

TERMS OF REFERENCE
Ministry of Education, Culture and Research
Moldova Education Reform Project (MERP)

Reference No. (as per Procurement Plan): CQS-14

Consultant Company
to develop vocational education and training module for EMIS

1. Background information on the project

The „Moldova Education Reform” Project (MERP) is a World Bank-financed Project, to be implemented over six years, between April 2013 and June 2019. The Project received Additional Financing and the implementation period was extended with one year until June 2020.

The total cost of original credit is SDR 26.1 million (USD 40 million equivalent) and the Additional Financing in the amount of SDR 7.1 million (US\$ 10 million equivalent) is provided to the Republic of Moldova in support of Moldova Education Reform Project.

The MERP supports the Government of Moldova (GoM) reform program by financing activities that will strengthen the quality of education and lead to a more efficient education sector. Through this Project, the World Bank supports the GoM in implementing the needed reforms, which include initiatives for:

- Improving the efficiency of the education sector.
- Improving school learning conditions.

These efficiency measures will be complemented by, inter-alia, the following education quality initiatives envisioned in MERP:

- Development and implementation of a school improvement package for targeted schools based on agreed upon quality assurance standards.
- Implementation of training of school directors and teachers.
- Use of a consolidated Education Management Information System (EMIS) for the general education sector which will improve policy making.
- Consecutive and continued participation in the Program for International Student Assessment (PISA).
- Improvement of the student assessment system.

MERP’s focus is to support interventions that would lead to improvements in the quality and efficiency of primary and general secondary education. In that regard, additional resources would enable Ministry of Education, Culture and Research (MoECR) to deepen and expand the scope of key interventions, increasing their development impact and promoting their sustainability.

The objective of the Project is to improve learning conditions in targeted schools and strengthen the Recipient’s education monitoring systems, while promoting efficiency reforms in the education sector.

The MERP has three components:

- A. “Strengthening the Quality of Education”,
- B. “Improving the Efficiency of the Education Sector”
- C. “Improving the Ministry of Education, Culture and Research’s Capacity to Monitor the Reform”.

Component A is divided into three parts: A.1, A.2 and A.3.

The objective of part A.1 is to contribute to the strengthening of the quality of education in the General Education subsector by improving systems in the following areas: school standards, teacher and school director training, student assessments, and data collection.

The objective of part A.2 is to contribute to the strengthening of the quality of education in the General Education subsector by rehabilitating and upgrading 17 receiving schools. The activities under part A.2 is carried out by the Moldova Social Investment Fund.

The objective of part A.3 is to contribute to the strengthening of the quality of education by supporting the following activities:

- a) providing selected schools with science and technology equipment;
- b) (i) developing in-depth special education modules and training teaching support staff and psycho-pedagogues working with students with disabilities or special educational needs; and (ii) providing special education teaching and learning materials, and selected equipment;
- c) (i) evaluating training programs for school managers and teachers and updating such programs; and (ii) training and evaluating a second cohort of school managers and teachers based on the updated training programs;
- d) supporting the National Agency for Quality Assurance in Education and Research and the National Agency for Curriculum and Evaluation to increase their respective capacities;
- e) supporting the design and implementation of mechanisms to address the gender, inclusiveness, and citizen engagement dimensions in education;
- f) (i) Developing and incorporating a vocational education and training module into EMIS; and (ii) training users on the use of EMIS.

Component B was designed to support the GoM’s efforts to improve the efficiency of the sector by eliminating excess capacity and creating a leaner education system, which will be better equipped to provide education that meets the demands of a modern economy.

Component C has the objective to finance Technical Assistance (TA) for the MoECR to support the implementation, monitoring and measurement of the MERP.

One of the activities mentioned in component A.3 is developing and incorporating a vocational education and training module into EMIS.

EMIS is to strengthen the quality, degree of transparency and use of statistics on education to better inform educational reforms underway in Moldova. EMIS also promotes a favorable environment for social responsibility in the education sector in the Republic of Moldova, by opening access to data and encouraging citizens to supervise the education services and the impact of ongoing reforms in the Republic of Moldova. EMIS provides local government with relevant information for adjusting the school network and effective management of educational institutions. The

veracity of EMIS data is ensured by the appropriate training of system operators, as well as by their use of digital signatures.

EMIS was developed to monitor school dropout and collect data on students, employees and institutions involved in pre-university education. Subsequently, the MoECR decided to improve EMIS and expand the areas in which it is used to obtain complex, up-to-date information with a minimum degree of error. The technical platform of the EMIS is Oracle Database and Oracle Application Express as a development tool. All EMIS reports are made as APEX Interactive Reports (IR) and the MoECR is satisfied with the platform. So, the Module for General Education was developed in the system, which includes: the Primary Cycle, the Secondary and the High School Cycle. At the same time, at the request of the MoECR, the Module for Preschool Education has been developed, which has the following common classifiers with the General Education Module: Rayons / Municipalities / ATUs, Locality, Years of study, Gender, Native language, Language of training, Status (pupil /child), Status of the class /group, Personal status, Nationality, Teaching degree, Engagement method, Duration of the individual employment contract, Reasons for leaving. Integrating Modules: Preschool, General and VET allow us to obtain a unique data system, based on which we can better analyze the student's educational path. The EMIS has an open data interface „sime.md:8443” for dissemination and interactive visualization of educational data.

Target audience of the EMIS are:

1. The main actors of the educational system:
 - MoECR, Center for Information and Communication Technologies in Education (CICTE) staff, IT specialists of the vocational schools, colleges, centers of excellence, secondary vocational educational institutions;
 - school managers;
 - teaching staff;
 - students;
 - parents;
2. Civil society;
3. Local bodies of different levels;
4. Business;
5. Mass media.
6. Development Partners and International Organizations that collect statistics on education.

Development and incorporation of the Vocational Education and Training (VET) module into EMIS will expand the use of the newly created Education Management Information System for evidence-based education decision making and wider open data initiatives to encourage citizens' oversight of the education reforms. In this context, the MoECR intends to hire a firm to develop and integrate the new Module in EMIS for vocational education and training, which includes the following educational institutions: vocational schools, colleges and centers of excellence.

2. Objective of the assignment

The main objective of the assignment is to develop and integrate into the existing EMIS version the vocational education and training module (VET Module).

3. Scope of Work

In order to achieve the objective of the assignment, the Consultant shall perform the following tasks:

- Familiarize with all existing documentation and codes on EMIS.
- Familiarize with the Methodology for tracking the professional path of VET graduates according to the MoECR's Order no. 1187 dated December 10, 2015, which can be downloaded: (http://mecc.gov.md/sites/default/files/ome_nr.1187_din_10.12.2015.pdf);

During the development of the VET Module, the Consultant shall take into consideration the following:

- (i) indicators related to education itself (e.g. on access, participation and progressions such as VET enrolment,) which can be downloaded at the following link: http://mecc.gov.md/sites/default/files/anexa_1_0.pdf, http://mecc.gov.md/sites/default/files/anexa_2.pdf;
- (ii) indicators and characteristics of the education system (such as number of staff: Management staff, Teaching staff, Auxiliary teaching staff, non-teaching staff, number of vocational schools, colleges, centers of excellence, secondary vocational educational institutions, information about pupils according to the Ministry's Statistics Capacity Report, pupil's phone number, email address, parents' phone number etc.), which can be downloaded at the following link: http://mecc.gov.md/sites/default/files/anexa_1_0.pdf, http://mecc.gov.md/sites/default/files/anexa_2.pdf;

Both types of indicators will be released through open data web-pages of the MoECR.

The VET module shall have the following:

- The option to manage data indicated in the Report – Statistical capacity assessment and revision of the statistical framework:

Mapping system of vocational schools, colleges, centers of excellence, secondary vocational educational institutions.

Institution:

- General data, material and technical basis, data referring to the staff, students.
- No. of groups of students
- No. of specialties / vocations;
- No. of students in institution
- No. of training languages
- No. of students with disabilities (Severe degree, increased, average degree of disability, of girls, boys)
- No. of orphan children / under the tutelage
- No. of students from incomplete families
- No. of students provided with hostel
- Data on students' school results
- Data on attendance
- No. of students enrolled

- No. of graduates
- No. of scholarship holders
- Rating of students depending on specialty, profession on semester.

Students: – Data on students introduced in the system; generation of supplement to Diploma / certificate of vocational studies.

- The option to integrate the EMIS with MConnect (Government Interoperability Platform), the State Register of Population, MSign (data validation mechanism). MConnect can facilitate the exchange of data between authorities to increase data efficiency and quality. Through the interoperability platform, public authorities ensure real-time data exchange without manual input of data. Thus, other systems owned by public authorities, agencies (for example, Automated Data Processing System) will import data from EMIS, thus avoiding duplication of data, and the system administrator will not enter the same data in different systems.
- The option to view in 3 languages (Romanian, Russian, English).
- Security and encryption, secure connectivity provisions for queries in database for online mode;
- The mechanism for expanding the periodicity of data collection/update (at the moment – only annually). This mechanism depends on how many times a year the data will be collected in the system. This fact is established by the MoECR through an Order. The administrators shall easily modify this periodicity by adding additional fields (for example notes, quarterly or semesterly) without calling the developer.
- The mechanism for classifier management without the developer's participation. The option to add new indicators in the general reports.
- The mechanism for adding a tariff lists and staff, according to the MoECR's Order no. 661 dated July 12, 2016 on approving the staff of the VET institutions (http://mecc.gov.md/sites/default/files/ordinul_cu_statele_de_personal.pdf Annexes 7 and 8). Tariff lists and staff in the VET module will be new fields with information on the number of staff per each VET institution and the tariff lists for the teaching staff of the educational institution depending on the number of teaching hours according to the curriculum.
- The option to make requests to check personal codes of students and staff (management staff, teaching staff, auxiliary teaching staff, non-teaching staff, etc.) through the State Register of Population of the Republic of Moldova. By manually entering the IDNP and the date of issue of the identity document, a request is made through the web service to the State Register of Population, owned by the Public Services Agency. If the data was entered correctly, the following fields have to be filled: Name and First Name of the person.
- The option to transfer the whole program of vocational training / level of studies from one level to another (for example, from group I to group II), maintaining the possibility of individual transfer;
- The option to add the vocational schools, colleges, centers of excellence, secondary vocational educational institutions (closing/opening, locking/ unlocking);
- The option to add the indicator „geographical coordinates of the educational institution”;

- Integrate into the existing EMIS version the developed VET Module;
- Elaborate the User Guide for all users of VET Module;
- Prepare the course support for training of the users on VET module for collecting, analyzing and disseminating data;
- Train the following users on collecting, analyzing and disseminating data from VET module integrated into EMIS: ministry and other government representatives, IT specialists of the vocational schools, colleges, centers of excellence, and secondary vocational educational institutions. The one-day training will be held at the CICTE, and logistical support (coffee break and training materials) will be provided by the company. The final target – 175 administrators trained in the analysis and use of data from VET module. The final training target must be reached in 2-3 weeks.
- Develop the report on training of specialists;
- Develop a quarterly progress report throughout the period of service, except for the maintenance period.
- Ensure the maintenance of the VET Module for a period of 12 months from the acceptance by the MoECR.
- The VET Module must be secure and keep personal data. The security requirements for personal data collected in the VET module must comply with the Requirements for ensuring the security of personal data in their processing within the personal data information systems according to the Government Decision no.1123 dated December 14, 2010 and the provisions of the Law no. 133 dated July 08, 2011 on protection of personal data. These normative acts shall be observed otherwise we risk to be sanctioned by the Center for Personal Data Protection in the case of thefts and leaks of data of minor students, staff.

4. Expected Outcomes

The Consultant shall submit the following deliverables:

Type of deliverables	Contents	Format/ Language	Submission Deadline	Approval by
Technical specifications of the VET Module	Organize the meeting with the representatives mentioned in the column 5 of this table, presenting the Inception report with methodology and timelines and Technical specifications of the VET Module and other relevant information about the requirements of the new Module in EMIS.	Language: Romanian Format: electronic and hard copies	6 weeks from the start of the contract	MoECR, Coordinator of the EMIS, the Division for VET, CICTE; MERP Project Executive Director

VET module integrated into EMIS.	Organize the meeting with the representatives mentioned in the column 5 of this table, presenting the module VET integrated into the existing EMIS	Source code on CD/DVD support of VET Module	28 weeks from the start of the contract	MoECR, Coordinator of the EMIS, the Division for VET, CICTE; MERP Project Executive Director
User Guide for all users of VET Module	Organizing the meeting with the representatives mentioned in the column 5 of this table where the User Guide for all users will be presented	Language: Romanian Format: electronic and hard copies	34 weeks from the start of the contract	MoECR, Coordinator of the EMIS, the Division for VET, CICTE; MERP Project Executive Director
Reports and Course support for training of the vocational schools, colleges, centers of excellence	The report should include information about the number of participants trained, the course support documents, the participants' feedback on the training if applicable.	Language: Romanian Format: electronic and hard copies	36 weeks from the start of the contract	MoECR, Coordinator of the EMIS, the Division for VET, CICTE; MERP Project Executive Director
Maintenance report	The report must contain the detailed activities carried out during the maintenance period.	Language: Romanian Format: electronic	At the end of maintenance period	MoECR, Coordinator of the EMIS, the Division for VET, CICTE; MERP Project Executive Director

5. Qualification requirements and basis for evaluation (evaluation criteria)

The consultant company, shall have proven experience in:

(i) General experience (30 points):

- Experience in implementing projects containing personal data.
- Experience in developing and implementing educational informational systems;
- At least 5 years of experience in developing systems at the national level, a brief description of their objectives should be provided;
- Experience in data integration from different Oracle database for large organizations (more than one thousand authorized users);
- Experience in Data Mining;

(ii) Specific experience (30 points):

- Extensive experience in creating of the technical specification documents for similar products;
- Experience in working with stakeholders in order to identify right requirements towards the final product and adjust to possible new needs.
- Developing information systems in 3 languages (Romanian, Russian, English), including the interface and documents generated by the system;
- Experience in developing flexible reports with the possibility of changing/updating;

- Mandatory of Oracle certificates.

(iii) Professional experience of key personnel (40 points):

The Consultant team will include at least 3 (three) key members: a team leader, an information system specialist and a trainer.

Project manager

- Minimum 5 years of experience in the area of IT project management;
- Minimum 5 years of experience in implementing information systems based on web services, web page design, content management and software configuration and documentation;
- Staff experience in minimum two similar assignments in the past;
- Working knowledge of Romanian. English or/and Russian would be an advantage.

Information System Specialist

- Minimum 5 years of experience in implementing information systems based on web services, web page design, content management and software configuration and documentation;
- Working knowledge of Romanian, English and/or Russian would be an advantage.

Trainer

- Minimum 3 years of experience in training area;
- Experience in conducting technical trainings (in at least 2 projects);
- Working knowledge of Romanian, English and Russian

6. Duration of the assignment and estimated time input/

The Assignment is expected to be carried out during March 2019- June 2020.

7. Reporting requirements

The consultant company will submit electronically to EMIS Project Coordinator and MERP Project Coordinator a Quarterly progress report. The report must contain the detailed activities carried out, progress and problems faced in the implementation of the assignment.

The report language is Romanian.

8. Institutional Arrangements

The consultant company will work under the direct supervision of the EMIS Project Coordinator and all the works will be coordinated with him, at the same time the consultant will collaborate with the Division for Technical Vocational Training and Center for Information and Communication Technologies in Education (CICTE). The MERP Project Executive Director will approve all reports.

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 Ministry.