TERMS OF REFERENCE

Job title:	Backend, Integration and Data Migration Developer
Contract type:	Individual Contracts (IC)
Duty station:	Chisinau
Reference to the:	Enabling an Inclusive Green Transition in the Republic of Moldova" Project
Payment arrangements:	Lump sum contract (payments linked to satisfactory performance and delivery of outputs)
Contract Duration:	October 2026 – February 2027, 80 working days

1. PROJECT OBJECTIVES AND EXPECTED RESULTS

On 23rd of June 2022, the European Council granted the Republic of Moldova the status of EU candidate country which is a substantial achievement, but which comes with great responsibilities and obligations. One of such obligations is the "Green Agenda and Sustainable Connectivity" which includes Chapters of the environment and climate change acquis. In this sense, meaningful reform is expected in view of European Green Deal targets.

The proposed Green Transition Project takes due account of this endeavor. Hence, it will put in place the enabling conditions for a green transformation in Moldova through a combination of cross-sectorial decision-making in joint stakeholder platforms, capacity building measures, general education and awareness raising, dissemination of best policy practices, information sharing and networking, as well as pilot-testing green-transition related solutions and other activities, to ensure that the green transition concept is well understood and implemented.

The established enabling conditions and the investments into green-transition solutions will respond to the key development challenges that the country is currently dealing with such as climate change, environmental pollution and the energy crisis.

It is well acknowledged that Moldova is highly vulnerable to climate change, given the limited resources and institutional capacities to address the climate change impacts. It is also due to the heavy reliance on the agricultural sector, water scarcity and other geographical factors. Currently the country is advancing with the national adaptation planning, including in the agricultural sector, aimed at putting in place proper intuitional, technical and budgeting capacities in the context of climate change, however significant gaps remain in embarking of the sectors into achievement of the long-term adaptation targets.

Environmental degradation is also posing a major threat to Moldova's development agenda as its economy relies greatly on natural resources which leads to their overexploitation and pollution. Inadequate waste management practices and outdated practices and technologies in

the key sectors of the economy also contribute to environmental degradation and pollution. Mainstreaming of the green agenda into the country's economic activities is taking place slowly.

Moldova is in line with the global trend of continuously growing urbanization, with the proportion of the population living in urban areas expected to rise from 47% in 2010 to 60% in 2030 (UN Habitat). Cities are increasingly and significantly contributing to the main drivers of global environmental degradation. The municipalities have the greatest impact on air quality and are responsible for more than 50% of total air pollution in Moldova.

From energy security perspective – Moldova is highly dependent on imported energy sources and rely mostly on the use of fossil fuels. In addition, inefficient energy supply and consumption across all sectors exacerbate the situation. Until recently being 100% dependent on Russian gas import, the country is actively seeking diversification of energy supplies after the war of aggression in Ukraine. Improvements both in energy efficiency and in the development of domestic resources – including renewable energy resources – for strengthened sustainability, competitiveness, and energy security rank high on the political agenda. The energy sector is also the main source of GHG emissions in the country.

Against this background, the Green Transition Project aims to support the Government of Moldova to engage sustainably in a transformative green agenda by enhancing awareness, building capacities and encouraging investments into low-emission and resource efficient economy.

The target areas of the project are resource efficiency, green and circular economy, cleaner and sustainable energy, and mobility.

The Project is be implemented under the following three specific components:

1. Socio-economic framework for a gender-responsive and inclusive green transition enabled.
2. Capacity and awareness on the inclusive green transition increased among key stakeholders.
3. Additional funding attracted by promoting and piloting investments in green and innovative technologies, while evidence-based decision-making for green transition is improved by deploying a reliable air quality monitoring system.

The implementation period of the project is 48 months, and the total budget is 10 mln EUR.

2. OBJECTIVES OF THE ASSIGNMENT

The overall objective of this assignment is to provide senior .NET backend development, interoperability and data migration services for the enhancement of the National Agency for Road Transport's Automated Information System "e-Authorization Transport" (e-AT), complementing the ongoing technical maintenance and development activities undertaken by ANTA. The Consultant will be responsible for the technical implementation and delivery of the

backend, integration and data-migration functionalities assigned under this ToR, in accordance with the approved requirements, priorities and existing technical architecture of e-AT.
Specifically, the assignment aims to:

- Develop and implement robust backend services and server-side business logic and data-processing components for the e-AT core platform, including the Route Register and transport authorization workflows.
- Lead the technical implementation of interoperability with GEAP, EVO and other government information systems through secure APIs and standardized data exchange.
- Design and execute the migration of legacy route data from AMIR to e-AT, ensuring data mapping, validation, reconciliation and migration traceability.
- Strengthen system security, role-based access control, audit logging, monitoring and configurable administration mechanisms.
- Support database optimization, technical architecture decisions, testing, deployment and maintainable technical documentation.

3. SCOPE OF THE WORK, DUTIES AND RESPONSIBILITIES

Under the overall supervision of UNDP and in close cooperation with ANTA, the Backend, Integration and Data Migration Developer (further "the Consultant") shall act as the senior backend and integration developer for the e-AT system. The assignment will focus on server-side architecture, core business logic, interoperability, database and data migration components, while coordinating interfaces with the GIS-related developments performed under the parallel ICT assignment.

Development under this assignment shall remain compatible with the existing approved architecture and technology stack of SIA e-Authorization Transport (e-AT). The applicable technical environment, including the .NET version and application framework, database technology, authentication and authorization mechanisms, source-code repository, build/deployment arrangements, hosting environment and relevant integration technologies, shall be confirmed and made available to the Consultant at inception.
Introduction of new frameworks, database technologies, infrastructure components or third-party software dependencies shall require prior approval by ANTA. Any component introducing additional licensing, hosting or recurrent maintenance costs shall be explicitly identified prior to implementation.
The Consultant shall, inter alia:

- Analyze the approved functional and technical requirements and translate them into backend architecture, data models, and implementation specifications.
- Implement complementary documented backend functionalities for the Route Register, transport authorization management and route/trip business processes.
- Implement the approved role-based access and institutional competence mechanisms for Local Public Authorities, including automated determination based on administrative-territorial units and applicable business rules.

- Design and implement secure bidirectional integrations with GEAP, EVO and other agreed government systems, including authentication, API endpoints, data mapping, validation, error handling and technical logging.
- Develop and execute the technical mechanisms required for migration of the approved legacy AMIR route data, including extraction/mapping rules, cleansing and validation procedures, synchronization, reconciliation and migration reporting.
- Develop and maintain relational database structures, stored procedures or equivalent data-access components required for the new functionalities, with attention to performance and data integrity.
- Implement the application-level audit trail and traceability requirements defined for the assigned backend functionalities.
- Implement configurable administrative parameters, multilingual classifiers, authorization templates and electronic document-generation services.
- Develop backend services and data endpoints required by the GIS Module and ensure reliable synchronization between the Route Register and GIS components.
- Perform unit and integration testing of backend services and integrations; support user acceptance testing, defect resolution and production deployment.
- Prepare and maintain technical documentation covering architecture, APIs, database changes, migration procedures, deployment and operational support.
- Coordinate closely with ANTA, UNDP, current system administrators and representatives of integrated government systems to ensure compatibility with existing architecture, interoperability, security and data-protection requirements.

Subject to applicable security and access-control procedures, ANTA and/or the designated technical administrator shall facilitate access to the information and technical environments necessary for implementation, including, as applicable:

- existing source code and designated source-code repositories;
- current technical/solution architecture documentation;
- database schemas and relevant data models;
- existing API and interoperability specifications;
- development and testing environments;
- approved functional requirements/change requests;
- existing configuration and deployment documentation; and
- technical counterparts for external systems with which e-AT shall interoperate.

4. EXPECTED DELIVERABLES, TENTATIVE TIMEFRAME, AND OTHER ARRANGEMENTS

The Consultant is expected to deliver the following outputs as per the below-identified timeline and anticipated workload:

No.	Deliverables	Number of working days	Tentative timeframe
1	**Deliverable 1: Inception Report and Backend Technical Implementation Design.** Detailed work plan; backend architecture and data model review; technical design for core e-AT enhancements; integration specifications; security and audit approach; and AMIR data migration strategy.	8 wds	31 October 2026
2	**Deliverable 2: e-AT Core Backend Functionalities Implementation Report** Implementation of server-side enhancements for the Route Register, route/trip and authorization workflows, Local Public Authority access and competence logic, configurable backend components, classifiers, templates, document generation functionality and audit mechanisms; and related technical documentation and testing evidence	24 wds	30 November 2026
3	**Deliverable 3: Government-system Integrations and Data Migration Report** Implementation of external government systems integrations; API and data-exchange specifications; AMIR data-mapping and migration mechanisms; validation and reconciliation results; and migration report.	24 wds	10 December 2026
4	**Deliverable 4: Backend Services for GIS Synchronization and Reporting Implementation and Testing Package** Implementation of APIs and data services supporting Web/GIS functionality, Route Register–GIS synchronization and reporting, geospatial data exchange, operational/analytical reporting and export functions, together with performance and integrity improvements required for these services; integration testing reports.	14 wds	15 January 2027
5	**Deliverable 5: Testing, Deployment and Technical Documentation Report** Completion of backend unit/integration testing, UAT support and defect correction; deployment support; finalized architecture, API, database, migration and deployment documentation; knowledge transfer and final acceptance.	10 wds	15 February 2027

Note 1: Deliverables and the final timeline can be amended or specified for the assignment.

The timeframe for the work of the consultant is planned for October 2026 – February 2027.

Each deliverable shall be submitted to UNDP as a consolidated deliverable package containing all technical documentation and supporting evidence to enable UNDP to assess compliance with the requirements of this ToR. Where source code or system environments cannot be included directly in the submission, the Consultant shall provide the relevant repository references, implementation evidence, test results and technical documentation required for verification.

5. MANAGEMENT ARRANGEMENTS

The Consultant will work under the overall supervision of the **Institutional Development and Capacity Building Manager** of the Green Transition Project and in close coordination with the National Agency for Road Transport (ANTA), acting as the Beneficiary and system owner.
Throughout the assignment, the Consultant will collaborate closely with the Beneficiary's designated technical representative and maintain regular communication with all relevant stakeholders to ensure the timely and effective implementation of the assignment. This includes coordination with:

- ANTA technical representatives;
- ANTA business process owners;
- the GIS data-entry coordination team;
- administrators of the existing SIA **e-Authorization Transport (e-AT)** and GIS systems;
- representatives responsible for the operation and integration of GEAP, EVO, MConnect, and other relevant government information systems;
- quality assurance, testing and user acceptance representatives.

ANTA will designate a Product Owner responsible for coordinating the functional scope, implementation priorities, business-rule clarifications and acceptance of the required functionalities. ANTA will retain responsibility for the ongoing maintenance and technical administration of e-AT and other scope related systems, including coordination of the official codebase, development environments, releases and production deployment.

The Consultant will be responsible for delivery of the backend, integration and data-migration outputs specified under this ToR and shall coordinate their implementation with the ANTA Product Owner and relevant technical staff.

The Consultant shall comply with the Beneficiary's procedures governing access to development, testing and production environments, source-code repositories, information security, cybersecurity, data protection, testing, deployment and system acceptance.

Throughout the assignment, the Consultant shall ensure that all deliverables are developed in accordance with applicable national interoperability standards, government ICT requirements, and UNDP quality standards. The Consultant shall also comply with all applicable UNDP programming, procurement, financial, administrative and ethical policies and procedures, and contribute to maintaining effective internal control and quality assurance mechanisms throughout the implementation of the assignment.

Performance evaluation: The Consultant's performance will be evaluated against such criteria as timeliness, responsibility, initiative, communication, accuracy, and quality of the services delivered. This will serve as a basis for a decision on potential contract extension, should it be required.

Language of the deliverables: All deliverables shall be submitted in Romanian.

6. QUALIFICATIONS AND SKILLS REQUIRED

Qualifications:

- University degree in computer science, information technologies, software engineering, computer engineering or another relevant field.

Experience:

- Professional experience in .NET/C# software development, including hands-on responsibility for the development and maintenance of backend components of production information systems.
- Demonstrated experience in API development, systems integration and/or interoperability between information systems.
- Demonstrated experience in at least one assignment with relational database development and SQL/data-access components, including experience with data migration, transformation and reconciliation between information systems.
- Demonstrated experience in at least one assignment implementing authentication/authorization, role-based access control, audit logging, traceability and secure software-development practices in web-based information systems.
- Demonstrated experience working with source-code version control and collaborative development practices, including Git-based repositories, code integration and software release/deployment processes.
- Experience preparing and maintaining technical documentation for software components, APIs, database changes and deployment/configuration procedures.
- Experience with public-sector information systems, electronic registers, permit/authorization systems, transport systems or e-government interoperability is a strong advantage. Experience with Moldova's government interoperability and shared digital platforms will be considered an additional advantage.

Competencies:

- Strong analytical and solution-architecture skills, including ability to translate complex business rules into maintainable backend solutions.
- Strong interpersonal, communication and stakeholder-engagement skills, including effective collaboration with public institutions and multidisciplinary technical teams.
- Ability to coordinate technical dependencies and interfaces with other developers while retaining clear accountability for assigned components.
- Ability to work independently, manage multiple priorities and deliver high-quality outputs under tight deadlines.
- Fluency in Romanian and English, written and spoken. Knowledge of Russian is an asset.

The United Nations in 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 non-citizens legally entitled to work in the Republic of Moldova, are particularly encouraged to apply.

7. PAYMENT MODALITIES

The Consultant will organize and facilitate the implementation of all activities as described above; his/her payment will be lump sum amount based, disbursed in several installments, upon submission and approval of deliverables and certification by the UNDP Moldova Project Manager that the services have been satisfactorily performed.

8. APPLICATION PROCESS

Applicants shall submit the following documents:

- Offeror’s letter to UNDP confirming interest and availability for the individual contractor (IC) assignment, incorporating financial proposal in Annex 2.

Upload the signed version of the filled in Offeror’s letter to UNDP confirming interest and availability for the individual contractor (IC) assignment. Annex 2 to the Offeror's letter, incorporating the Financial Proposal, shall be filled in mandatorily and includes the detailed breakdown of costs supporting the all-inclusive financial proposal.

Please ensure there are no mathematical errors and that amounts from Offeror's Letter to UNDP Confirming Interest and Availability match with your offer in the system.

- CV, including information about experience in similar assignments, including at least 3 professional references.

- Statement of Health for Individual Consultants.

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.
- a retired government official is not considered in this case a government official, and as such, may be contracted.

EVALUATION Individual consultants will be short-listed based on the following minimum qualification criteria:

- University degree in computer science or another relevant field.
- At least 5 assignments in .NET/C# software development.
- At least 3 assignments in API development/system integration and relational database development or data migration.
- Citizenship of the Republic of Moldova.

The short-listed individual consultant 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.

Criteria	**Scoring**	**Maximum Points Obtainable**
Technical evaluation criteria		
University degree in computer science or another relevant field	Bachelor's –10 pts; Master's – 20 pts; PhD – 30 pts	**30**
Professional experience in .NET/C# software development, including hands-on responsibility for the development and maintenance of	5 assignments – 40 pts; each additional assignment – 5 pts, up to 55 pts	**55**

backend components of production information systems		
Experience in API development/system integration and relational databases/data migration	3 assignments – 40 pts; each additional assignment – 5 pts, up to 55 pts	**55**
Experience in implementing authentication/authorization, role-based access control, audit logging, traceability and secure software-development practices in web-based information systems	1 assignment – 5 pts, each additional assignments – 5 pts, up to 10 pts	**10**
	Subtotal Technical Scoring	**150**
Interview evaluation criteria *(The first 5 (five) candidates who passed technical evaluation criteria with the best score shall be invited for an online interview)*		
Excellent knowledge of .NET/C# backend software development, architecture and secure coding	Strong – up to 55 pts; satisfactory – up to 30 pts; limited – up to 10 pts; none – 0 pts	**55**
Familiarity with APIs/interoperability, relational databases and legacy data migration	Strong – up to 50 pts; satisfactory – up to 30 pts; limited – up to 10 pts; none – 0 pts	**50**
Strong interpersonal and communication skills; ability to work with public-sector stakeholders	Strong – up to 15 pts; satisfactory – up to 10 pts; none – 0 pts	**15**
Ability to work under pressure and meet tight deadlines	Excellent – 10 pts; satisfactory – 5 pts; none – 0 pts	**10**
Fluency in Romanian and English; Russian is an asset	5 pts per language – 15 pts total	**15**
Belonging to group(s) under-represented in UN Moldova and/or the area of assignment*	No – 0 pts; one group – 2.5 pts; two or more groups – 5 pts	**5**
	Total Interview Scoring	**150**
	Maximum Total Scoring	**300**

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.* ***Please specify in CV, in case you belong to the group(s) under-represented in the UN Moldova and/or the area of assignment.*

Financial

Financial	
Evaluation of submitted financial offers will be done based on the following formula: **S = Fmin / 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).