

## **EDUCATION QUALITY IMPROVEMENT PROJECT (EQIP)**

### **MINISTRY OF EDUCATION AND RESEARCH**

**Procurement Reference: MD-MoED-545106-CS-CQS**

#### **TERMS OF REFERENCE**

Training Services, Professional Development, and Study Visits for Teaching Staff

**Thematic area: STEM, Robotics, Emerging Technologies and Innovation**

### **A. PROJECT DESCRIPTION**

#### *General Context*

The education system of the Republic of Moldova is undergoing a comprehensive modernization process aimed at improving learning quality, developing future-oriented competencies, and transforming learning environments through the integration of technologies. In this context, strengthening competencies in STEM, educational robotics, and emerging technologies has become a strategic priority for preparing students for a society driven by innovation, critical thinking, and problem solving.

In many educational institutions, significant disparities persist in terms of laboratory equipment, the level of use of technological tools, teachers' capacity to use digital platforms and instruments, as well as the integration of experimental activities and interdisciplinary projects into the teaching and learning process. Continuous professional development of teachers is a key condition for the effective use of modern equipment, the implementation of STEM methodologies, and the promotion of learning through exploration, experimentation, and technology-based projects.

The Education Quality Improvement Project (EQIP) is implemented by the Ministry of Education and Research during the period 2023 to 2029, with a total budget of USD 59.8 million. The Project aims to improve the quality of education through investments in educational infrastructure, human capital development, and strengthening the institutional capacity of the education system.

Under the Project, Subcomponent 1.3 supports the continuous professional development of teaching staff through the School Improvement Grants Program (SIG). This subcomponent promotes the development of pedagogical competencies in science, digital technologies, and educational innovation, and supports the creation of a professional learning network among participating institutions. The Program is implemented through a competitive call for school subprojects, with 121 institutions benefiting from goods, services, and training during 2025 to 2027, through centralized procurement conducted by the Ministry.

Within the subprojects, beneficiary institutions establish modern science laboratories, educational robotics spaces, programming workshops, and learning environments based on experimentation, inquiry, and technological design. These investments include equipment for educational robotics, microcontroller programming, 3D printing, the use of drones in education, smart sensors, and other emerging technologies applied in hands-on learning processes.

The School Technical Grants Operational Manual defines the implementation framework, financial and procedural rules, and eligible expenditure categories. Training activities include courses, seminars, practical workshops, and other forms of professional development related to the implementation of subprojects. These may cover costs for trainers, teaching and learning materials, use of equipment, logistics, and organization. Each school grant has a clearly defined financial ceiling, and the budget structure provides for a minimum allocation for services and training, confirming the central role of professional development within the intervention design.

The training services covered under these Terms of Reference refer to continuous professional development activities organized in the Republic of Moldova in the fields of STEM, educational robotics, emerging technologies, and pedagogical innovation. These activities aim to strengthen teachers' competencies in using technological equipment in the teaching process, designing interdisciplinary activities based on experimentation and technological projects, and integrating modern educational approaches focused on inquiry, problem solving, and engineering thinking.

Through this approach, the Project ensures alignment between material investments made in beneficiary institutions and the professional development of teaching staff, contributes to the development of an education culture oriented toward innovation, and supports the preparation of students for scientific and technological fields of the future economy.

### *Specific Context*

Within the subprojects financed under the School Improvement Grants Program (SIG), a significant number of general education institutions are implementing interventions aimed at strengthening STEM education, expanding the use of educational robotics, and integrating emerging technologies into teaching, learning, and assessment processes. Investments supported through the grants equip schools with modern science laboratories, mobile digital labs, educational robotics spaces, 3D printers, modeling and design equipment, sensors and microcontrollers, educational drones, interactive panels, experiment kits, and other technological resources relevant for developing students' applied competencies.

These investments create strong conditions for transforming the educational environment. Their effectiveness depends directly on teachers' capacity to use the equipment in a pedagogically sound, safe, and curriculum-relevant manner. In this context, beneficiary institutions have included professional development activities in their implementation plans to support the transition from technical equipment provision to authentic use of resources in interdisciplinary activities, inquiry-based learning, experimentation, engineering projects, and pedagogical innovation. The focus extends beyond technical training to include the development of competencies in lesson design and learning activities where technology supports active learning, problem solving, critical thinking, and creativity.

These Terms of Reference address the Thematic area of STEM, robotics, emerging technologies, and innovation. Analysis of requests submitted by institutions indicates an extensive portfolio of approximately 184 activities, including training, consultancy, mentoring, coaching, modular programs, continuous professional development courses, specialized training on technologies and equipment, workshops, masterclasses, and study visits. This volume reflects both the high level of interest in the field and the diversity of training needs across beneficiary and participating institutions.

The portfolio of activities presented in Annex 1 reflects significant thematic diversity. Schools request training on integrating STEM and STEAM methodologies across all levels of education, using educational robotics kits such as LEGO Education SPIKE, Fable, and KUBO, programming with Arduino, Micro:bit, and other microcontrollers, 3D modeling and printing, the use of drones in education, the use of modern digital laboratories, applications of virtual and augmented reality, and the integration of artificial intelligence and other digital tools into lesson design and assessment. Related topics also emerge, including environmental education, green school initiatives, agroSTEM, the use of educational hydroponic greenhouses, sustainability culture, and the integration of technologies into locally relevant interdisciplinary projects.

Institutional requests show a strong orientation toward practical application. Training activities are designed not only as informational sessions but as interventions leading to the effective use of equipment and its integration into classroom and extracurricular activities. These include the design and implementation of experiments, development of student technological projects, use of robotics and programming platforms, organization of STEM clubs, preparation for competitions and exhibitions, and the use of laboratories for inquiry-based learning, problem solving, and project-based learning. In many cases, institutions also request support for assessing STEM products, developing digital educational resources, and ensuring coherent integration of technologies into subject curricula and instructional management.

The target participants are diverse and reflect the cross-cutting nature of the domain. Target groups include teachers of mathematics, physics, chemistry, biology, informatics, and technology education, primary school teachers involved in STEM activities, class teachers, ICT coordinators, coordinators of digital and technological laboratories, members of school management teams, and, in some cases, psychologists, speech therapists, and support teachers. This composition shows that training is not

limited to subject teachers but represents a broader institutional process focused on school culture, organization of activities, and the capacity of teams to use investments for students' benefit.

Group size varies depending on the type of intervention. Some activities are designed for small groups of 1 to 5 or up to 10 participants, especially for advanced technical training, use of specific equipment, or training internal multipliers. Other activities target larger groups of 15 to 40 or even up to 50 participants, particularly in workshops, thematic seminars, institutional programs, and professional learning community events. This distribution confirms the need for a flexible procurement approach capable of addressing diverse delivery formats.

In terms of intervention types, institutions request practical workshops, masterclasses, specialized training on equipment and technologies, modular programs delivered over multiple sessions, continuous professional development courses, consultancy combined with training, mentoring and coaching activities, training of trainers, and study visits. The high frequency of specialized training indicates a strong need for direct support in using procured equipment, while the number of modular programs and extended courses reflects demand for in-depth professional development. Study visits and experience exchange activities complement these interventions by supporting observation of good practices and institutional transfer.

The duration of activities varies significantly. Short sessions of 2 to 8 hours focus on introduction and familiarization, while extended programs range from 16 to 150 hours, including practical components, individual work, follow-up, and transfer into teaching practice. In some cases, total duration explicitly includes both contact hours and independent work, requiring strong methodological structuring and the Consultant's capacity to monitor participants' learning pathways.

The implementation calendar is structured across several stages, with activities planned mainly for the second half of 2026 and some actions continuing into 2027, depending on the specific nature of the activities and the implementation conditions.

This distribution requires phased planning and strong coordination to manage a large, geographically dispersed portfolio. The primary language of instruction is Romanian, with some activities requested in Russian or delivered bilingually depending on participant profiles and institutional location.

Most activities are planned in face-to-face format, organized at beneficiary institutions or external venues, particularly in Chişinău. At the same time, a relevant number of activities are planned in blended or online formats, especially for longer programs and consultancy-based interventions. This requires the Consultant to deliver services across multiple formats and ensure adequate technical and methodological support.

The majority of activities are implemented at institutional level, requiring trainers to travel across different regions. Some activities take place in centralized locations, which also involves logistical arrangements such as participant transport. Frequently requested logistical services include coffee breaks, meals, training materials, transport, and, in some cases, accommodation, consumables for practical work, participant kits, customized materials, and technical support for digital resource distribution. This confirms that procurement must be approached as an integrated package of training and logistical services.

Therefore, the STEM, robotics, emerging technologies, and innovation domain is characterized by a high volume of activities, strong thematic diversity, a significant practical component, and direct linkage to the use of equipment procured by schools. The primary need is not limited to knowledge transfer but focuses on supporting institutions in transforming material investments into relevant, sustainable educational practices that develop students' competencies.

## **B. GENERAL OBJECTIVE**

To ensure the effective organization and implementation of professional development services in the fields of STEM, robotics, emerging technologies, and innovation for teaching and managerial staff in general education institutions benefiting from the EQIP Project, through the provision of an integrated package of training, consultancy, mentoring, coaching, and methodological support, aimed at developing competencies for the pedagogical use of educational technologies and equipment, the

design and implementation of interdisciplinary activities based on STEM and STEAM methodologies, the integration of experimentation, inquiry, and technological projects into teaching, learning, and assessment processes, and the effective utilization of investments made through school subprojects at the institutional level.

### **C. AREA OF ACTIVITY**

The area of activity of professional development services for teaching and managerial staff in general education institutions benefiting from the EQIP Project is educational, technological, and application oriented. It focuses on developing the competencies required for integrating STEM education into the teaching and learning process, using educational robotics and emerging technologies, leveraging modern science laboratories, applying digital and experimental tools, and fostering a culture of pedagogical innovation at the institutional level.

In response to the scope, technical complexity, market participation, and delivery risk considerations, and taking into account the significant volume of approximately 184 activities included in Annex 1, the assignment shall be structured into six Thematic areas. This thematic structure is intended to facilitate operational planning, thematic organization, staffing allocation, monitoring, reporting, and effective contract implementation.

The activities included in Annex 1 shall be grouped according to their thematic focus, required technical expertise, delivery format, geographical coverage, equipment needs, and logistical complexity.

The proposed thematic structure is as follows:

Thematic area 1. STEM and STEAM Education, Interdisciplinary Design and Pedagogical Innovation. Activities related to the integration of STEM and STEAM methodologies into teaching, learning, and assessment; interdisciplinary lesson design; project based learning; inquiry based learning; authentic learning; development of student technological products; formative assessment of STEM products; and the use of applied pedagogical approaches for science, mathematics, technology, and innovation.

Thematic area 2. Educational Robotics, Applied Programming, Microcontrollers and Sensors. Activities related to the use of educational robotics platforms and programming environments, including LEGO Education SPIKE, KUBO, Fable, Arduino, Micro:bit, smart sensors, robotic arms, visual programming, algorithmic thinking, automation projects, robotics clubs, and the integration of robotics into curricular and extracurricular activities.

Thematic area 3. 3D Modeling, 3D Printing and Digital Fabrication. Activities related to 3D modeling, 3D printing, digital object design, preparation of printable files, use of open source 3D resources, digital fabrication, creative engineering, and the pedagogical use of 3D equipment in interdisciplinary STEM projects.

Thematic area 4. Emerging Technologies in Education, Artificial Intelligence, VR/AR, Drones and Immersive Learning. Activities related to artificial intelligence in teaching and assessment, virtual and augmented reality, educational drones, immersive learning, digital games, interactive simulations, advanced digital tools, and the integration of emerging technologies into lesson design, assessment, creativity, problem solving, and student engagement.

Thematic area 5. Scientific Experiments, Digital Laboratories and Pedagogical Use of STEM Equipment. Activities related to the use of modern science laboratories, mobile digital laboratories, digital laboratory equipment, sensors, measurement tools, interactive panels, experimental kits, NeuLog and similar technologies, digital microscopes, Snap Circuits, laboratory based inquiry, scientific investigations, and the transformation of equipment acquired through EQIP subprojects into sustainable educational practice.

Thematic area 6. Study Visits, Exchange of Experience, Dissemination Activities and Associated Logistical Services. Activities related to study visits, training visits, exchange of good practices, visits to Future Classroom type centers, visits to institutions with functional STEM or robotics laboratories,

demonstration sessions, district seminars, conferences, documentation of results, photo and video production, dissemination activities, and related logistical services as specified in Annex 1.

Logistical services, including catering, transport, accommodation, printing of materials, participant kits, certificates, consumables for practical STEM activities, technical support, venue support, online platform support, photo and video documentation, and other associated organizational services, shall be treated as associated services within each Thematic area, strictly in accordance with Annex 1.

The Consultant may rely on subcontractors for logistical and auxiliary services, provided that the Consultant remains fully responsible for coordination, quality assurance, timely implementation, reporting, and compliance with contractual requirements.

## **D. MAIN TASKS**

### ***Task 1. Planning and Design of Training Activities***

#### **a) Overall Planning and Coordination**

The Consultant shall develop an integrated implementation framework for training activities in the fields of STEM, robotics, emerging technologies, and innovation, ensuring direct alignment with the objectives of beneficiary institutions under the EQIP Project and with the investments made through school subprojects. The planning shall ensure effective use of technological equipment and the development of teachers' competencies for its application in relevant and practice-oriented educational activities.

The Consultant shall align training activities with the Thematic areas defined in these Terms of Reference and with the following thematic directions, as applicable: STEM education and interdisciplinary design; educational robotics and applied programming; 3D modeling and printing; drones and applied technological solutions; modern science laboratories and experimental learning; environmental education and green school practices; smart agriculture and applied technologies; pedagogical innovation through technology; study visits, exchange of good practices, and demonstration activities.

The Consultant shall confirm the target groups for each activity and adjust the planning in coordination with the Contracting Authority and beneficiary institutions. This confirmation shall include the type of participants, number of participants, subject profile, and the level of competencies required for participation.

The Consultant shall establish an implementation schedule with clear phasing and balanced distribution based on the volume, complexity, and specificity of the activities outlined in Annex 1. The planning shall consider school operational periods and the need to mobilize trainers across different regions of the country.

The Consultant shall develop detailed agendas for each training activity. Agendas shall include operational objectives, measurable results, applied learning activities, and concrete outputs that can be used at classroom or institutional level, such as STEM lesson scenarios, technological projects, models of experimental activities, or implementation plans.

The Consultant shall estimate the number of hours for each activity, with a clear distinction between theoretical sessions, practical applications, design activities, and any follow-up or mentoring components.

#### **b) Curriculum Design**

The Consultant shall develop training materials aligned with STEM, robotics, emerging technologies, and innovation, adapted to the profile of participants.

For STEM education and interdisciplinary design, the Consultant shall include activities for designing interdisciplinary lessons and learning units, applying project-based and inquiry-based learning, conducting scientific experiments, and developing student technological products.

For educational robotics and applied programming, the Consultant shall include activities on the use of educational robotics platforms, robot programming, use of microcontrollers and smart sensors, development of automation projects, and integration of robotics into curricular and extracurricular activities.

For emerging technologies in education, the Consultant shall include the use of 3D printing, digital modeling, use of drones in educational activities, application of virtual and augmented reality, and the use of artificial intelligence and other digital tools in teaching and learning.

For the use of modern science laboratories, the Consultant shall include activities on organizing experiments, using laboratory equipment and digital sensors, conducting scientific investigations, and developing discovery-based and experiment-based learning.

For pedagogical innovation through technology, the Consultant shall include activities for organizing STEM clubs, coordinating student technological projects, using technological infrastructure in extracurricular activities, and developing professional learning communities in educational technologies.

The Consultant shall define the outputs of the activities, including STEM lesson scenarios, interdisciplinary projects, technological prototypes, documented experimental activities, assessment tools, and institutional implementation plans for the use of equipment.

The Consultant shall develop tools to assess participants' progress, aligned with the objectives of each Thematic area and with the outputs produced during training.

#### **c) Logistical Planning**

The Consultant shall determine the delivery format of activities, including face-to-face, online, or blended formats, based on the thematic focus, type of activities, and the needs of beneficiary institutions.

The Consultant shall plan the resources required for each Thematic area, including educational robotics equipment, STEM kits, materials for scientific experiments, resources for 3D modeling and printing, digital resources, and technical support for online delivery.

The Consultant shall prepare working materials and documentation required for effective training delivery, including course materials, worksheets, practical activity guides, and assessment tools.

#### **d) Planning and Design of Training Activities**

Before the start of implementation, the Consultant, in coordination with the Contracting Authority and beneficiary institutions, shall review and confirm the structure of each activity included in Annex 1. For each activity, the Consultant shall confirm:

1. Number of face-to-face contact hours.
2. Number of online contact hours.
3. Number of practical or individual work hours, where applicable.
4. Number of follow-up or mentoring hours, where applicable.
5. Total contact hours.
6. Total duration of the activity.
7. Delivery format.
8. Expected outputs and verification documents.

The final approved agenda for each activity shall reconcile the number of hours, delivery format, and expected outputs. No activity shall be considered ready for implementation until the Contracting Authority confirms that the hours and delivery format are clear and consistent.

### ***Task 2. Organization and Delivery of Training Activities***

The Consultant shall implement training activities in accordance with the approved plan and aligned with the Thematic area of STEM, robotics, emerging technologies, and innovation.

The Consultant shall organize training sessions for teaching and managerial staff involved in STEM activities and in the use of technological equipment within beneficiary institutions.

For STEM education and interdisciplinary design, the Consultant shall deliver applied activities on designing interdisciplinary lessons, organizing experiments, applying project-based learning, and developing student technological products.

For educational robotics and applied programming, the Consultant shall organize practical sessions on programming educational robots, using microcontrollers and sensors, developing technological projects, and integrating robotics into curricular and extracurricular activities.

For emerging technologies, the Consultant shall facilitate the use of 3D printing, digital modeling, drones in education, virtual and augmented reality, and artificial intelligence in educational activities.

For the use of modern science laboratories, the Consultant shall organize practical activities on using laboratory equipment, conducting digitally supported experiments, and developing scientific inquiry.

The Consultant shall provide trainers with demonstrated expertise in STEM, educational robotics, emerging technologies, and innovative pedagogy.

The Consultant shall apply interactive training methods, including case analysis, teamwork, design exercises, micro-teaching, simulations, and technological project development.

The Consultant shall integrate relevant educational technologies and resources into the training process.

The Consultant shall maintain participant records and provide methodological support throughout the implementation of activities.

### ***Task 3. Monitoring, Reporting, and Sustainability***

This task focuses on tracking the quality of implementation, analyzing results, and supporting the application of developed competencies at the institutional level.

#### **a) Monitoring of Results**

- The Consultant shall apply initial and final assessment tools for each training activity.
- For STEM and interdisciplinary activities, monitoring shall assess participants' ability to design and implement interdisciplinary lessons and projects.
- For educational robotics and programming, monitoring shall assess the use of equipment, development of technological projects, and integration of programming activities into the teaching process.
- For emerging technologies, monitoring shall assess the use of advanced digital tools, integration of technologies into educational activities, and development of innovative practices.
- For the use of science laboratories, monitoring shall assess the organization of experiments, use of laboratory equipment, and application of inquiry-based learning.

#### **b) Reporting**

- The Consultant shall prepare reports for each training activity, including the description of the topic, number of participants, results achieved, and outputs produced.
- The Consultant shall systematize materials and outputs developed by participants and highlight examples of good practice in STEM and in the use of educational technologies.
- The Consultant shall formulate recommendations to strengthen the application of developed competencies at classroom and institutional levels.
- The detailed reporting template is provided in Annex 2 and shall be used by the Consultant.

#### **c) Ensuring Sustainability**

- The Consultant shall propose measures to ensure continuity of interventions, including follow-up sessions, mentoring, and support for the development of professional learning communities in STEM.
- The Consultant shall support institutions in integrating training outcomes into institutional development plans and internal strategies for the use of technological infrastructure.

### ***Task 4. Provision of Logistical Services for Training Activities***

The Consultant shall ensure the logistical organization of activities so that implementation conditions support the practical and application-oriented nature of training in STEM and educational technologies.

1. **Initial Logistical Planning.** The Consultant shall develop a logistical plan for each activity, aligned with the number of participants, delivery format, and duration.

2. **Venue and Conditions.** For face-to-face activities, the Consultant shall ensure appropriate venues for practical work, group activities, and technological demonstrations.
3. **Technical Equipment and Digital Support.** The Consultant shall provide the necessary equipment for demonstrations and STEM activities, including projector or interactive display, laptop, stable internet connection, and technical support for online or blended activities.
4. **Materials and Learning Resources.** The Consultant shall provide course materials, worksheets, materials for practical activities, STEM kits, experimental materials, and assessment tools.
5. **Catering Services.** The Consultant shall provide coffee breaks and lunch services depending on the duration of activities.
6. **Transport and Accommodation.** For activities requiring participant travel, the Consultant shall organize transport and, where applicable, accommodation for approved activities.
7. **Records and Compliance.** The Consultant shall ensure attendance lists, supporting documents for services delivered, and the issuance of participation certificates.

For each Thematic area, the Consultant shall prepare a Specific Logistical Plan. The plan shall indicate the logistical services required for each activity, in accordance with Annex 1, and shall ensure that logistical arrangements are aligned with the number of participants, delivery format, duration, location, equipment needs, and practical nature of the activity.

The Specific Logistical Plan shall include at least:

1. Activities requiring catering services, including coffee breaks, lunch, meal packages, or other refreshments.
2. Activities requiring transport services for participants, trainers, experts, equipment, or training materials.
3. Activities requiring accommodation services, where applicable.
4. Activities requiring printed materials, participant kits, certificates, badges, banners, or other training documentation.
5. Activities requiring consumables, STEM kits, experimental materials, robotics kits, 3D printing materials, sensors, or other materials for practical work.
6. Activities requiring technical equipment, internet access, online platform support, or technical assistance for face-to-face, online, or blended delivery.
7. Activities requiring photo, video, media documentation, dissemination materials, or visibility support.
8. The staff member, subcontractor, JV member, or service provider responsible for each logistical component.
9. The supporting documents to be submitted for verification of each logistical service delivered.

The Consultant shall ensure that logistical services are planned and delivered as associated services within the relevant Thematic area, strictly in accordance with Annex 1 and the approved activity agenda.

## **Target Group**

### **Direct Target Group**

- Primary school teachers, lower secondary teachers, and upper secondary teachers in STEM subjects.
- ICT coordinators and coordinators of digital and technological laboratories.
- Members of school management teams involved in the implementation of subprojects.

The estimated number of participants for each training program is specified in Annex 1.

## **E. TECHNICAL CAPACITY**

Thematic area: STEM, Robotics, Emerging Technologies and Innovation

## **1. Estimated Volume of Activities and Geographic Coverage**

- The Consultant shall demonstrate the capacity to organize and fully deliver the activities specified in Annex 1 under the Thematic area of STEM, robotics, emerging technologies, and innovation.
- Annex 1 includes an estimated volume of approximately 180 activities, including training, consultancy, mentoring, workshops, modular programs, specialized training, and study visits. Activities are distributed across multiple districts and localities of the Republic of Moldova, with delivery mainly at beneficiary institutions and, in some cases, in Chişinău or other educational centers.
- Activities include various formats, face-to-face, online, and blended, with durations ranging from short sessions of a few hours to extended training programs with a high number of hours. The Consultant shall demonstrate the capacity to manage these different types of interventions simultaneously and ensure methodological consistency across deliveries.

## **2. Trainer allocation and staffing model**

- The Consultant shall propose a staffing model proportionate to the number, thematic complexity, duration, delivery format, and geographic distribution of the activities included in the Thematic area.
- As an indicative benchmark, the Consultant may use a ratio of one trainer per 20 to 25 planned activities. However, the Consultant may propose alternative staffing models, provided that the proposal includes a clear justification and demonstrates that quality, timely delivery, technical specialization, and continuity of services will be ensured. The staffing model shall include, as applicable:
  1. Lead trainers for each Thematic area.
  2. Technical experts for robotics, programming, sensors, AI, VR/AR, drones, 3D printing, and digital laboratories.
  3. Pedagogical experts in STEM and STE(A)M methodology.
  4. Trainers able to deliver in Romanian and Russian, where required.
  5. Regional or mobile trainers able to cover activities delivered in beneficiary institutions.
  6. Online and blended learning facilitators.
  7. Logistical and technical support staff.
- The Consultant shall justify the proposed team structure based on the monthly implementation calendar, the expected number of simultaneous activities, travel time, technical equipment needs, and the language of instruction.

## **3. Thematic area Coordinator**

- The Consultant shall designate a Coordinator for the Thematic area of STEM, robotics, emerging technologies, and innovation.
- The Coordinator shall ensure operational and methodological coordination of training activities and maintain coherence with the objectives of the Thematic area.
- The Coordinator shall monitor the quality of training content, ensure alignment with equipment used in beneficiary institutions, and correlate activities with investments made through EQIP subprojects.
- The Consultant shall submit the Coordinator's CV and a summary of relevant experience in STEM, educational robotics, educational technologies, or teacher training in technological fields.

## **4. Substitution and Continuity Mechanisms**

- The Consultant shall present clear substitution mechanisms in cases of trainer unavailability.

- The Consultant shall pre-identify backup trainers for each content area, including educational robotics, programming, emerging technologies, use of science laboratories, and integration of STEM methodologies.
- The Consultant shall provide CVs of backup trainers and specify the areas they can cover.
- The Consultant shall describe the trainer replacement procedure, including notification timelines, decision responsibility, and measures to ensure methodological continuity.

## **5. Detailed Operational Plan**

To demonstrate operational capacity, the Consultant shall submit a Detailed Operational Plan including at least:

- Team structure and total number of trainers, technical experts, logistical staff, and support staff available for the Thematic area.
- Clear roles within the team, including thematic coordinator, activity coordinators where applicable, lead trainers, technical experts in educational technologies, logistical support staff, and technical support staff for online or blended activities.
- Allocation of trainers and technical experts by Thematic area, region, type of activity, and delivery format.
- Allocation of trainers by delivery location, including activities delivered in beneficiary institutions, in Chişinău, online, or in other locations specified in Annex 1.
- Monthly availability of trainers and technical experts in relation to the estimated implementation schedule in Annex 1.
- Maximum number of activities that can be implemented simultaneously, with justification based on the number of trainers, technical complexity, travel time, delivery format, and logistical capacity.
- Internal procedures for planning, confirmation, communication with beneficiary institutions, and updating training agendas.
- Procedures for managing schedule changes without affecting the total contracted volume, quality of delivery, or agreed implementation timeline.
- Procedures for ensuring logistics, including materials for practical activities, technological equipment, printing, transport, accommodation, catering, participant kits, certificates, online platform access, and technical support, where applicable.

The Operational Plan shall include a Staffing Matrix by Thematic area. The matrix shall indicate:

1. The Thematic area.
2. Proposed trainers and technical experts for each Thematic area.
3. Role of each trainer or expert within the Thematic area.
4. Relevant expertise of each trainer or expert.
5. Language of delivery.
6. Geographic availability.
7. Delivery format covered: face-to-face, online, or blended.
8. Maximum number of activities that can be covered per month.
9. Backup trainer or expert for each Thematic area.
10. Role of subcontractors, JV members, or associated partners, if applicable.

The Staffing Matrix shall demonstrate that the proposed team has sufficient thematic specialization, operational capacity, geographical coverage, language capacity, and continuity mechanisms to implement the activities within the agreed timeline.

If subcontractors, JV members, or associated partners are proposed, the Operational Plan shall clearly describe their responsibilities, or activities they will cover, the coordination mechanism with the lead Consultant, and the quality assurance procedures that will apply to their work.

## **6. Indicative Monthly Gantt Chart**

The Consultant shall present an indicative monthly Gantt chart demonstrating the realistic capacity to cover planned activities.

The chart shall include at least:

- Estimated number of activities per month.
- Estimated number of activities per month, disaggregated by the Thematic area.
- Distribution of activities by format, face-to-face, online, or blended.
- Distribution by geographical area and beneficiary institution.
- Peak periods and coverage through the proposed human resources.
- Alignment between activities and trainer availability.

### **7. Maximum Number of Activities Implemented Simultaneously**

The Consultant shall indicate the maximum number of activities that can be implemented simultaneously.

The Consultant shall justify this number based on:

- Number of trainers available in the same period.
- Geographic distribution of activities.
- Travel time between locations.
- Technical support required for online and blended activities.

### **8. Internal Coordination Mechanism**

The Consultant shall describe the internal coordination mechanism. The mechanism shall ensure coherent communication, timely decision making, quality assurance, and effective risk management throughout the assignment.

The internal coordination mechanism shall include at least:

- Responsibilities for planning, confirmation, implementation, monitoring, and reporting of activities.
  - Communication flow between the Consultant, trainers, technical experts, subcontractors or JV members where applicable, beneficiary institutions, and the Contracting Authority.
  - Operational management tools, including shared calendar, activity registry, trainer allocation plan, participant records, logistical tracking tools, and archiving system for deliverables and supporting documents.
  - Procedures for confirming activity schedules, delivery format, number of participants, location, language of instruction, equipment needs, and logistical requirements before implementation.
  - Quality assurance mechanisms, including review and approval of training agendas, validation of training materials, verification of participant outputs, monitoring of trainer performance, and review of activity reports.
  - Procedures for managing schedule changes, trainer replacement, changes in participant lists, logistical adjustments, and updates to training agendas, without affecting the contracted scope, quality standards, or implementation timeline.

The Consultant shall also include a risk mitigation plan covering at least the following risks:

1. Limited availability of specialized trainers.
2. Overlapping activities during peak implementation months.
3. Delays caused by travel or geographic dispersion.
4. Delays in equipment delivery or lack of readiness of beneficiary institutions.
5. Inconsistencies in activity hours or delivery format.
6. Insufficient technical equipment for demonstrations or practical activities.
7. Replacement of trainers, technical experts, subcontractors, or JV.
8. Non-delivery or partial delivery of logistical services.
9. Low attendance, late confirmation of participants, or changes in participant lists.
10. Language-related delivery needs, including Russian or bilingual delivery.
11. Technical difficulties in online or blended activities.
12. Delays in submission of reports, attendance lists, participant outputs, or logistical supporting documents.

For each identified risk, the Consultant shall indicate the preventive measures, responsible persons, response timeline, corrective actions, and documentation to be submitted to the Contracting Authority. The risk mitigation plan shall be updated when needed during implementation and shall be used as a management tool for ensuring continuity, quality, and timely delivery of services.

## **F. EXPECTED RESULTS**

Following the implementation of training services in the Thematic area of STEM, robotics, emerging technologies, and innovation, the following measurable and applicable results will be achieved at classroom and institutional levels:

- Teaching and managerial staff use in a functional and pedagogical manner the equipment and resources acquired through the subprojects, including educational robotics kits, 3D printers, digital laboratories, sensors, microcontrollers, educational drones, interactive panels, and other relevant STEM technologies.
- Teachers design and implement interdisciplinary learning activities based on STEM and STEAM methodologies, linking subject-specific competencies with authentic activities, experiments, investigations, and applied student projects.
- Teachers develop practical competencies in the use of educational robotics and applied programming, including assembling, programming, and integrating educational robots, using Arduino, Micro:bit, and other microcontrollers, and applying smart sensors in teaching and extracurricular activities.
- Teaching staff use emerging technologies in the educational process, including 3D modeling and printing, virtual and augmented reality, educational drones, and artificial intelligence tools, to support applied learning, creativity, problem solving, and critical thinking.
- Teachers design, organize, and implement relevant experimental activities in modern science laboratories, using laboratory equipment, digital tools, and measurement technologies to support inquiry-based and discovery-based learning.
- Concrete applied outputs are developed, including STEM lesson scenarios, interdisciplinary projects, activity sheets, digital educational resources, technological prototypes, STEM assessment tools, and models of experimental activities that can be directly used in practice.
- Institutional capacity is strengthened to organize curricular and extracurricular STEM activities, including robotics clubs, programming workshops, experimental projects, maker space activities, competitions, and other initiatives focused on innovation and practical application.
- Teaching staff apply active teaching and assessment methods in STEM, including project-based learning, teamwork, micro-design, experimentation, and authentic assessment to monitor student progress and develop transversal competencies.
- Educational interventions are supported to increase student participation, including that of girls, in STEM, robotics, and applied technologies, through accessible, motivating, and relevant learning environments.
- School management teams and institutional coordinators use planning and monitoring tools to integrate training outcomes into school strategic documents, institutional development plans, and internal mechanisms for the use of technological infrastructure.
- At institutional level, a portfolio of products, resources, and tools developed during training is created, supporting the continuity of STEM activities, sustainable use of equipment, and the development of a school culture oriented toward science, technology, and innovation.

*Contract level performance indicators*

- The implementation of the assignment shall be monitored based on the following contract level performance indicators:
- At least 90 percent of planned training activities are delivered according to the approved implementation schedule or officially approved adjustments.
- At least 85 percent of registered participants complete the full training activity.
- At least 80 percent of participants produce practical outputs relevant to the training topic, such as STEM lesson scenarios, interdisciplinary projects, technological prototypes, digital educational resources, experimental activity models, STEM assessment tools, or institutional plans for the use of technological equipment.
- At least 75 percent of beneficiary institutions submit self certified evidence that training results have been reflected in school level planning, institutional development plans, methodological commission plans, STEM club plans, laboratory use plans, or other relevant internal documents.
- At least 80 percent of participants report improved capacity to apply STEM methodologies, use educational robotics, integrate emerging technologies, organize experimental activities, or use digital and laboratory equipment in teaching, learning, and assessment, based on final evaluation forms.
- At least 80 percent of implemented activities result in documented practical products, such as applied STEM activities, robotics tasks, 3D modeling or printing examples, digital laboratory activities, AI supported learning tasks, experimental worksheets, or assessment tools.
- At least 75 percent of activities involving specialized equipment include practical demonstrations or hands on applications using relevant technologies, such as robotics kits, microcontrollers, sensors, 3D printers, digital laboratories, drones, VR/AR tools, interactive panels, or other equipment specified in Annex 1.
- 100 percent of implemented activities are documented through attendance lists, approved agendas, summary notes, participant outputs, training materials, photos where applicable, and logistical supporting documents.
- All final reports are submitted within the timeline agreed with the Contracting Authority.

## G. KEY DELIVERABLES AND INDICATIVE TIMELINES

Stage	Deliverables	Indicative Timeline
Task 1. Initiation and Planning of Training Programs	<b>Deliverable 1.</b> Concept and methodology of training programs in the fields of STEM, robotics, emerging technologies, and innovation. This includes the structure of training programs, main Thematic areas, indicative agendas, distribution of hours, target groups, training methodology, types of practical activities, and a preliminary logistical note for the delivery of training activities.	Within 6 weeks from contract signing.
Task 2. Organization and Implementation	<b>Deliverable 2.</b> Approved final agendas and implemented training programs for planned	Within 4 weeks from approval of

of Training Activities	activities, including training on the use of STEM equipment, educational robotics, applied programming, emerging technologies, and experimental activities. Documentation shall include attendance lists, photo materials, training materials, applied outputs developed by participants, STEM lesson scenarios, technological projects, and summary notes for each session.	Deliverable 1 or according to the agreed schedule
Task 3. Evaluation, Synthesis, and Continuity	<b>Deliverable 3.</b> Final report for each program or group of implemented activities, including description of activities carried out, participation analysis, synthesis of outputs developed by participants, assessment of competencies developed, examples of good practices, and recommendations for integrating STEM activities and the use of educational technologies at institutional level.	Within 3 weeks after completion of each training program
Task 4. Logistical Services Associated with Training	<b>Deliverable 4.</b> Logistical report on the organization of training activities, including records of logistical services provided, coffee breaks, lunch services, materials reproduction, participant kits, consumables for practical STEM activities, transport and accommodation where applicable, and supporting documents.	Submitted together with the final report for each training program

For each implemented activity, payment verification shall be based on the approved activity agenda, confirmed number of contact hours, delivery format, attendance lists, evidence of logistical services delivered, training materials, participant outputs, and activity report.

For blended or extended programs, the Consultant shall clearly distinguish between face-to-face contact hours, online contact hours, individual or practical work, follow-up activities, and mentoring hours. Supporting evidence shall be provided for each component.

The activity report shall confirm whether the activity was delivered as approved in Annex 1 and in the final agenda. Any deviation in hours, format, location, number of participants, or logistical services shall be documented and approved by the Contracting Authority.

All deliverables shall be submitted in Romanian, in electronic format and, upon request, in printed format, subject to approval by the Contracting Authority.

## H. INSTITUTIONAL ARRANGEMENTS

The selected Consultant will sign a service contract with the Ministry of Education and Research of the Republic of Moldova within the Education Quality Improvement Project, EQIP, financed by the World Bank. The Consultant will operate under the direct coordination of the Contracting Authority and in continuous collaboration with the project implementation team.

The Contracting Authority will provide the Consultant with relevant documentation for the implementation of training programs in the field of STEM, robotics, emerging technologies, and innovation. This will include information on beneficiary institutions, existing digital infrastructure in schools, available technological equipment, approved objectives for training activities, as well as requirements related to reporting and project visibility. The Contracting Authority will review and validate the methodological concept, training agendas, deliverables, reports, **and supporting documentation** submitted by the Consultant.

The Consultant will be responsible for the full organization and implementation of training programs **in accordance with the approved ToR, Annex 1, contractual provisions, and project requirements**. Responsibilities will include activity planning, coordination of trainers **and technical experts**, organization of training sessions, **delivery of applied components**, communication with

beneficiary institutions, management of logistical and operational aspects, and **submission of complete documentation for implemented activities.**

The Consultant will organize practical workshops, training sessions, modular programs, **consultancy, mentoring, coaching, study visits, and other approved forms of professional development, as specified in Annex 1.** Activities may include the use of educational platforms and digital applications, development and distribution of training materials, reproduction of course materials, provision of digital resources for participants, and organization of transport, accommodation, catering, venue support, **or other logistical services, where applicable and approved.**

The Consultant will ensure operational communication with beneficiary institutions, trainers, **subcontractors, Joint Venture partners,** and other stakeholders involved in the implementation of training activities. The Consultant will confirm activity schedules, coordinate implementation at institutional level, maintain the information flow necessary for efficient delivery, and promptly address operational risks related to trainer availability, logistical arrangements, functionality of digital equipment, online or blended delivery, and implementation across different locations.

The Consultant will collaborate with beneficiary institutions to adapt training activities to the specific digital infrastructure available and to the level of digital competencies of teaching staff. The Consultant will support institutions in using educational technologies effectively in teaching, learning, and assessment, and will facilitate the transfer of acquired competencies into regular educational practice.

The Consultant may subcontract specific components of the assignment, particularly logistical and auxiliary services, such as catering, transport, accommodation, printing, venue support, and technical support for online or blended delivery. Subcontracting shall be allowed only if the Consultant remains fully responsible for the quality, coordination, timely delivery, reporting, and compliance of all subcontracted services. The Consultant shall indicate in the technical proposal the services proposed for subcontracting, the rationale for subcontracting, the estimated scope of subcontracted activities, and the coordination mechanism for ensuring quality and timely implementation. Subcontracting shall not relieve the Consultant of any contractual responsibility toward the Contracting Authority.

Consulting firms may participate individually or as part of a Joint Venture (JV) with other legally registered entities, in accordance with applicable procurement rules. In case of a JV, the proposal shall clearly identify the lead partner, the roles and responsibilities of each member, the thematic and regional coverage of each partner, and the internal coordination and reporting mechanism. The lead partner shall be responsible for contractual communication with the Contracting Authority and for the overall coordination and quality assurance of the assignment. Each JV member shall demonstrate relevant experience and capacity for the tasks assigned to it within the proposal.

All costs related to the organization and implementation of training programs will be planned, budgeted, and managed by the Consultant in accordance with contractual provisions, project requirements, and approved EQIP budgets. The Consultant will ensure efficient, transparent, **and verifiable** use of financial resources and will submit supporting documentation for services delivered, in accordance with contractual requirements and applicable project procedures.

If a deliverable is incomplete, inconsistent with the approved methodology, insufficiently documented, or not aligned with the requirements of the ToR, the Contracting Authority may reject the deliverable and request revision. The Consultant shall revise and resubmit the deliverable within the timeframe indicated by the Contracting Authority.

Formal quality concerns may be triggered by repeated delays, insufficient trainer mobilization, inadequate quality of training delivery, lack of required documentation, low participant engagement, failure to produce agreed outputs, or non-compliance with approved agendas and methodological requirements. In case of failure to mobilize qualified trainers, technical experts, logistical support, subcontractors, or JV partners as required, the Consultant shall immediately activate the approved substitution or corrective mechanism and ensure continuity of implementation without affecting the approved schedule.

Repeated failure to meet quality, staffing, documentation, reporting, logistical, or implementation requirements may lead to the application of contractual remedies in accordance with the contract provisions and applicable project procedures.

## **I. DURATION OF THE ASSIGNMENT**

The estimated duration of the assignment is up to 10 months, starting from July 2026, depending on the schedule of training programs and activities specified in Annex 1 for the thematic area of STEM, robotics, emerging technologies, and innovation.

Training activities shall be planned and implemented in several phases, with activities planned mainly in the second half of 2026 and some actions continuing in 2027, depending on the specific nature of the activities, implementation conditions, and the schedule presented in the annex. The Consultant shall ensure effective coordination so that all deliverables are completed within the contractual timeline.

## **J. MINIMUM QUALIFICATION AND TECHNICAL CAPACITY REQUIREMENTS**

### **a) General Eligibility Criteria**

- The Consultant shall be a legally registered entity in accordance with applicable national legislation.
- The Consultant shall have at least 5 years of relevant experience in organizing and delivering professional development activities for teaching and managerial staff.
- The Consultant shall demonstrate experience in implementing projects in the field of education, teacher professional development, or the use of educational technologies, through at least 3 relevant contracts or projects.
- Previous experience in collaboration with public institutions in the education sector shall be considered an advantage.
- Experience in projects financed by the World Bank, the European Union, or other international donors shall be considered an advantage.
- The Consultant shall demonstrate relevant experience in the development and implementation of training programs in the fields of STEM, robotics, emerging technologies, and innovation, including in one or more of the following areas:
  - Integration of STEM and STEAM methodologies into teaching, learning, and assessment processes.
  - Use of educational robotics and applied programming in curricular and extracurricular activities.
  - Use of emerging technologies in education, including 3D printing, digital modeling, educational drones, virtual reality, and artificial intelligence-based tools.
  - Organization and use of modern science laboratories and digitally supported experimental activities.
  - Development of educational activities based on technological projects, scientific inquiry, and applied learning.
  - Support to institutions in the use of technological infrastructure and equipment acquired through school subprojects.
- The Consultant shall demonstrate, through previously implemented similar contracts or projects, the capacity to organize and manage training activities delivered simultaneously in different locations, including logistical, administrative, and operational coordination.
- The Consultant may participate individually, as part of a Joint Venture, or may rely on subcontractors for specific components of the assignment.

- Subcontracting may be used for specialized technical expertise, logistical services, transport, accommodation, catering, production of training materials, technical support, or other clearly defined components of the assignment.

If the Consultant proposes subcontractors, the proposal shall clearly indicate:

1. The name and legal status of each subcontractor.
  2. The specific services or activities assigned to each subcontractor.
  3. The estimated share of the contract to be subcontracted.
  4. The relevant experience and technical capacity of each subcontractor.
  5. The coordination and quality assurance mechanism between the Consultant and subcontractors.
- In the case of a JV, the proposal shall identify the Lead Member, the role of each member, the allocation of responsibilities by activity type, and the mechanism for contractual, operational, and financial coordination.
  - The Lead Member shall remain fully responsible before the Contracting Authority for the quality, timeliness, and completeness of all services delivered under the contract, including services delivered by subcontractors or JV members.

## **b) Key Personnel Requirements**

### **Project Manager**

The Consultant shall designate at least one Project Manager responsible for the overall coordination of the implementation of training programs in the Thematic area of STEM, robotics, emerging technologies, and innovation.

The Project Manager shall ensure planning of service delivery, operational coordination of training activities, monitoring of implementation, management of human and logistical resources, and periodic reporting to the Contracting Authority.

The Project Manager shall coordinate the team of trainers and ensure alignment of training activities with the objectives of the EQIP Project and the requirements set out in the School Technical Grants Operational Manual.

The proposed Project Manager shall meet the following criteria:

- Minimum 5 years of professional experience in project management, preferably in education, teacher professional development, educational technologies, or curriculum reform.
- Demonstrated experience in organizing and coordinating training programs for teaching and managerial staff, with at least 3 programs fully implemented.
- Experience in coordinating large teams of trainers, managing multiple activities simultaneously, and reporting to public institutions or donors.
- Experience in projects financed by the World Bank, the European Union, or other international donors shall be considered an advantage.
- Demonstrated competencies in strategic planning, risk management, monitoring, and quality assurance of training processes, including the ability to coordinate programs that include technological components, practical activities, and the use of educational equipment.

### **c) Minimum Requirements for Trainers' Qualifications**

Trainers shall hold relevant higher education degrees and have at least 5 years of experience in adult training, teacher professional development, STEM education, educational technologies, or other fields relevant to the proposed Thematic area. They shall provide CVs, copies of diplomas, a training portfolio, and at least 2 references.

Trainers shall demonstrate competencies in facilitating active learning, using digital tools, developing applied training materials, guiding practical activities, and supporting participants in producing concrete outputs, such as STEM lesson scenarios, interdisciplinary projects, technological prototypes, digital educational resources, experimental activity models, assessment tools, or institutional implementation plans.

- For Thematic area 1, STEM and STEAM Education, Interdisciplinary Design and Pedagogical Innovation, trainers shall demonstrate experience in STEM or STE(A)M methodology, interdisciplinary design, project based learning, inquiry based learning, experiment based learning, authentic learning, formative assessment, and development of applied learning outputs.
- For Thematic area 2, Educational Robotics, Applied Programming, Microcontrollers and Sensors, trainers shall demonstrate experience in educational robotics, applied programming, microcontrollers, smart sensors, visual programming, automation projects, and platforms such as LEGO Education SPIKE, Arduino, Micro:bit, KUBO, Fable, or equivalent technologies.
- For Thematic area 3, 3D Modeling, 3D Printing and Digital Fabrication, trainers shall demonstrate experience in 3D modeling, 3D printing, digital fabrication, preparation of printable objects, use of open source 3D resources, creative engineering, and safe pedagogical use of 3D equipment.
- For Thematic area 4, Emerging Technologies in Education, Artificial Intelligence, VR/AR, Drones and Immersive Learning, trainers shall demonstrate experience in the use of artificial intelligence in education, virtual and augmented reality, educational drones, immersive learning, digital games, interactive simulations, or other emerging technologies relevant to teaching, learning, and assessment.
- For Thematic area 5, Scientific Experiments, Digital Laboratories and Pedagogical Use of STEM Equipment, trainers shall demonstrate experience in the use of modern science laboratories, digital laboratories, STEM equipment, experimental kits, sensors, measurement tools, interactive panels, technology supported inquiry, scientific investigations, and the organization of experimental activities.
- For Thematic area 6, Study Visits, Exchange of Experience, Dissemination Activities and Associated Logistical Services, proposed staff shall demonstrate experience in organizing study visits, professional exchange activities, demonstration sessions, seminars, conferences, logistical coordination, documentation of results, photo and video production, and dissemination of educational practices.

Where a trainer is proposed for more than one Thematic area, the Consultant shall clearly demonstrate that the trainer has relevant experience for each respective activity. Where subcontractors, JV members, or associated partners are proposed for specific technical or logistical components, their relevant qualifications and experience shall also be documented.

The Consultant shall present examples of outputs, sample tools, course materials, practical tasks, or training products that reflect the methodological level and practical orientation of the proposed training activities.