Expression of Interest (EoI) for a short-term expert assignment- Development of Competency-based Curricula

Internet of Things

Contents

I. General information

1. Brief information on the project

The Multi-Donor Action “Improving the Quality and Attractiveness of Technical and Vocational Education and Training (TVET) in Lebanon for poor and vulnerable social groups” is jointly co-financed by the European Union and the Federal Ministry of Economic Cooperation and Development (BMZ). The joint action is implemented by GIZ as a specific Action within the wider BMZ project “Improving the Quality and Attractiveness of TVET in Lebanon (QuA-VET)”. The aim of the action is to orient the vocational training towards the qualification needs of the labor market in sectors with sustainable employment potentials, therefore improving the employment capacities for poor and vulnerable social groups living in Lebanon. The implementing partner, the Directorate General for Vocational and Technical Education (DGVTE), requires further support in involving the private sector in vocational education and training. Thus, the project’s emphasis is placed on improving the partnership between vocational training institutions and the private sector. This includes developing modularized and practice-oriented training programs in selected sectors, digitalizing e-learning lessons for the technical theoretical subjects of the promoted TVET programs and general subjects and enhancing the quality of in-company training for employees and work-based learning for vulnerable individuals. The target groups of the project are vulnerable youth and young adults (aged 15-35), including Syrian and Palestinian refugees, individuals from hosting communities, TVET Lebanese students, unemployed or underemployed individuals (aged 17 to 35), and employees in Micro, Small, and Medium-sized Enterprises (MSMEs) seeking to improve their employment prospects through relevant qualifications.

2. Context

Background – The Technicien Supérieur (TS) curriculum

In terms of employment trends, the current IT landscape is increasingly centered on the "Internet of Things" (IoT). IoT involves the interconnection of various devices and objects via the internet, enabling them to collect, exchange, and share data with each other and with centralized systems. The goal is to create a network where everyday objects can communicate

and collaborate intelligently, making our lives more convenient and efficient. In Lebanon, the IT sector is gradually embracing these advancements, with local tech companies exploring IoT applications in areas such as smart cities, energy management, and logistics. New modules in IoT would be integrated in an existing TS program to develop essential skills in the design, manufacturing, and maintenance of IoT devices, connectivity, and user interface control. This initiative would also provide an opportunity to introduce Artificial Intelligence (AI) applications in data processing, analytics, automation, and action—skills that are becoming increasingly relevant in Lebanon's growing IT landscape.

Currently, there are two Technician Superior (TS) programs that fall under the ICT sector, both having an average of 25 hours of practical training (TP) per week. The “Industrial Informatics” program focuses on creating and managing detailed computer applications and systems used in producing capital goods or technical services. In contrast, the TS in “Administrative Informatics” emphasizes managing and developing IT administrative applications on diverse platforms. However, due to the lack of workshops or advanced computer labs in most public schools, TP hours are spent in basic computer labs with limited access to advanced IT equipment and software. This limitation hinders students from developing strong and up-to-date practical skills. Moreover, practical training in the IT field is highly dependent on the availability and willingness of tech companies to host students for hands-on experience. While teachers and directors at certain technical institutes provide flexibility in organizing internships, it is not decreed as part of the official curriculum that technical institutes must incorporate a mandatory internship within both TS programs. Therefore, Competency-Based Training (CBT) is a vital tool to close the gap between TVET education and the labor market. Designed similarly to TP but combined with work-based learning, CBT ensures that students gain the necessary skills and practical experience directly within the industry.

Background – The curriculum of a Competency Based Training (CBT) module

A CBT module is a short-term course with 40 hours in the workshop in a school where the trainees practice the use of tools and materials typical of the occupation, the curriculum adopted is the same as the corresponding TP. At the end of this in-school training a formative assessment is carried out to issue a DGVTE certificate. Trainees will attend 80 hours of on-the-job training in a working site where they can practice in a working environment the skills acquired in the previous part of the course. At the completion of the experience in the workplace trainees’ skills are assessed by a third-party assessor who issues an internationally known professional passing certificate.

The curriculum of a CBT module is composed of the following documents:

Occupational standard: A4 page describing synthetically the processes to be carried out by the job holder.

Competence standard: A4 page defining learning outcomes grouped in competence unit (indicatively 4 Competence Units (CUs) per CBT module).

Assessment standard: A definition of the conditions and the criteria for the assessment of the learning outcomes of each Competence Unit included in the qualification standard. The certification of competences is provided on the base of the verification of the criteria stated in the standard by an external professional assessor.

Education standard: The document describing synthetically the topics covered in each classroom lesson (if any) and the practical activities in the workshop and in the workplace (internship) carried out by the trainee with the timing planned for each of them.

Training standard: The training standard is a guidance for the teacher and the trainer to deliver the lessons. The training standard includes the guideline, the list of tools

and materials, the formative assessment and the summative assessment related to each competence unit.

Training guideline: The training guideline is defining the topics covered in the lessons with some description for each topic and at the same time set the working procedure that are in line with best practice that should be implemented during the training program. The training guideline includes the links to tutorial videos (at least two) that were used for the development of the guideline.

Tools and materials: An indicative list of tools and materials to be purchased for each Competence Unit to conduct the CBT training with a brief description and picture of the items, the quantities required per trainee, workshop, or CBT module edition, along with any further comments.

Formative assessment: A definition of the conditions and the criteria for the assessment of each learning outcome of each Competence Unit included in the competence standard for improving the performances of the trainees.

Summative assessment: A definition of the conditions and the criteria for the assessment of each learning outcome of each Competence Unit included in the competence standard to provide the trainees with the certification of competences on the base of the verification of the criteria by an external professional assessor.

3. Outline of the mission

To assure a consistent level of quality of the content, as a **precondition** the expert will get familiarized with the methodology and process to develop his/her own CBT modules in the frame of a **Training of Developers (ToD)**, which is not remunerated, but free of charge and mandatory.

Before attending the ToD course, potential candidates must successfully complete the e-course “Developing a CBT curriculum” as a prerequisite to be admitted to the ToD course. Applicants will be provided with the link to the e-course with continuous support from the QuA-VET project team.

The ToD course will be conducted in distance learning modality (online), approximately **6** live sessions of **3** hours each for 3 consecutive weeks (in the afternoons). The Expert should also consider at least 3 more hours[1] each session to complete the assignments given during the session that will be revised during the following session to provide feedback for improvement.

After the completion of the last session, the attendees will be assigned to develop one complete Competence Unit representing indicatively 20-25% of a complete CBT module curriculum.

The selection of the curriculum developers will be based on the results and outputs of a “Training of Developer” (ToD).

Each attendee's performance will be evaluated based on project quality criteria. The most qualified teachers who successfully complete the assignment within the ToD framework will subsequently have the possibility to be contracted as short-term experts to develop the CBT modular curricula of the TS programs “Industrial Informatics, Information Technology, or any other relevant field.”

Outputs/Results:

- Successful completion of the e-course *“Developing a CBT curriculum”*

[1] 12 hours attendance online sessions + indicatively 15 hours to complete individual assignments.

- 100% attendance of ToD course on developing CBT modules
- 100% fulfilment of the assignments required as part of the course
- Participants of the ToD will receive a compensation of 120$[2] for:
  Development of 1 Competence Unit of a CBT module within 7 days from the last session of the ToD course following the standards presented during the ToD course containing
  - Occupational
  - Qualification
  - Assessment
  - Education and
  - Training standards (about 15 pages) related to the selected competence unit drafted in English according to the template provided and following the example given

II. Tender requirements

4. Qualifications of proposed Expert

Education:

- University degree at least at Bachelor level in IT, Computer Science, Computer and Communications Engineering (CCE) or any other related field with 3 additional years of working or teaching experience in the IT sector **or**
- TS degree in Industrial Informatics, Administrative informatics, or equivalent in a similar discipline with 5 additional years of working or teaching experience in the IT sector **or**
- BT degree in Information Technology or equivalent with 10 additional years of working or teaching experience in the IT sector **or**
- LT in Business Computer, Programming or equivalent, with 3 additional years of working or teaching experience in the IT sector

Professional experience:

- Proven extensive experience in the development of training materials and documentation (preferred requirement)
- Excellent writing and editing skills
- At least 2 years' experience in writing/ following working procedures in the Information Technology, Computer Science or equivalent in a similar discipline (preferred requirement)
- Proficient in use of MS Office (PowerPoint, Word, Excel, Outlook)

Experience in the region/knowledge of the country

- At least 3 years working experience in Lebanon (minimum requirement)

Language skills:

- Business fluency in English and Arabic

Conditions and requirements:

- Availability of a PC or laptop with Office applications and stable internet access
- Motivation to spend many hours in front of a computer screen
- Only selected participants that will deliver successfully all the outputs as stated above following the ToD will be contracted as short-term experts for curriculum development

[2] If they provide the MoF registration number otherwise 111$ (QuA-VET will pay for the income taxes due).

III. Requirements on the format of the Application

The CV submitted for each expert can have a maximum of four pages. If one of the maximum page lengths is exceeded, the content appearing after the cut-off point will not be included in the assessment. External content (e.g. links to websites) will also not be considered).

The applicant shall submit to the following email address: LB_quotation@giz.de all the required documents (listed below) in PDF format on **Friday, 20.09.2024 by 23:59** Beirut Local Times at the latest.

The subject line of the mail must be clearly marked as follows: “Development of competency-based curricula in Internet of Things”.

Required documents:

1) Cover Letter: Please provide a cover letter outlining your motivation to participate in the Training of Developers (ToD) program.
2) Updated Curriculum Vitae (CV): Submit an up-to-date CV in English that includes the following details:
    - For TVET teachers: Specify the technical and theoretical subjects you teach, the academic year, the school’s name, and the name of the school director.
    - For all candidates: experience relevant to the requirement

Availability: It is essential to indicate via email your availability to attend the online ToD course, which will be held over three consecutive weeks from **15:00-18:00h in the 3rd quarter of 2024.**

If you have questions about this call for expression of interest, please contact us at the following email (LB_quotation@giz.de). Deadline for questions is **Tuesday 17.09.2024 before 23:59.**

Note: Only applications containing the mentioned documents will be taken into consideration.