

1. Brief program information

The program “Support to Technical and Vocational Education and Training” (TVET program) aims at developing a target-group differentiated and labor-market oriented vocational education and training system in Afghanistan. It supports the newly established TVET Authority to improve the three core elements constituting a formal TVET system: labor-market oriented curricula, training of pre-service and in-service TVET teachers and a TVET examination system, all of which having nationwide validity. Within the framework of a pilot system comprising a pool of vocational schools offering technical and commercial profiles, a reform project has been piloted. The program consists of six intervention areas:

- Intervention area 1: Improving the effective operation of selected pilot schools
- Intervention area 2: Improving vocational school education for apprentices
- Intervention area 3: Facilitating cooperation between the private and public vocational training sectors
- Intervention area 4: Developing curricula geared to labour-market needs
- Intervention area 5: Capacity development for vocational training specialists
- Intervention area 6: Rehabilitation of TVET schools

These Terms of Reference are related to intervention area no. **2** of the program.

2. Initial situation

Companies in the Afghan bazars are practicing a traditional apprentice training system. They are major trainings providers for youths. The existing Afghan Technical and Vocational Education and Training (TVET) system had in the past focused on providing full time education only, while the approximately 600.000 company apprentices were not targeted as learners. In April 2017 the Afghan Dual Track TVET (Ostad Shagerdi) pilot program had commenced, based on a request from the President of Afghanistan.

Ostad Shagerdi apprentices are attending TVET school classes from grade 10 to 12. The training in the companies is recognized as key part of their education, which is supplemented by 18 hours of learning in schools. The school education includes skills subjects, such as Dari, English and IT, but also eight hours of technical subjects (technology, applied mathematics and technical drawing).

The number of apprentices in all the schools are increasing massively. In order to manage and keep a close record of the apprentices and analyze the number of apprentices an apprentice database needs to be developed, so all the stakeholders could have a close coordination and record understanding of the apprentices.

3. Mission goal

Development of apprentice database for AA2 between December, 20th 2019 and June, 21st 2020.

4. Expert profile

The company should have:

- Considerable database development experience.

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- Highly qualified, university-graduated database development experts with considerable project management experience.

5. Scope of work

The contractor will develop an apprentice database. This development will comprise a mapping of the system requirements, the development of the system, the development of related GDPR-procedures, the testing as well as trouble shooting.

- The system shall record the data of apprentices including:
 - Personal information;
 - Education background;
 - Company information;
 - Attendance information.
- The system should be able to operate in two languages, Dari and English.
- The system needs to have multiple stakeholders' access with different access levels:
 - GIZ staff must have full permission;
 - Selected partner personal must have read-only access;
 - Schools and personal of contractors must have data entry and Read-only access.
- The system should be able to operate in web browser and desktop application.
- The system needs to be cloud-based with high level of data security and frequent backups for the first year of the operation.
- The system needs to be compliant with the data protection rules of the European Union (GDPR).
- The system needs to have a set of data analysis functions based on various criteria.
- The system should be able to handle at least ten million records.
- The system should have the ability to read textual data from scanned documents.
- The system should have real-time saving capability.
- The system should be compatible with low bandwidth (low speed internet connection) .
- The system should have definable data queries based on filters.
- The data must be in a form that facilitates the data mining capability for future events prediction.
- The system should have built-in features of data analysis and data mining.
- Cross platform functionality.
- The system requires the following reporting interfaces:
 - An interface for GIZ;
 - An interface for data analysis and data mining facilities;
 - The data mining tools must be enriched with supervised learning algorithms;
 - An interface for schools,
 - An interface for TVET.

Work package 1: Mapping of system requirements

- Mapping of the system requirements, in close consultation with GIZ & TVET project teams.

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Work package 2: Drafting and testing of the system

- Development of the system.
- Running tests with the engagement of multiple stakeholders to ensure the expected quality of the system with hundred thousand of records.
- Finalization of the system.

Work package 3: Importing of existing data

- Import the current data in excel sheets into the system.
- Approximate number of current records is 250.000.

Work package 4: Training

- Stakeholder training in usage of the system and troubleshooting over the first one year.
- Up to five different stakeholder groups.

Work package 5: Trouble shooting

- Trouble shooting during the first three months of application.

6. Reporting and deliverables

| Work package | Required reports / document evidence |
|---------------------------------------|---|
| Mapping of system requirements | Mapping documentation |
| Development and testing of the system | System (software system, documents and catalogues for each module, source code) |
| Training | Training documentation |
| Trouble shooting | Overview of the received problems and the provided clarifications or implemented system adjustments |

7. Instructions for the technical proposals

The technical proposal must be written in English language. The technical proposals should be structured as follows:

- Institutional experience of the bidder, including details about:
 - Years of experience with development database, systems and applications.
 - Information about the 3 to 5 biggest contracts during the past two years.
 - As a work sample 2 or 3 developed systems, applications or database.
- Facilities and personal of the bidder, including:
 - Details about the proposed developers who will be working on the project. Please provide CVs.
- Technical concept for development of the system with timeframes.
- Attachments:
 - Valid license from a relevant Afghan Government entity. (Copy of valid license)