfer to the Customer and the Acquirer pursuant to the Certificates shall be borne by the Contractor
- The Contractor shall sign a non-disclosure agreement (NDA) along with the Work Contract.
- In case of involving subcontractors, the Contractor shall be fully liable to the Customer in case the subcontractor breaches the NDA.
- After the completion and transfer of all works, the ownership is fully transferred to the Customer
- All works must be based on open source code
- All logins, passwords and development codes must be transferred to the Customer and the Acquirer, and documented to ensure reinstallation and possible adaptation by the Customer.

All documents shall be signed by an authorised person and sealed (for legal entities with a seal). All pages shall bear the initials of the authorised person signing the document.

The repartition of the use of the budget in function of the outputs is indicated as follows:

Deliverables	% of allocated budget
Deliverable 1	40
Deliverable 2	20
Deliverable 3 & 4	40
TOTAL	100

Contact details:

Beneficiary:
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CDTO at State Agency of Water Resources of Ukraine
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Project team:
Local Representative of the Programme "EU4Environment Water and Data" in Ukraine:
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The responsible thematic leaders:
Mr Paul Haener, International Office for Water, p.haener@oieau.fr
Ms Marta Boyko, International Office for Water, m.boyko@oieau.fr

IV. Participation to the tender

Interested parties (individual and legal persons) are invited to inquire the full tender dossier containing instructions and further information about the tender procedure from Ms. Ilke CICEKOGLU, Project Assistant, International Office for Water (OiEau) and Mr Paul Haener, Project Manager, International Office for Water (OiEau).

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Deadline for submission of the technical and financial offer is **14 April 2023, 18:00 CET**.