

Romania
Ministry of National Education and Scientific Research
Romania Secondary Education Project
Loan Agreement N° 8481-RO

Terms of Reference for Software Development of the Project Management Information System – Software Programmer 2

1. Background

On April 17, 2015, the Government of Romania (GoR) and the World Bank (WB) signed the Loan Agreement N° 8481-RO on the implementation of the **Romania Secondary Education Project** (hereinafter referred to as **the ROSE Project**). The ROSE Project was declared effective on October 14, 2015, and will be implemented by the Ministry of National Education and Scientific Research of Romania (MENSUR) until November 2022. The ROSE Project Development Objectives (PDO) are to improve the transition from upper secondary to tertiary education and increase the retention in the first year of tertiary education in project-supported education institutions. It is structured in three components, as described below.

Component 1 – School-based and Systemic Interventions. This component finances supply-side interventions at the school and system levels to address the academic and personal factors hindering Romanian students from transitioning from upper secondary to tertiary education, including dropping out, declining to take the Baccalaureate, or scoring a low mark at the Baccalaureate exam.

Sub-component 1.1 – School-based Interventions. This sub-component supports the transition of students from upper secondary to tertiary education using a decentralized approach based on non-competitive grants to low-performing public high schools. The criteria for selection of eligible high schools combine the following rates: Baccalaureate passing rate, dropout rate and upper secondary graduation rate. Grants will be awarded to public high schools for a 4-year period to allow sufficient time for implementing activities aimed at supporting students from Grade 9 through Grade 12. At the end of the Project, it is estimated that approximately 80 percent of Romanian public high schools (1,160) would benefit from this sub-component.

Sub-component 1.2 – Systemic Interventions. This sub-component finances: (i) revision of the upper secondary education curriculum, with specific consideration for the needs of disadvantaged students including Roma; (ii) training of teachers and public school directors on implementing the revised curriculum, on adapting the curriculum to the needs and abilities of different students (inclusive education), student-centered teaching approaches, intercultural competence and on formative assessment; (iii) improving teaching conditions within Teachers Houses; (iv) revising and updating Grade 8 and Baccalaureate exam banks of items, and providing training and improvement of existing information and technologies platform; (v) development and implementation of a Grade 10 learning assessment, to be administered at the end of the compulsory education cycle; (vi) development of digital teaching and learning materials; (vii) development and implementation of campaigns to raise student and teacher awareness, which could be tailored for Roma students; and (viii) strengthening of MENSUR's capacity to use educational information to monitor upper secondary education and the transition of students into tertiary education.

Component 2 – University-Level Interventions and Bridge Programs. This component supports activities designed to address the needs of students who are at risk of dropping out of faculties in the first year of study in tertiary education. It finances two grant schemes – one non-competitive and one competitive – for public universities that serve these at-risk students. In addition to the grants, this component finances technical assistance for evaluation of proposals and grants implementation monitoring. Approximately 85 percent of Romanian public faculties would benefit from this component.

Component 3 – Project Management, Monitoring and Evaluation. This component finances day-to-day project management activities, Monitoring and Evaluation (M&E) activities, project audits, as well as incremental operational and staffing costs of the MENSUR's Unit for the Management of Externally Financed Projects. This component also finances the carrying out of: (i) surveys concerning high school students attending bridge programs; (ii) an impact evaluation of the high school grants program to assess improvements in student outcomes and school management processes; (iii) a revision of the existing student loan scheme developed for tertiary education students; (iv) an analysis of existing demand-side programs addressing the needs of disadvantaged upper secondary students that are currently under implementation; and (v) other M&E studies, as needed.

The MENSUR is the main implementing agency responsible for the ROSE Project. Public high schools and public tertiary education institutions identified as beneficiaries of the grant components implement their corresponding parts of the Project under a decentralized approach, but with technical assistance of specialists financed under the Project. School Inspectorates play a role in the transfer of funds to public high schools under the implementation of the Sub-component 1.1. ROSE Project implementation arrangements rely on the existing structure of the MENSUR. The MENSUR's Unit for the Management of Externally Financed Projects (UMEFP) has extensive experience with Bank-financed projects, having implemented almost all of the previous operations in Romania, as well as projects financed from other sources. This unit has the adequate capacity to carry out day-to-day project management activities including centralized procurement, financial management, reporting, and project M&E.

A project management and information system for monitoring, reporting and financial management has to be developed on the terms and in a manner acceptable to the World Bank.

Accounting records will be kept in the MENSUR's existing accounting software, with supplemental project records and reports kept, in both local and loan currency, in a ROSE Management Information System (RMIS) to be developed with project funds. The UMEFP is responsible for keeping detailed accounting records for the ROSE Project. Specific functionalities should be in place for the timely archiving of the monthly files and regular information backup. Given the large multi-tranche grants schemes for a high number of geographically-dispersed recipients, it is considered beneficial that the RMIS is implemented for monitoring, reporting, and financial management (FM), in particular related to these components which account for more than 80 percent of the loan. It is expected that this RMIS would be able to maintain multi-currency records, per each project component, category, activity, contract and grant, and generate automatic reports to be used for project monitoring, financial reporting and disbursement of the loan proceeds. Appropriate project analytical records and supporting documentation would be maintained at grantees level as well.

The RMIS's objects should be designed to store financial data and to prepare monthly reports to the Ministry of Public Finance, quarterly and annual reports to the World Bank (according to the templates of interim unaudited financial reports), financial statements for the auditors, and other relevant project reports such as the Project Implementation Plan and Project Procurement Plan. RMIS's objects should store all needed data for management of all activities defined in the Project Implementation Plan in terms of: financial management (resources allocated, committed, and spent); procurement (procurement method, estimated and actual dates of all relevant phases of the procurement process); implementation schedule (estimated and actual implementation periods); and monitoring (measurement of related intermediate and outcome indicators).

The RMIS's data model should include instruments to manage the grants schemes supported by the ROSE, both for the financial and technical activities, according to specific procedures for management of grants to high schools and universities provided by UMEFP.

The RMIS should allow introduction of data from different entities, approximately 1.500, over an Internet connection. It also should allow for keeping detailed project accounting records, including distinct records for each grant project that UMEFP manages.

The RMIS should be able to maintain multi-currency records in Euros and Romanian Lei, per each project component, category, activity, contract and grant, and generate automatic reports to be used for project monitoring, financial reporting and disbursement of the loan proceeds; The RMIS should allow the timely archiving of the monthly files and regular information backup.

The RMIS should be able to produce *inter alia*:

- Project Interim Unaudited Financial Reports (see templates in Annex 1).
- Project Implementation Plan (see templates in Annex 2).
- Project Procurement Plan (see template in Annex 3).
- Project Indicators Monitoring Report (see template in Annex 4).

2. Objective

The objective of this assignment is to develop the software for the ROSE Management Information System (RMIS), which should include functionalities on procurement, online training, and project grant applications submission and evaluation.

3. Scope of Services

To achieve the objective of this assignment, the Consultant is expected to undertake the following activities:

- *Learning tasks:*
 - Familiarize with the ROSE Project documents including the Project Appraisal Document, Loan Agreement No 8481-RO, Project Operations Manual, Project Implementation Plan and Project Procurement Plan.

- *Have regular meetings with UMEFP Director and other relevant team members* in order to prepare, develop and coordinate all the activities required to fulfill the tasks envisaged. The progress of the services will be closely analyzed, highlighting issues and constraints that may impact the delivery of the RMIS.
- *Coordinate with the Data Model Design Consultant, hereinafter called lead IT consultant*, during the work progress to provide consistency with the other IT consultants.
- *Provide inputs to the work plan for the proposed tasks* and submit to the lead IT consultant.
- *Write the programs (source codes) of the approved functional requirements for RMIS* using Internet-based programming languages, which should include functionalities on procurement, online training, and project grant applications submission and evaluation. The consultant will provide first, second and final versions of the RMIS core programs that will be submitted to the lead IT consultant and all comments provided to the Consultant should be incorporated in the final version.
The RMIS core includes financial management, procurement, monitoring and evaluation, reporting and auditing.
- *Provide inputs to the comprehensive documentation* for the RMIS core.
- *Test each program developed for the RMIS*, provide feedback of tests results and integration with existing information systems.
- *Provide training to the UMEFP staff* for introducing data and utilization of RMIS, including for producing different types of reports.
- *Assist the UMEFP in RMIS administration*, perform minor adjustments over the course of the contract to be signed based on this Terms of Reference.

The Consultant will make all reasonable efforts to provide clean, error free software, with all required functionalities. The consultant will support the Lead IT Consultant to fix any bug over a one-year functioning of the RMIS.

4. Deliverables

As a result of the services described above, the Consultant shall deliver the following:

Deliverable	Deadline (weeks from contract signature)
Inputs to Draft version work plan	1
Inputs to Final version work Plan	2
1st Version of the RMIS core programs for procurement	5
Final Version of the grant application submission and evaluation module	7
2nd Version of the RMIS core programs for procurement	10
RMIS core program source codes for procurement	12
Final Version of the RMIS core programs	12

Deliverable	Deadline (weeks from contract signature)
Inputs to RMIS core documentation	12
Report with results of tests of new programs	12
Inputs to RMIS system deployment report	12
Specific training for the UMEFP staff and report (phase 1 – RMIS core)	14
First Version of the online training module	28
Final Version of the online training module	32
Specific training for the UMEFP staff and report (phase 2)	38
Inputs to Final implementation report	48

All reports will be prepared in Romanian language.

5. Qualification

The minimum competencies required from the Consultant are the following:

- Bachelor/Master degree or equivalent in Computer Science or related field;
- Minimum of 5 years of experience with development, implementation or administration of complex IT systems;
- In-depth knowledge of database development, testing, and integration methodologies;
- Proven knowledge of system development using relational database management system (relational DBMS);
- Ability to deliver under tight deadlines and produce high quality outputs;
- Experience in documenting and managing issues and actions for development of information systems;
- Ability to work in teams, preparing technical specifications, and communicating with all team members;
- Demonstrate client orientation: balance a responsive and proactive approach to meeting client needs;
- Demonstrate strong interpersonal skills and good written and oral communication skills in English and Romanian;
- High standards of personal integrity and ability to treat people with fairness and respect.

6. Other Relevant Terms

Period of the Assignment. This assignment is planned between August, 2016 and September, 2017.

Reporting. The Consultant should report to the Project Director, and will closely work with the Technical Coordinator, Financial Management Specialist, Grant Officers, Information System Specialist and Monitoring and Evaluation Specialist in the UMPFE.

Deployment of the RMIS. The RMIS should be installed in the MNESR/UMEFP (using the recommended hardware acquired by the MNESR).

Confidentiality. The Consultant shall not at any time communicate to any person or entity any confidential information acquired in the course of the proposed assignment.

Proprietary Rights. All program codes and relevant documentation such as diagrams, models, and databases compiled or prepared by the Consultant for the MNESR/UMEFP in the course of the proposed assignment shall be confidential and become and remain the absolute property of the MNESR. The Consultant shall, not later than upon termination or expiration of the Contract to be prepared for the proposed assignment, deliver all such program codes and documents to the UMEFP.

Equipment and Software for Development of the RMIS. The Consultant should use his/her own equipment to carry out the tasks proposed in this Terms of Reference.

ROMANIA
SECONDARY EDUCATION PROJECT
SUMMARY OF WITHDRAWAL APPLICATIONS
FOR THE QUARTER ENDED XX/XX/201X
IN LOCAL CURRENCY

	Amount requested	Amount approved	Cumulative	Value date
1. Withdrawal application #1 covering the period				
Total Withdrawal Applications				

ROMANIA
SECONDARY EDUCATION PROJECT
BREAKDOWN OF GRANTS TO HIGH SCHOOLS
FOR THE QUARTER ENDED XX/XX/201X
IN LOCAL CURRENCY

	Grant No. / approval date	Approved Grant amount	Paid Grant amount	Remaining balance	Payments incurred during the quarter	Payments incurred cumulative-to- date
Sub-component 1.1 School-based and Systemic interventions						
Beneficiary 1						
Pedagogical activities						
Extracurricular activities						
Small rehabilitations						
Grant management costs						
Beneficiary 2						
Pedagogical activities						
Extracurricular activities						
Small rehabilitations						
Grant management costs						
Beneficiary 3						
Pedagogical activities						
Extracurricular activities						
Small rehabilitations						
Grant management costs						
Total						

Interim un-audited Financial Reports (IFR)

ROMANIA
SECONDARY EDUCATION PROJECT
BREAKDOWN OF GRANTS TO UNIVERSITIES
FOR THE QUARTER ENDED XX/XX/201X
IN LOCAL CURRENCY

	Grant No. / approval date	Approved Grant amount	Paid Grant amount	Remaining balance	Payments incurred during the quarter	Payments incurred cumulative-to-date
Component 2. University-level Interventions and Bridge Programs						
Beneficiary 1 (university)						
Grant 1						
Bridge programs						
Grant 2						
Learning centers						
Sub-beneficiary 1 (faculty)						
Academic activities						
Grant management costs						
Sub-beneficiary 2 (faculty)						
Academic activities						
Grant management costs						
Beneficiary 2 (university)						
Grant 1						
Bridge programs						
Grant 2						
Learning centers						
Sub-beneficiary 1 (faculty)						
Academic activities						
Grant management costs						
Sub-beneficiary 2 (faculty)						
Academic activities						
Grant management costs						

Annex 2 - Project Implementation Plan

ROMANIA SECONDARY EDUCATION PROJECT (ROSE) Project																				
Project Implementation Plan																				
Components / Sub-components / Activities	Implementation Period			Date	Lithary Cost	Contract							Responsible Unit	Type of Activity	Procurement Arrangements	M&E Arrangements			Link to the Education Sector Plan	
	Start Date	Contract Date	End Date			2014	2015	2016	2017	2018	2019	2020				Total	Output	Related outcome		
																		Description		Baseline
Component 1- School-based and Systemic Interventions																				
Sub-component 1.1 – School-based Interventions																				
1.1.1 Preparation of guidelines for grants activities (grants manual, remedial course & tutoring developing socio-emotional skills, inclusive education, professional counselling and guidance, personal development and																				
1.1.2 Technical assistance to facilitate the implementation & evaluation of grant proposals																				
1.1.3 Monitoring for Pedagogical Activities																				
1.1.4 Technical assistance to monitor the high school grants																				
1.1.4 Monitors for the high school grants																				
1.1.4 Incremental operational costs for monitors for the high school grants																				
1.1.7 Grants to High Schools																				
Total of Subcomponent 1.1																				
Sub-component 1.2 – Systemic Interventions																				
1.2.1 Revision of the upper secondary education curriculum																				
1.2.2 Training of teachers and school directors on implementing the revised curriculum																				
1.2.3 Revision and update to Grade 8 and Baccalaureate exam items database and associated training																				
1.2.4 Upgrade infrastructure (hardware and software licenses) for National Examination and Evaluation Center to provide online																				
1.2.5 Training the NNEC & MNEER staff (blended learning programme)																				
1.2.6 Development and implementation of Grade 10 assessment (three subjects for each																				
1.2.7 Campaigns to raise students and teachers awareness																				
1.2.8 Strengthening MNEC's M&E capacity and utilization of M&E data to track upper secondary students and monitor their transition into tertiary education																				
1.2.9 Development of digital teaching and learning materials																				
1.2.10 Supporting Conditions of Teachers																				
Total of Subcomponent 1.2																				
Total of Component 1																				
Component 2 – University-Level Interventions and Bridge Programs																				
2.1 Technical assistance for designing summer bridge programmes for the development of social and emotional skills and tertiary education grant application																				
2.2 Technical assistance to evaluate the grants proposals																				
2.3 Technical assistance to monitor the grants at the level of universities																				
2.4 Monitors for the university grants																				
2.5 Incremental operational costs for monitors for the university grants																				
2.6 Small grants for supporting at risk students																				
2.7 Medium grants for supporting at risk																				
2.8 Large Grants for supporting at risk students																				
2.9 Grants for summer bridge programs																				
2.10 Grants for learning centres																				
Total of Component 2																				
Component 3 – Project Management, Monitoring and Evaluation																				
3.1 Financing of UNEPF staff salaries																				
3.2 Financing of UNEPF operational costs																				
3.3 Workshops, seminars, trainings for strengthening of the project activities																				
3.4 Purchase of equipment for UNEPF (including vehicle)																				
3.5 UNEPF staff training																				
3.6 Project Financial Audits																				
3.7 Communication campaigns for project activities (design and implementation)																				
3.8 Dissemination – Printing and materials																				
3.9 M&E for monitoring and reporting projects activities (including grants)																				
3.10 Technical assistance to design the ToR for Project Impact Evaluation and Other Monitoring and Evaluation Studies and Local studies for analysis of demand-side programs																				
3.11 Project Impact Evaluation and Other Monitoring and Evaluation Studies																				
3.12 Local studies for analysis of demand-side programs																				
3.13 Revision student loan scheme																				
Total of Component 3																				
Total of Project Cost																				

Annex 3 - Project Procurement Plan

Procurement Plan - Consultants' Services - updated on																									
Bank approval Date of the Procurement Plan : Original:																									
Period covered by this Procurement Plan:																									
Contract Reference Number	Description	Type	Number of packages	Estimated cost (EUR)	Bank Prior Review	Selection Method	Finaliz. of TOR's NO	Request of Exp of Interest	Submission of Exp of Interest	Short List of Const	Request for Proposals	NO short list&RFP	RFP Issued	Technical Proposal Opening	Eval of Technical Proposal	NO Techn. eval. report	Financial Proposal Opening	Final Eval Report	Receipt of Draft Contract (NO)	NO to Contract	Award of Contract Signature	Contract Completion date	Contract Value /contract currency (millions)	Contract Value (mil US\$)	Consultant name
1	2	3	4		8	9	10	11		12	13	14	15	16	17	18		19	20		21	22	23	24	25
	plan																								
	revised																								
	actual																								
	plan																								
	revised																								
	actual																								
Component 1 - School-based																									
	plan																								
	revised																								
	actual																								
	plan																								
	revised																								
	actual																								
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Component 2 – University -Level Interventions and Bridge																									
	plan																								
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	plan																								
	revised																								
	actual																								
Component 3 – Project Management, Monitoring and Evaluation																									
	plan																								
	revised																								
	actual																								

Page 1

Annex 4 - Project Indicators Monitoring Report

ROSE's Results Framework Performance Monitoring Indicators												
Project Development Objective: the Project Development Objectives are to improve the transition from upper secondary into tertiary education and increase the retention in the first year of tertiary education in project-supported education institutions.												
Project Development Objective Indicators (*)												
Indicator Name	Unit of Measure	Cumulative Target Values							Frequency	Data Source / Methodology	Responsibility for Data Collection	
		YR 1	YR 2	YR 3	YR 4	YR 5	YR 6	YR 7				
Average dropout rate in the final grade in project-supported high schools	Percentage	6.5%	6.2%	5.8%	5%	4%	3.8%	3.5%	Annual	MESR's EMIS; School Inspectorates	MESR; School Inspectorates	
<i>Sub-type indicator:</i> Percentage of project-supported high schools with dropout rate above 7 percent	Percentage	23.1%	22%	19%	16%	13%	11%	10%	Annual	MESR's EMIS; School Inspectorates	MESR; School Inspectorates	
Average graduation rate in project-supported high schools	Percentage	86.9%	88%	89%	90%	91%	92%	93%	Annual	MESR's EMIS; School Inspectorates. Graduation in grade 12	MESR; School Inspectorates	
Average Baccalaureate passing rate in project-supported high schools	Percentage	49.6%	50%	52%	54%	56%	58%	59%	Annual	MESR's documents	MESR	
Average retention rate in the first year of tertiary education in project-supported faculties	Percentage	82.3%	82.3%	82.5%	83%	83.5%	84%	84.5%	Annual	MESR's documents; Project-supported	MESR	
Intermediate Results Indicators												
Component 1 – School-based and Systemic Interventions												
Percentage of eligible high schools benefitting from the project grants	Percentage	0%	25%	90%	90%	90%	90%	90%	Semi-annual	MESR's documents	MESR	
Percentage of project-supported high schools that implement the grants in compliance with grant performance indicators	Percentage	0%	50%	60%	75%	85%	100%	100%	Semi-annual	Grants performance requirements to be specified in the POM	MESR	
Percentage of project-supported high schools that implement the grants in compliance with requirements for citizen engagement applicable to the Project (**)	Percentage	0%	65%	70%	75%	80%	85%	90%	Semi-annual	Requirements for citizen engagement applicable to the Project to be specified in the POM	MESR	
Average percentage of students of project-supported high school benefiting from remedial, tutoring or counselling activities (*)	Percentage	0%	10%	20%	30%	40%	45%	50%	Semi-annual	MESR's documents	MESR	
Grade 10 assessment developed and administered, and results used to inform policy	Yes/No	No	No	No	No	Yes	Yes	Yes	Semi-annual	MESR's documents	MESR	
Component 2 – University-Level Interventions and Bridge Programs												
Percentage of eligible faculties benefitting from project grants	Percentage	0%	25%	80%	80%	80%	80%	80%	Semi-annual	MESR's documents	MESR	
Number of at risk tertiary education students benefiting from remediation and counseling programs (*)	Number (in thousands)	0	5	10	60	60	60	60	Semi-annual	MESR's documents	MESR	
Number of project-supported high school students who participate in bridge programs (**)	Number (in thousands)	0	1	3	6	8	8	8	Semi-annual	MESR's documents	MESR	
Component 3 – Project Management, Monitoring and Evaluation												
Report on the analysis of existing demand-side programs for disadvantaged upper secondary education students published with	Yes/No	No	Yes	Yes	Yes	Yes	Yes	Yes	Semi-annual	MESR's documents	Consultant to be hired to analyze the	
Share of students of project-supported high school attending bridge programs who demonstrate motivation to pursue tertiary	Percentage	N/A	N/A	To be determined	N/A	N/A	30%	30%	At the end of YR 3 and YR 6	Two student surveys. The final target is 30% higher than the	Company to be hired to carry out the	
Tertiary education students loan scheme revised and used to inform policy makers	Yes/No	No	No	Yes	Yes	Yes	Yes	Yes	Annual	MESR's documents	Consultant to be hired to revise the students loan scheme	
Direct project beneficiaries, of which female (**) (core indicator)	Number (in thousands)	0	460	900	1,14	1,39	1,62	1,62	Annual	MESR's documents; MESR's EMIS; School Inspectorates	MESR	