



## TERMS OF REFERENCE

<b>Job title:</b>	National Consultant on AI Sandbox
<b>Duty Station:</b>	Republic of Moldova, Chisinau
<b>Reference to the project:</b>	Digital Transformation of Social Protection in the Republic of Moldova
<b>Contract type:</b>	Individual Contract
<b>Assignment type:</b>	National Consultant
<b>Contract duration:</b>	May – December 2026
<b>Expected workload:</b>	100 working days
<b>Indicative starting date:</b>	1 May 2026

### 1. BACKGROUND

UNDP supports the Government of the Republic of Moldova in advancing the digital transformation of social protection, in line with Moldova's EU accession agenda and the National Digital Transformation Strategy 2023–2030. A central element of this support is strengthening the digital infrastructure of the Ministry of Labour and Social Protection (MLSP) by building integrated, interoperable, and evidence-driven systems for social service delivery.

The Ministry of Labour and Social Protection currently operates 14 separate information systems, created in a fragmented manner with different technologies, making interoperability impossible. Citizens must submit the same documents multiple times for different benefits; caseworkers cannot access complete beneficiary histories; and the absence of digital links between central and territorial offices limits evidence-based policymaking and reform oversight. The Ministry is currently implementing the RESTART reform of social services, alongside reforms of the National Employment Agency (NEA), the State Labour Inspectorate (SLI), and the National Council for Disability Determination (CNDDCM).

UNDP, through the “Digital Transformation of Social Protection” project (funded by the Italian Agency for Development Cooperation and implemented by UNDP), is supporting the Ministry in consolidating these systems under a new integrated platform - eSocial - for social protection case management. eSocial is designed to consolidate fragmented systems under a common digital umbrella, enabling standardised workflows, centralised data, and inter-institutional coordination through MPass, MNotify, MLog, and MPay. The Digital Centre for Social Innovation (DCSI), established within MLSP in 2024, supports software development and adaptation of automated systems to future demands.

As part of this programme, is building a Social Protection Data Warehouse consolidating data from MLSP, CNAS, NEA, SLI, and CNDDCM to support evidence-based policymaking and programme monitoring. UNDP is establishing a parallel workstream on AI Sandbox - a controlled testing environment hosted on MCloud and connected to MConnect - to allow selected organisations to test AI systems for social protection use cases under regulatory oversight before deployment.

Both workstreams - the AI Sandbox and the Data Warehouse - require dedicated technical leadership to ensure that the infrastructure is correctly designed, commissioned, and operationalised. The AI Sandbox

must meet EU AI Act technical documentation requirements and be verified against defined technical criteria before admitting participants. The Data Warehouse must be structured to support analytical use cases and comply with data governance obligations under Moldovan law and EU approximation commitments.

## 2. OBJECTIVE AND EXPECTED OUTPUTS

In this context, UNDP seeks to engage a National Consultant on AI Sandbox (hereinafter – Consultant) to lead the technical architecture and implementation of AI sandbox environment, and to provide technical architecture support to the social protection data warehouse set-up, under the Digital Transformation of Social Protection programme.

The assignment will contribute to the responsible deployment of AI in social protection sector, supporting the Government’s EU accession commitments on AI governance and digital transformation, and enabling evidence-based, citizen-centred social service delivery.

In particular, the assignment supports the technical dimension of Moldova’s AI governance framework by contributing to the establishing the infrastructure, standards, and operational environment needed to test AI systems responsibly within the social protection sector, prior to broader deployment.

The objective of the assignment is to design and operationalise a government AI sandbox environment on MCloud, aligned with EU AI Act requirements, and to provide technical architecture support to the Social Protection Data Warehouse, ensuring both are grounded in Moldova’s existing e-government infrastructure.

The assignment aims to support national authorities, in particular the E-Governance Agency (EGA) and MLSP, in establishing a technically sound, legally compliant, and operationally sustainable AI experimentation environment. The Consultant will not develop AI systems themselves, but will design, configure, and validate the infrastructure, standards framework, and data environment within which approved AI systems are tested.

## 3. KEY ACTIVITIES, DELIVERABLES AND TENTATIVE TIMETABLE

Key activities and deliverables	Tentative timetable
<b>Activity 1: Assess existing government cloud and data exchange infrastructure for readiness to support an AI sandbox</b>	
<p><b>Deliverable 1:</b> AI Sandbox Technical Infrastructure Assessment Report.            A clear picture of what the existing government technology can already do, and a precise specification of what needs to be built or configured on top of it.</p> <ul style="list-style-type: none"> <li>- Technical infrastructure design: compute, storage, network isolation, data access controls, audit logging</li> <li>- Risk classification tooling: automated screening forms and decision rubrics for EU AI Act Annex III classification of sandbox applicants</li> <li>- Testing protocol suite for Social Protection AI use cases: performance benchmarking, bias testing, evaluation methodologies</li> <li>- Anonymised Social Protection dataset environment specifications. A list of specific Social Protection datasets required for sandbox testing, confirming which are accessible via MConnect and which are not yet registered in the Semantic Catalogue</li> </ul>	<p>by 30 May 2026  <b>20 WDs</b></p>
<b>Activity 2: Develop the technical standards framework governing sandbox participation and produce standardized documentation templates for applicants.</b>	
<b>Deliverable 2:</b> National AI Sandbox Technical Standards and Ecosystem	

<p>Framework Document</p> <ul style="list-style-type: none"> <li>- Technical requirements for sandbox applicants covering: how the AI model must be documented, where its training data comes from, how its performance must be measured, how it must be tested for bias, and how it must be able to explain its decisions</li> <li>- Specific technical benchmarks for the three types of Social Protection AI being piloted: minimum accuracy levels, specific fairness tests (for example, checking whether the AI performs equally for rural and urban applicants), and the points in the process where a human caseworker must be able to override the AI</li> <li>- A standard technical application form for sandbox participants — aligned with EU AI Act Annex IV (technical documentation requirements).', but written in Moldovan government language</li> <li>- A scoring guide for the Oversight Committee to use when reviewing technical applications - so that committee members without engineering backgrounds can make informed decisions</li> </ul>	<p>by 30 July 2026 <b>30 WDs</b></p>
<p><b>Activity 3: Provide technical architecture support for the design and validation of data ingestion pipelines, storage layer options, anonymization specifications, and Semantic Catalogue integration.</b></p>	
<p><b>Deliverable 3:</b> Data Governance Architecture Design and Readiness Report as part of the Data Warehouse in the social sector.</p> <ul style="list-style-type: none"> <li>- Data flow mapping — identification of datasets across MLSP, CNAS, NEA, and other relevant institutions, including data sources, exchange mechanisms and data formats;</li> <li>- Data organization and storage design - proposed approaches for structuring and storing data on government infrastructure to support AI testing and policy analysis use cases;</li> <li>- Data protection and anonymization specifications - definition of methods for handling sensitive personal data, including anonymization techniques and/or use of synthetic datasets for testing purposes; and</li> <li>- Data catalogue integration - approach for registering and describing datasets within the government’s Semantic Catalogue to ensure discoverability and controlled access by authorised users.</li> </ul>	<p>By 20 December 2026 <b>20 WD</b></p>
<p><b>Activity 4: Support the design, configuration, and testing of a sandbox environment on governmental cloud, including onboarding of at least one Social Protection AI pilot in a controlled testing setting.</b></p>	
<p><b>Deliverable 4:</b> AI Sandbox Technical Preparation and Readiness Report</p> <ul style="list-style-type: none"> <li>- Sandbox environment setup and testing results - configuration, architecture, and results of pilot onboarding;</li> <li>- AI assurance findings — results of bias/fairness and explainability checks, including identified risks and mitigation measures;</li> <li>- Operational readiness roadmap - required steps, institutional roles, and technical prerequisites for scaling and go-live;</li> <li>- Quick wins and integration priorities - process improvements and interoperability enhancements (e.g. MConnect, EVO, eAPL); and</li> <li>- Medium-term proposals on system or workflow changes requiring further development investment.</li> </ul>	<p>by 20 December 2026 <b>30 WDs</b></p>

*Note: Deliverables and the final timeline can be amended or specified for the purpose of the assignment. All deliverables should be agreed with the UNDP Digital Development Specialist and Project Manager and shall be provided in electronic copy. Payment will be made upon the successful completion of the tasks assigned.*

#### **4. INSTITUTIONAL ARRANGEMENTS**

The Consultant will operate under the direct supervision of the Project Manager, who will oversee administrative aspects of the assignment, and with the Digital Development Specialist for substantive technical guidance, support content development, and contribute to the review and validation of deliverables.

The Consultant will work in close coordination with the E-Governance Agency (EGA) and STISC on infrastructure matters, and with MLSP's Digital Centre for Social Innovation (DCSI) on data warehouse concept. The Contractor will also liaise with CNAS, NEA, SLI, and other institutions as required for sandbox data access configuration.

The Consultant will liaise with the Legal Analyst on AI Regulatory Framework engaged under the same Project to ensure that technical design decisions are coherent with the legal and regulatory framework being developed in parallel. All deliverables shall be submitted to UNDP for review and acceptance in accordance with UNDP procedures.

All communications and documentation related to the assignment will be in Romanian and/or English. Technical documentation may additionally be prepared in English only, where required by international standards or EU alignment obligations.

#### **5. 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). The indicated number of working days is for planning and evaluation purposes only and does not constitute a basis for payment.

Payments are based upon output, i.e. upon delivery of the services specified in the TOR.

In order 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).

Payments will be disbursed in three instalments, each upon approval of the respective deliverable by the Project Manager and UNDP Digital Development Specialist (certifying that the services have been satisfactorily performed).

The assignment does not require any travel. Travel costs associated with visits conducted jointly with the project team will be covered by the project. For any travel undertaken independently by the Consultant to fulfill individual tasks or deliverables, the associated costs are the responsibility of the contractor.

#### **6. QUALIFICATIONS AND SKILLS REQUIRED**

##### **Academic Qualifications:**

- University degree in Computer Science, Information Systems, Finance & Economics, or another relevant field.

##### **Years and sphere of experience:**

- Minimum 5 years of progressively responsible relevant experience in cloud infrastructure engineering, data engineering, AI/ML systems design or evaluation, or related technical roles in private or public sector contexts.
- Proven experience designing or operating cloud infrastructure environments, including compute and storage provisioning, network isolation, access control configuration, and audit logging.
- Demonstrated experience with data pipeline or data warehouse design, including data ingestion from multiple institutional sources and analytical data layer architecture.
- Experience applying structured AI/ML evaluation methodologies, including performance benchmarking and bias/fairness testing in a production or near-production context.
- Experience integrating with government or enterprise API ecosystems, including REST APIs and event-driven data exchange architectures.
- Familiarity with EU AI Act requirements, particularly Annex III (high-risk AI classification) and Annex IV (technical documentation standards), is an asset.

- Knowledge of Moldovan government e-governance infrastructure (MConnect, MPass, MLog, MCloud, Semantic Catalogue) is a strong asset.
- Experience designing or operating regulatory technology sandboxes or controlled AI experimentation environments in a public sector context is an asset.
- Previous experience within a UNDP project and/or other international organizations will be considered an advantage.

#### **Competencies:**

- Deep technical expertise in cloud infrastructure, data engineering, and AI/ML evaluation, with the ability to translate technical outputs into policy-relevant reporting for non-engineering stakeholders.
- Ability to design and implement multi-institutional data pipelines and warehouse architectures in a government cloud environment.
- Ability to deliver technically complex assignments independently and within tight deadlines, maintaining rigorous documentation and audit standards.
- Strong initiative and ability to manage technical deliverables across multiple institutional counterparts with minimal supervision.
- Excellent interpersonal and communication skills, with the ability to engage effectively with government counterparts, non-engineering Oversight Committee members, and international stakeholders.

#### **Language requirements**

- Fluency in Romanian and English is mandatory.

#### **Personal qualities:**

- Responsibility, flexibility and punctuality, ability to meet deadlines and prioritize multiple tasks.
- 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.

## **7. 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), which shall be filled in mandatorily and includes the detailed breakdown of costs supporting the all-inclusive financial proposal.
- CV and at least 3 references.
- Motivation Letter: outlining suitability for the assignment, including relevant experience in similar projects. Please address each qualification item by item, with supporting information and links/copies of relevant documents

**Important notice:** applicants who have the statute of Government official / public servant will be asked to submit the following documentation:

- a no-objection letter in respect of the applicant received from the Government, and;
- certification in writing by the employer to be on official leave without pay for the entire duration of the individual contract.

## **8. EVALUATION**

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

- University degree in Computer Science, Information Systems, Finance & Economics, or another relevant field.
- Minimum 5 years of relevant experience in cloud infrastructure engineering, data engineering, AI/ML systems design or evaluation, or related technical roles in digital government contexts.
- Citizenship of the Republic of Moldova.

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 / 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 for the Technical Evaluation shall be considered for the Financial Evaluation.*

Criteria	Scoring	Points obtainable
<b>Technical</b>		
University degree in Computer Science, Information Systems, Finance & Economics or another relevant field.	<i>Bachelor's degree - 10 pts. Master's degree - 15 pts.</i>	15
Relevant experience in cloud infrastructure engineering, data engineering, AI/ML systems design or evaluation, or digital government roles	<i>5 years - 20 pts., each additional year of experience - 5 pts. up to a maximum of 40 pts.</i>	40
Proven experience designing or operating cloud infrastructure environments (compute, storage, network isolation, access control, audit logging)	<i>1 assignment - 10 pts., each additional assignment - 10 pts. up to a maximum of 40 pts.</i>	40
Experience with data pipeline or warehouse design and AI/ML evaluation methodologies (performance benchmarking, bias/fairness testing)	<i>more than 3 years - 15 pts; up to 3 years - 10 pts; no experience - 0 pts.</i>	15
Previous experience within an UNDP Project and/or other international organization(s) will be considered an advantage	<i>each assignment - 5 pts. up to a maximum of 10 pts.</i>	10
<b>Subtotal Technical Scoring</b>		<b>120</b>
<b>Interview</b>		
<i>(The first three candidates who passed technical evaluation criteria with the best score shall be invited for an online interview and pass the cumulative analysis)</i>		
Technical knowledge in AI sandbox design, government cloud infrastructure, and EU AI Act	<i>none - 0 pts, limited ≤ 10 pts, good ≤ 25 pts, strong ≤ 35 pts</i>	<b>170</b>

requirements (Annex III/IV)		
Ability to design and implement data pipelines and warehouse architectures in private or government cloud environments	<i>none - 0 pts, limited ≤ 10 pts, good ≤ 25 pts, strong ≤ 35 pts</i>	
Demonstrated AI/ML evaluation competence: ability to run bias/fairness tests, explainability checks, and produce Oversight Committee-ready reports	<i>none - 0 pts, limited ≤ 10 pts, good ≤ 25 pts, strong ≤ 30 pts</i>	
Ability to deliver technically complex assignments independently within tight deadlines, maintaining rigorous documentation standards	<i>none - 0 pts, limited ≤ 10 pts, good ≤ 20 pts, strong ≤ 30 pts</i>	
Communication skills: ability to translate technical outputs for non-engineering stakeholders and government oversight bodies	<i>none - 0 pts, limited ≤ 10 pts, good ≤ 20 pts, strong ≤ 30 pts</i>	
Fluency in Romanian and English (required); Russian is an asset	<i>each language - 5 pts. up to a maximum of 10 pts.</i>	
<b>Subtotal Interview Scoring</b>		<b>170</b>
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>	<b>10</b>
<b>Maximum Total Technical Scoring</b>		<b>300</b>

<b>Financial</b>	
Evaluation of submitted financial offers will be done based on the following formula: <b>S = Fmin / F * 200</b> ( <b>S</b> - score received on financial evaluation); <b>Fmin</b> - the lowest financial offer out of all the submitted offers qualified over the technical evaluation round ( <b>F</b> - financial offer under consideration)	<b>200</b>

\* 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.**

### **Winning candidate**

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