Ministry of Education, Culture and Research (MoECR)

**Moldova Higher Education Project (MHEP)**

**Procurement References: MD-MOED-206056-CS-INDV**

**TERMS OF REFERENCE**

**Individual Consultant to provide support to the Ministry of Education, Culture and Research in developing the Concept, Regulation and Terms of Reference for development of the High Education Management System (HEMIS)**

1. **Background information on the project**

Moldova Higher Education Project (MHEP) is a World Bank-financed Project to be implemented between May 2020 and December 2025.

The total cost of credit is EUR 35.7 million (US$39.4 million equivalent) financed by the International Development Association (IDA) and is provided to the Republic of Moldova in support of Moldova Higher Education.

The Project Development Objective is to improve the labor market orientation of selected higher education institutions and the quality assurance mechanisms. The Project is organized around three components and includes systemic interventions in the areas of higher education quality, financing and management, as well as a targeted program to be implemented by selected higher education institutions and pedagogical colleges to address some of their most pressing needs in labor market orientation.

The MHEP components are described below:

1. Improving the Quality Assurance Mechanisms
2. Improving the Labor Market Orientation through Targeted Interventions
3. Project Management

*Component 1* – Improving the Quality Assurance Mechanisms. This component aims to improve Moldova higher education system’s quality assurance mechanisms, which would also contribute to improve its labor market orientation. It comprises three sub-components that support activities in: (i) National Qualifications Framework (NQF) and Quality Assurance (QA); (ii) System Management and Monitoring; (iii) Higher Education Financing.

*Component 2* – Improving the Labor Market Orientation through Targeted Interventions. This component will finance the design and implementation of a targeted and needs-based program (Higher Education Improvement Program - HEIP) aimed at improving the labor market orientation of Moldova’s higher education institutions, as well as their research capacity.

*Component 3* – Project Management. This component will support the day-to-day management of the Project by the MoECR with assistance of a dedicated team of individual consultants who would provide managerial, fiduciary, and technical support to the implementation of the proposed Project for its full duration.

The sub-component 1.2 *System Management and Monitoring* will finance activities to improve the higher education system’s management and monitoring capacity. This sub-component will support the development and installation of the following information systems: (i) *unified electronic higher education admission system (e-Admission), (ii) unique Higher Education Management Information System (HEMIS), and (iii) Labor Market Information System (LMIS).* It will also finance the development and implementation of a *higher education system-wide* *graduate tracer study.*

These information systems will produce data that would be used to inform plans and decisions at the system and institutional levels. The installation of these information systems would imply an extensive capacity building program to train staff of the MoECR, Ministry of Health, Labour and Social Protection (MoHLSP), National Employment Agency (NEA) and higher education institutions in the operation of these tools and utilization of their data for planning and decision-making. It would benefit these institutions, students, upper secondary education students (in their applications), as well as job seekers (including graduates) and employers (through the LMIS).

The MoECR intends to hire an individual consultant who will provide support in the development of the Concept, Regulation and the ToR for development and implementation of the HEMIS. The MoECR’s ICT Department and the Information and Communication Technologies Center for Education will be responsible units for implementation of these activities.

1. **Objective(s) of the assignment**

The consultant will develop the Concept, Regulation and the Terms of References (ToR) for development of HEMIS and assist in managing the system development, implementation and acceptance of the system.

1. **Scope of Work**

The assignment includes but is not limited to reviewing national legislation, policies, and procedures, the Education Code, and other relevant regulatory documents related to higher education, interviewing higher education institutions and other potential HEMIS beneficiaries, reviewing international best practices and elaborate Concept and Regulation of HEMIS and based on them the detailed ToR for development of HEMIS that will be incorporated in the Bidding Documents according to World Bank procedures (ICB for Information Systems).

For all key activities and deliverables, the consultant will consult the MoECR and Project Management Team (PMT), particularly the MoECR's ICT Department and the Information and Communication Technologies Center under the MoECR, the E-Governance Agency, the relevant staff from the higher education institutions and other relevant public agencies. The consultant’s tasks will include but will not be limited to the following:

1. Review the national legal framework regarding higher education and relevant information systems and provide proposals for its adjustments if necessary, considering HEMIS implementation perspective.
   1. Analyze existing normative acts.
   2. Provide list of normative acts to be adjusted and recommendations for implementation of HEMIS.
2. Review of international best practices and processes applied in similar HEMISs and provide recommendation how international best practices could be applied in Moldova.
3. Develop questionaries and use them to collect data from all relevant stakeholders, MoECR and higher education institutions, including:
   1. Selective visits and interviews with higher education institutions which have and use their own EMIS (about 5 universities);
   2. Selective visits and interviews with the higher education institutions which don’t have EMIS;
   3. Interview with MoECR's ICT Department, MoECR's Higher Education Policy Department and the Information and Communication Technologies Center under the MoECR;
   4. Interview with the E-Governance Agency;
   5. Analysis of collected data and preparation of report regarding HEMIS needs and recommendations.
4. Review of existing and future information systems (to be) managed by the MoECR (EMIS, ADPS, e-Admission IS)[[1]](#footnote-1) and identification of solutions for integration them with the future HEMIS:
   1. Identify data sets stored in existing MoECR systems and national registers (e.g. State Register of Population) necessary to be integrated with HEMIS;
   2. Identify data sets to be managed by HEMIS that will be exported to other national and local Information Systems (e.g., higher education institutions’ information systems).
5. Elaborate the Concept and Regulation of HEMIS;
   1. Describe overall principle of work;
   2. Describe the architecture of HEMIS;
   3. Describe inter-operability options with other IT systems to be managed by MoECR;
6. Elaborate the ToR for the development of HEMIS:
   1. Describe functional and non-functional requirements, including security and data protection requirements.
   2. Describe system high-level architecture, domain objects and database structure.
   3. Describe business workflows.
   4. Describe integration and interoperability with third party systems.
   5. Estimate high level effort of System development and recommend company qualification requirements.
7. Assist MoECR in HEMIS development:
   1. Provide support in drafting responses during tendering for HEMIS development.
   2. Facilitate communication of selected company and stakeholders during process of HEMIS development.
   3. Provide support in user acceptance testing of HEMIS.
8. **Timing and Deliverables**

This is a part-time assignment expected to begin in September 2021 and continue until HEMIS will be developed and accepted by MoECR (estimated – December 2023) with a Level of Effort (LoE) of 30 days for the HEMIS Concept, Regulation and ToR development and up to 50 days to assist MoECR in managing the system development, implementation and acceptance.

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| Deliverables | Submission Deadline | Approval by |
| 1. Report of the legal framework review (*in Romanian*), including:    1. List of existing normative acts analyzed.    2. List of normative acts to be adjusted and recommendations for adjustments from HEMIS perspective. | 3 weeks from signing the contract | MoECR |
| 1. Report (*in Romanian*) on the HEMIS needs and requirements based on the:    1. international best practices and processes applied in similar HEMISs and provide recommendation how international best practices could be applied in Moldova.    2. outcomes from the selective visits and interviews with higher education institutions which have and use their own EMIS (about 5 universities), and the one which don’t have it, including analysis of collected data.    3. existing and future information systems (to be) managed by the MoECR (EMIS, ADPS, e-Admission IS)[[2]](#footnote-2) and solutions for integration them with HEMIS. | 6 weeks from signing the contract | MoECR |
| 1. Draft Concept and Regulation of HEMIS in accordance with Order No. 78 from 01-06-2006 and Education Code (*in Romanian*). | 8 weeks from signing the contract | MoECR |
| 1. Final Concept and Regulation of HEMIS (*in Romanian*). | 10 weeks from signing the contract | MoECR |
| 1. Draft ToR for development of HEMIS (List of functional and non-functional requirements, including flow chart diagrams, business model diagrams, Use-Case diagrams and requirements for the selected company) (*in Romanian*) | 13 weeks from signing the contract | MoECR |
| 1. Final ToR for development of HEMIS (*in Romanian and English*) | 16 weeks from signing the contract | MoECR |
| 1. Progress reports regarding MoECR assistance in managing the system development and implementation (*in Romanian*) | Quarterly after 16 weeks from signing the contract | MoECR |

All deliverables should be submitted in electronic format (editable). All reports could be submitted in electronic format digitally signed.

1. **Qualification requirements and evaluation criteria**

(i) General experience (30 points):

* University degree in areas such as computer sciences, economics, business administration, engineering, telecommunications or related area;
* At least 5 years of professional experience in IT area;
* Proven track record of similar assignments (min. 2 assignments).

(ii) Adequacy for the assignment (50 points):

* Experience in development of ToRs in education or related areas;
* Experience in software analysis and design including domain and data modelling. The experience in analysis and design of education systems would be an asset;
* Experience in the elaboration of the regulatory documents in the ICT field would be an asset;
* Understanding of Cloud Computing principles and related architectural applications development approaches;
* Understanding of Data Base Modelling principles. Certificates in Data Base would be an asset;
* Working experience in higher education system policies at the national level would be an asset;
* Understanding of personal data protection principles and national regulations.

(iii) Language and Communication (20 points):

* Written and verbal communication skills;
* Flexibility and good analytical skills;
* Very good teamwork skills;
* Excellent knowledge in Romanian (both written and oral).
* Knowledge in Russian would be an asset
* Good knowledge of English and ability to develop technical documents in English.

1. **Institutional arrangements**

The Consultant will report to the Project Coordinator, Project Executive Director, MoECR's ICT Department, MoECR's Higher Education Policy Department and Information and Communication Technologies Center. The MHEP team will oversee the process of consulting services and will manage the contract implementation.

The MoECR and Project team will provide the Consultant the necessary support to complete the assignment: project documents necessary for assignment accomplishment, necessary work conditions.

**Confidentiality statement:** All data and information received from MoECR for the purpose of this assignment is to be treated confidentially and are only to be used in connection with the execution of these Terms of Reference. All intellectual property rights arising from the execution of these Terms of Reference are assigned to MoECR. The contents of written materials obtained and used in this assignment may not be disclosed to any third parties without the expressed advance written authorization of the MoECR.

1. EMIS – Education Management Information System (sime.md)

   ADAPS – Automated Data Processing System (sapd.gov.md) [↑](#footnote-ref-1)
2. EMIS – Education Management Information System (sime.md)

   ADAPS – Automated Data Processing System (sapd.gov.md) [↑](#footnote-ref-2)