
TERMS OF REFERENCE

- A. Job Title:** National Consultant to develop Technical Specifications for the acquisition, installation and implementation of the monitoring, control/command and data acquisition system (SCADA – Supervisory Control and Data Acquisition) for Ungheni Municipality
- B. Duty Station:** Remotely, with 7 (seven) visits to Ungheni
- C. Project reference:** EU4Moldova: Focal Regions Programme (EU-funded)
- D. Contract type:** Individual Contract (IC)
- E. Duration of assignment:** June-December 2023 (estimated volume of work: 30 working days)

F. Background:

The EU4Moldova: Focal Regions Programme (hereinafter referred to as -the Programme) is based on the European Commission Implementing Decision on the Annual Action Program 2018 in favour of the Republic of Moldova and is funded by the European Union and implemented by the United Nations Development Programme.

The overall objective of the five-year Programme is to strengthen the economic, territorial and social cohesion in the Republic of Moldova through smart, green, inclusive, sustainable and integrated socio-economic development as well as improving the standards of living of the citizens in the focal regions: Cahul and Ungheni.

To this end, this Programme will address the urban-rural divide and regional disparities, stimulate economic growth and job creation, refurbish and upgrade social and technical infrastructure in certain locations in the selected focal regions (smaller towns and villages) while taking into account climate change and gender perspective in the activities of the Programme.

Specific objectives:

1. To strengthen transparency, accountability of local public authorities and people's participation in local governance processes in the focal regions,
2. To facilitate citizens' access to quality and high-performance public services and utilities in the focal regions,
3. To create employment opportunities for men and women in the focal regions and enhance territorial competitiveness to attract investments and entrepreneurs,
4. To promote a smart development based on economy specialization, clustering and value chain approach.

The Program objectives will be achieved through measures targeted at: (i) capacity building to support the implementation and monitoring of local economic development plans; (ii) civil

society engagement in local planning, governance processes and basic social service delivery; (iii) provision of investment funding in support of the creation and/or development of social and technical infrastructure which, combined with the outcomes from interventions (i) and (ii) above, will have an immediate, visible and tangible impact on employment creation, the standard of living of the population in the focal regions.

G. Objective:

The Programme is supporting Ungheni Municipality in the process of implementation of the "Automated and intelligent systems for collecting and monitoring data and processes within the water supply and sewerage service in Ungheni region".

In this regard, during 2021-2022 the Programme evaluated citizens' water supply system, especially regarding water metering, developed technical specifications for SMART water meters installation in Ungheni Municipality, and a need to install SMART water meters in Danuteni district of Ungheni has been identified.

The implementation of a SMART metering system with remote data reading aims to ensure financial sustainability and optimum technical operation, to reduce commercial losses, and to improve the service provided to end consumers. Thus, 1,000 digital water meters that allow for remote reading have been installed.

The Programme also provides assistance in the development of critical infrastructure to ensure permanent access to drinking water for the residents of the Ungheni region, covering Ungheni Municipality and the villages of Zagarancea and Semeni, as well as potentially another 12,000 people from 12 rural localities in the Ungheni region.

In this regard a new drinking water reservoir with the capacity of 1000 m³ was built at Apa-Canal Ungheni treatment station, which meets the requirements of the latest regulations and safety standards. This new water reservoir will strengthen the Operator's ability to ensure permanent access to drinking water for the population of Ungheni and the entire region.

The continuous and qualitative provision of drinking water supply services to all consumers, strictly respecting the quality and efficiency indicators is the primary objective of the Municipal Enterprise "Apa-Canal" Ungheni (hereinafter referred to as - *Apa-Canal Ungheni* or *-the Operator*).

Apa-Canal Ungheni is the largest operator of drinking water supply and sewerage services in the Ungheni region. It aims to provide services at the regional level, in accordance with high quality standards and is in a continuous process of expanding the area of service provision. The Operator provides its services on the entire territory of Ungheni municipality, and in Zagarancea and Semeni neighbouring localities. The length of the functional water supply networks extends over 155.4 km and 66.5 km of sewer networks.

The water supply in Ungheni is divided between different pressure zones and control of the water supply is currently made mainly using phone connections. Along the entire length of the aqueduct network at critical points (the highest points compared to the pumping station within the treatment station) pressure gauges are installed to record the water pressure in the pipes, but the intervention team travels to these points daily and checks the existing pressure.

There are 10 drinking water repumping stations located near multi-storey buildings for the necessary adjustment of the pressure at the upper levels. Also, there are 4 wastewater repumping stations plus 3 underground stations with local management and monitoring. The drinking/wastewater repumping plants, the main sewage pumping station, the drinking water treatment plant and the sewage treatment plant are individually daily monitored by the employees who service these stations, but not remotely.

The liquidation of a damage or disturbance to the water and sewage network is carried out by moving the intervention team to the site to identify the cause that produced the disturbance and to identify the possible methods of its removal. Alerts/incidents are registered following the telephone or physical addresses of consumers regarding lack of pressure, lack of water, etc. This whole process takes a long time and is not efficient.

These methods lead to an inefficient use of the power and can create high pressure and pipes bursts. New system to monitor water flows, online control of the pressure in water networks and also installed pumps operation will allow the Operator to optimize pumping regimes that lead in reduction of power, costs and a smaller number of the staff to be employed in large number of facilities.

H. Scope of work and expected outputs:

In accordance with the objectives of the Socio-economic Development Strategy of the Ungheni Municipality for the period 2019-2025¹ and the Water Supply and Sewerage Sector Development Plan in the Ungheni district for the period 2018-2025², one of the priorities is to develop and strengthen the capacity of the regional operator through the implementation of automation systems and SCADA systems for the monitoring and control of water and sewage technological processes.

In this context, the scope of work of this assignment is the Consultant to develop the Technical Specifications for the acquisition, installation and implementation of the monitoring, control/command and data acquisition system (SCADA – Supervisory Control and Data Acquisition) for Apa-Canal Ungheni.

While developing the Technical Specifications, the Consultant will consider the use of strategic documentation, national legislation and best practices that support the implementation of SCADA System for Ungheni water supply and wastewater facilities, water metering technologies, SMART tools in the management of modern urban communities and development processes as indispensable aspects for ensuring the implementation of the SCADA system.

In addition, the Consultant will consider and reference the platforms built so far at local/central public authority level and use back-end integration.

The Consultant will work in partnership and in close collaboration with the responsible civil servants appointed by the Ungheni Mayoralty, following the methodological approach and a

¹ https://eu4ungheni.md/wp-content/uploads/2022/09/Strategia-de-dezvoltare-socio-economica-a-mun.Ungheni_2019-2025_final.pdf

² <http://ungheni.md/wp-content/uploads/2020/01/Dezvoltarea-Sectorului-de-Alimentare-cu-apă-si-Canalizare.pdf>

detailed action plan that are to be developed at the Inception stage, agreed by the Ungheni Mayorality and approved by the Programme.

I. Expected Deliverables, Volume of Work and Timeframe

The assignment will require the Consultant to perform the following tasks and activities for Ungheni Mayorality, providing the following deliverables:

Deliverables <i>(provision of deliverables of required content and quality is the only criteria for consultant's payment)</i>	Estimate Workdays <i>(used at the submission stage)</i>	Tentative timeframe <i>(subject to coordination /adjustment with EU4MD Programme team)</i>
<p>Task I: Conduct needs assessment and provide technical recommendations for the acquisition and implementation of SCADA system for Ungheni Municipality.</p> <p>Assessment will be performed in close cooperation and support of the EU4Moldova team, Municipal Enterprise "Apa-Canal" Ungheni and Local Public Authority.</p> <p>This assignment will require on-site visits at the "Apa-Canal" Ungheni premises and stations to analyse the status-quo of the municipal enterprise and conduct needs assessment. During these visits the Consultant should meet and discuss with the Mayorality, the "Apa-Canal" Ungheni, with relevant experts designated for the SCADA implementation and visit the water supply and wastewater facilities.</p> <p>The Consultant will assess the entire infrastructure of the water supply and wastewater facilities, including 10 Water Pumping Stations and 3 Wastewater Pumping Stations, including 4 booster Pumping Stations, 1 Water Treatment Plant (WTP) and 1 Wastewater Treatment Plant.</p> <p>"Apa-Canal" Ungheni will facilitate the Consultant's visits to water/wastewater pumping stations to determine the pressure areas and assess the state of the existing water and sewerage infrastructure and systems currently used in the region. The list of the facilities will be provided by the Operator after the contract signature.</p> <p>Also, the Consultant will assess how the entire water/wastewater system is currently managed and will estimate the capacity of the Operator to manage and maintain the SCADA system (i) how are breakdowns reported, registered and resolved, ii) what type of software (if any) is used by the dispatching system for data recording/analysing/response, iii) the condition of the existing equipment and technical data processing capability).</p>	<p>7 working days</p>	
<p>Deliverable 1: Inception Report</p> <ul style="list-style-type: none"> - Inception Report, with results of the assessment of the current water and sewerage infrastructure and the drinking and wastewater pumping stations (condition, software used, improvement proposals, etc.) in Ungheni. 		<p>2 weeks after Contract signature</p>

Deliverables <i>(provision of deliverables of required content and quality is the only criteria for consultant's payment)</i>	Estimate Workdays <i>(used at the submission stage)</i>	Tentative timeframe <i>(subject to coordination /adjustment with EU4MD Programme team)</i>
<ul style="list-style-type: none"> - The filled in questionnaire per every of the visited station with detailed information about the type of station, year of construction, technical/software capacities, existing adjacent relevant infrastructure (flowmeter, sodium hypochlorite station in case of Water Treatment Plant/other applied technology). - The detailed questionnaire containing the data collected about the dispatcher (number of operators, ICT infrastructure, server, network, other relevant information) 		
<p>Task II. Draft the Technical Specifications for the acquisition, installation and implementation of the monitoring, control/command and data acquisition system (SCADA – Supervisory Control And Data Acquisition) in the Ungheni region.</p> <ul style="list-style-type: none"> - Develop detailed and accurate Technical Specifications which must be generic and not favouring any manufacturer (at least three (3) manufacturers must meet Technical Specifications requirements. A confirmative compliance table will be developed and submitted by the Consultant proving generality of developed Technical Specifications). - Develop a detailed budget-efficient, innovative, accurate proposal (technical solution) including two scenarios on SCADA system implementation. 	8 working days	
<p>Deliverable 2:</p> <ul style="list-style-type: none"> - Technical Specifications, including confirmative technical compliance Table proving generality of developed Technical Specifications, developed in accordance with relevant national regulations, standards, codes and norms (SNIps, EN, ISO, etc) - Detailed technical solution, including proposed SCADA architecture, with minimum two scenarios on SCADA system implementation. 		1.5 months since Deliverable 2 submission
<p>Task III. Support during the bidding and evaluation processes</p> <ul style="list-style-type: none"> - Provide feedback to the requests for clarifications – technical related aspects during the bidding process for SCADA acquisition. - Develop technical compliance table for the offered goods, as input to the technical evaluation of offers. - Participate in the pre-bidding phase during the field visit to Ungheni of the potential offerors of the SCADA system. 	6 working days	
<p>Deliverable 3: Evaluation Report</p> <ul style="list-style-type: none"> - Technical compliance table for the offered goods and inputs to the Evaluation Report. 		By August 15, 2023
<p>Task IV. Support in monitoring and evaluation of the quality of services provided by the selected company</p>	8 working days	

Deliverables <i>(provision of deliverables of required content and quality is the only criteria for consultant's payment)</i>	Estimate Workdays <i>(used at the submission stage)</i>	Tentative timeframe <i>(subject to coordination /adjustment with EU4MD Programme team)</i>
<ul style="list-style-type: none"> - Monitor and evaluate the quality of services and works provided by the selected company to develop and implement the SCADA System. - Provide feedback to the requests for clarifications – technical related aspects. - Participate during the testing phase of SCADA system - Assist during the taking over of the of SCADA system in Ungheni. - Report on the progress and findings. 		
<p><u>Deliverable 4: Progress Report</u></p> <ul style="list-style-type: none"> - Progress Report shall include the results of the SCADA system testing process, clarifications and recommendations for the Operator on the technical aspects, results of the monitoring and evaluation of the quality of services provided by the selected company and recommendations for handing over of the SCADA system by the Operator. 		By December 30, 2023
<p><u>Deliverable 5: Final Report</u></p> <ul style="list-style-type: none"> - The Final Report shall include the input to the implementation of activities, the achieved outcomes, lessons learned, good practices acquired and recommendations for further activities of the Programme in this area. 	1 working day	By December 30, 2023
TOTAL number of estimated working days	30 working days	

Note:

The indicated timeframe was estimated to serve as a benchmark for the contract period. This may not and shall not be used as the only criterion for the contract/activity implementation. The provision of the envisaged deliverables approved by the Programme shall be the only criteria for the Consultant's work being completed and eligible for payment/s.

All activities in this Contract will be carried out in a gender-sensitive manner and by applying the human rights-based approach, green economy and efficient use of resources, circular economy, and use of renewable natural resources.

Language of the deliverables: All deliverables shall be submitted in English language.

J. Organizational Setting:

The Consultant will be awarded a contract with UNDP for the delivery of services applied for and will work in close cooperation with EU4Moldova: Focal Region Programme team, specifically: Project Officer (SMART Development and Digital Transformation) and Local Coordinator in

Ungheni focal region, under the guidance and overall supervision of the Local Development Project Manager and the Programme Manager.

The selected Consultant will be responsible for the deliverables they are contracted for. All deliverables above shall be endorsed by the Programme Manager within 14 calendar days from their provision.

The EU4Moldova: Focal Regions Programme will provide all available documentation required for a successful implementation of the task, facilitate first contacts, access to the site and communication with stakeholders while the Consultant will be responsible for arranging all necessary arrangements, obtaining all needed permissions, and establishing and maintaining of good working relationships with all involved parties.

K. Financial arrangements:

The financial proposal shall specify a total **lump sum** amount, and payment terms around specific and measurable (qualitative and quantitative) deliverables (i.e., whether payments fall in installments or upon completion of the entire contract). Payments are based upon output, i.e., upon delivery of the services specified in TOR. To assist the requesting unit in the comparison of financial proposals, the financial proposal will include a breakdown of this lump sum amount (including the daily fee, taxes, and number of anticipated working days).

Travel

It is foreseen that the Consultant will perform the activities under this TOR remotely, with seven (7) visits to Ungheni Municipality. All travel expenses to/from Ungheni are in the consultant's responsibility, the transportation costs shall be included in the consolidated financial offer (7 travel-days).

L. Confidentiality

Materials provided to the Consultant and all proceedings within the consultancy contract shall be regarded as confidential, both during and after the consultancy. Violation of confidentiality requirements may result in immediate termination of contract.

M. Qualifications and skills required:

Academic Qualifications:

- Degree (or equivalent) in engineering, planning and design, water and sewerage, public administration or another relevant field.
- Possession of certificates and/or alternative local and/or internationally recognized certificates in the field relevant to this assignment would be a strong advantage.

Working experience:

- At least 5 years' experience in the engineering, planning and design, water and sewerage area and /or IT system designing processes in the area of public and business support

services. Previous experience in SCADA system design and/or commission would be a strong advantage.

- Track record of minimum 2 (two) similar assignments of a nature and complexity comparable to proposed contract within the last 5 (five) years
- Demonstrated experience in working within water and sewage projects and/or initiatives.
- Proven experience/participation in working with public authorities in carrying out needs' analysis of public institutions (CPAs or LPAs, at least (2) two similar analysis) and development projects.
- Experience with UNDP, EU or World Bank, other donor funded programs/projects and procurement procedures and standard bidding documents would be a strong advantage.

Competencies:

- Excellent analytical, writing and reporting skills.
- Strong understanding of the Water and Sewerage technologies processes and challenges, programming, smart development, and digital transformation.
- Good ability to work with all levels and functions within the organization and manage diversity of views.
- Advances knowledge of English language will be an asset.

Personal Qualities and other requirements:

- Demonstrated capacity of team-orientation work, excellent planning, and organizational skills.
- Good interpersonal skills, solid judgment/decision making, initiative and creativity.
- Ability to analyse, plan, communicate effectively with a diverse group of stakeholders to meet expected results and deadlines in a timely manner, maintaining a high standard throughout.
- Demonstrated cultural sensitiveness and sound judgment.
- Proven commitment to the core values of the United Nations, in particular, respecting differences of culture, gender, religion, ethnicity, nationality, language, age, HIV status, disability, and sexual orientation, or other status.

The UNDP Moldova is committed to workforce diversity. Women, persons with disabilities, Roma and other ethnic or religious minorities, persons living with HIV, as well as refugees and other noncitizens legally entitled to work in the Republic of Moldova, are particularly encouraged to apply.

N. Documents to Be Included When Submitting the Proposals

Interested individual consultants must submit the following documents/ information to demonstrate their qualifications:

- Signed and filled-in Offeror's letter to UNDP confirming interest and availability for the individual contractor (IC) assignment, incorporating Financial Proposal in Annex 2 (in USD, including the detailed breakdown of costs supporting the all-inclusive financial proposal and specifying a total requested amount per working day, including all related costs, i.e., fees, phone calls etc.).

- Proposal (Motivation Letter): explaining why they are the most suitable for the work including previous experience in similar Projects (please provide brief information on each of the above qualifications, item by item, including information, links/copies of documents for similar comprehensive studies).
- Curriculum Vitae including records on previous experience in similar projects/assignments and concrete outputs obtained.

Important notice: The applicants who have the statute of Government Official / Public Servant prior to appointment will be asked to submit the following documentation:

- A no-objection letter in respect of the applicant received from the Government, and;
- The applicant is certified in writing by the Government to be on official leave without pay for the entire duration of the Individual Contract.

O. Evaluation

Initially, individual consultants will be **short-listed** based on the following minimum qualification criteria:

- Degree (or equivalent) in engineering, planning and design, water and sewerage, public administration or another relevant field.
- At least 5 years' experience in the engineering, planning and design, water and sewerage area and /or IT system designing processes in the area of public and business support services.

The short-listed individual consultants will be further evaluated based on the following methodology:

Cumulative analysis

The award of the contract shall be made to the individual consultant whose offer has been evaluated and determined as:

- a) responsive/ compliant/ acceptable, and
- b) having received the highest score out of a pre-determined set of weighted technical and financial criteria specific to the solicitation.

* Technical Criteria weight – 60% (300 pts);

* Financial Criteria weight – 40% (200 pts).

Only candidates obtaining a minimum of 210 points would be considered for the Financial Evaluation. For both positions the evaluation criteria are identical.

Criteria	Scoring	Maximum Points Obtainable
Technical		
Degree (or equivalent) in engineering, planning and design, water and sewerage, public administration or another relevant field	<i>Bachelor's – 5 pts; Master's – 10 pts</i>	10
At least 5 years' experience in the engineering, planning and design, water and sewerage area and /or IT system designing processes in the area of public and business support services.	<i>Up to 5 years – 0 points, 5 years – 15 points, each additional year – 5 points up to max. 50 pts</i>	50
Track record of minimum 2 similar assignments of drafting technical specifications for development of dynamic solutions for public authorities and/or international organizations.	<i>Up to two documents - 0 points, two documents – 10 points, each additional study/ project – 10 pts. Up to max. 60 pts</i>	60
Experience with UNDP, EU or World Bank, other donor funded programs/projects and procurement procedures and standard bidding documents would be a strong advantage.	<i>Each assignment - 5 pts, up to max 15 pts</i>	15
Belonging to the group(s) under-represented* in the UN Moldova and/or the area of assignment	<i>No – 0 pts., yes – 10 pts.</i>	10
Interview (demonstrated technical knowledge and experience; communication/ interpersonal skills; initiative; creativity/ resourcefulness).		
Only the first 3 applicants per each position that have accumulated the highest technical score shall be invited to the interview.		
Strong understanding of the Water and Sewerage technologies processes and challenges, SCADA System design or commissioning.	<i>Limited understanding – 5 pts, fair – 25 pts., good – 45 pts, very good – 65 pts</i>	155
Solid understanding of and ability to apply communication and collaboration tools and techniques, including the ability to analyse and use research data outside from the evaluated context	<i>Limited understanding and ability - 5 pts., satisfactory – 15 pts.; extensive – 30 pts</i>	
Excellent analytical, writing and reporting skills	<i>No – 0 pts., to some extent – 10 pts., extensive experience / good skills - 20 pts</i>	
Strong communication and interpersonal skills	<i>No – 0 pts., to some extent – 10 pts., extensive experience / good skills - 20 pts</i>	
Command of English language	<i>Working knowledge / intermediate – 15 pts, advanced – 20 pts</i>	
Maximum Total Technical Scoring		

* Under-represented group in the area of assignment (law enforcement) are women. Under-represented groups in UN Moldova are persons with disabilities, LGBTI, ethnic and linguistic minorities, especially ethnic Gagauzians, Bulgarians, Roma, Jews, people of African descent, people living with HIV, religious minorities, especially Muslim women, refugees and other non-citizens.

Financial	
Evaluation of submitted financial offers will be done based on the following formula: $S = F_{min} / F * 200$ S – score received on financial evaluation; Fmin – the lowest financial offer out of all the submitted offers qualified over the technical evaluation round; F – financial offer under consideration	200

Winning candidate

The winning candidate will be the candidate, who has accumulated the highest aggregated score (technical scoring + financial scoring).