

REQUEST FOR PROPOSAL

Renewal of software infrastructure of Turkish Employment Agency

UNDP-TUR-RFP(KFW)-2020/02

SECTION 5. TERMS OF REFERENCE

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Abbreviations

| Abbreviation | Definition |
|---------------------|--|
| API | Application Programming Interface |
| JVC | Job and Vocational Consultants |
| ISO | International Organization for Standardization |
| ISKUR | Turkish Employment Agency |
| IT | Information Technology |
| SMTP | Simple Mail Transfer Protocol |
| SQL | Structured Query Language |
| ToR | Terms of reference |
| UI | User Interface |
| UNDP | United Nations Development Programme |

1. Background Information, Rationale and Project Description

UNDP supports the Government of Turkey to respond to the Syrian Crisis through its Syria Crisis Response and Resilience Programme in Turkey to strengthen the resilience of refugees, host community members, local municipalities and relevant national institutions to cope with and recover from the impact. UNDP's resilience response strategy is to invest in existing national and local systems to ensure they can adequately serve both host and refugee communities.

UNDP uses a resilience-based development approach which focuses on investing in existing national and local systems to ensure they can adequately serve both host and Syrian communities. As part of UNDP Syria Crisis Response and Resilience Programme in Turkey, Employment and Skills Development Projects supports Syrians and vulnerable host community members to access the local labour market. The project will do so through strengthening the institutional capacity of İŞKUR to expand active labour market services and adjust capacities and services where needed to respond to the demand for services for both Turkish and Syrian job seekers.

Within the scope of the Project, the software infrastructure of İŞKUR will be renewed by rewriting of software modules to eliminate the constraints as part of the digital transformation roadmap of İŞKUR.

Background Information

ISKUR was originally founded as the Labour and Employment Agency in 1946 and was subjected to a radical transformation by virtue of the Law numbered 4904 on Employment Agency of Turkey, which was put into effect after its promulgation in the 25159th issue of the Official Gazette on 05.07.2003, in order to respond to globalization that began in the 1980s, technological advances, and new "paradigms" in labour markets resulting from the information society; to assist in actions aimed at preserving, developing, and extending employment and preventing unemployment; and to provide unemployment insurance services.

The new law has extended the ISKUR's area of responsibility so that it acquired a structure enabling it to offer conventional employment and labour supply services while implementing active and passive labour policies. An inclusive organizational model open to social dialogue was adopted and a General Assembly which also included the representatives of public agencies, civil society organizations, and the academia was established in order to assist development of Turkey's employment policy. A Board of Directors composed of the representatives of workers, employers, storekeepers, and tradesmen among others was set up as the ISKUR's organ with management, decision-making, powers, and responsibilities at the highest level. In provinces, Provincial Employment and Occupational Training Committees were founded to promote local initiatives for regional development and to formulate local employment policies.

In 2011 and 2012, 4255 "Job and Vocational Consultants (JVCs)" were employed to provide services to the unemployed and matching them with vacancies and the number of personnel continued to increase in the following years. İŞKUR has implemented several capacity building and service improvement projects for expanding counselling services and organisation of in-service trainings in the last three years.

The administrative structure of İŞKUR consists of the General Directorate in Ankara, Provincial Directorates in 81 provinces, 77 Service Centres and 2720 service points. As of 06.11.2019, İŞKUR has 8,888 employees except for worker status. 8326 of these people work in the Provincial Directorates and 4766 serve as JVC.

İŞKUR's roles and responsibilities are constantly extending and it is becoming more visible in the eyes of the public due to its role. It offers services to a larger group because of its new roles and responsibilities. It is developing customized programs for different groups, including Syrians Under Temporary Protection Status and these services and programs are delivered to a large group through efficient use of social media.

There are high expectations that İŞKUR shall efficiently offer services of high quality demanded and needed by the potential target group which is growing amid a process of diversification on the supply and demand site of the labour market because of the changing structure of the labour market and new emerging needs. Being aware of

this fact, İŞKUR is observed to be making efforts to enhance its institutional capacity to respond to those expectations in a timely manner and meeting high standards in a dynamic process.

The efforts to update the infrastructure developed with the .NET application development framework have been on İŞKUR's agenda for a long time. The E-Transformation platform is being developed with the existing infrastructure since 2003 and improvements have been made for about 15 years, however, the existing framework structure is preserved.

Technological developments such as MVC, .NET Core, etc. are not being used in İSKUR and partial versioning and dissemination cannot be made. The software infrastructure, which was developed with the technology 15 years ago and is not renewed, limits the application of current digital developments to İŞKUR infrastructure and cannot fully support İŞKUR in terms of future activities.

The statistical numbers on the existing software infrastructure are as follows. Database numbers log and system tables are not included.

- Number of Database Tables: 3,780
- Number of Database Procedures: 16.134
- Total Pages: 2,941
- Total Number of Reports: 1,168
- Total Number of Code Lines: ~ 2,207,172

2. Specific Objectives

The overall objective of the project is to increase the corporate performance of İŞKUR and to provide the infrastructure to increase the service satisfaction of the target audience and the job satisfaction of İŞKUR employees as part of its corporate transformation. The specific objective of the project is to increase the institutional capacity of İŞKUR, to Create a new E-İŞKUR infrastructure within the scope of global digital developments, to create applications with high target group/employee/user experience, to adapt .NET Core and similar technological developments, to enable version management and infrastructure change with partial release and deployment.

As a result of the project, it is expected that İSKUR would have a more effective software infrastructure with;

- Improved quality of services,
- Current technology supported screens designed with user experience,
- State of art digital system.

3. Scope

Within the scope of Contract, the Contractor shall renew İŞKUR's software infrastructure related to user interfaces in order to provide an efficient and effective digital service in order to assist İSKUR in terms of high target group experience, easier adaptation to new service channels and better service provision. In this context, as part of the Project, in order to improve the E-İŞKUR services provided to Turkish citizens and Syrians Under Temporary Protection, which are both part of the target group of İŞKUR, the Contractor shall carry out an analysis, interface design and infrastructure renewal work and renew interfaces to analyse existing technology solutions, software applications and technological tools. Interface renewal works shall include the renewal of all necessary codes running for both front-end and back-end, which is running behind interfaces.

In line with the objectives of the project, the Contractor is expected to undertake the activities in two main components;

- Component 1, Analysis, Design and Planning
- Component 2, Infrastructure Work

Component 1- Analysis, Design and Planning

The Contractor shall carry out preliminary analyses for interface design of İŞKUR's E-İŞKUR services (renewal of all front-end and all back-end code running behind interfaces) by taking İSKUR's written or oral expectations. The Contractor shall conduct face-to-face interviews with a group of personnel to be determined by İŞKUR to conduct this assessment. In parallel with the interviews, the software codes and software-related documents shall be reviewed by the Contractor and a user experience study shall be carried out considering the effect of the user experience on the interface design.

The user experience work shall be conducted under the leadership of a UX (User experience) expert and shall be completed within 10 working days.

Activity 1.1- User Experience Maturity Analysis

The Contractor shall analyse İŞKUR's current maturity levels and creating recommendations for improved user experience.

Defining strategic content

- Conducting studies / discussions with İŞKUR to understand the current situation and define a context for the initiatives to be undertaken.

Assessment of the current state of digital maturity

- Channels and devices.
- Gap analysis according to best practices and UX analysis of all digital assets

Existing User Data Analysis

- Comprehensive analysis of user data available on various digital contact points and devices
- Establishing and reporting findings and observations on user behaviour to validate and measure existing business metrics

Deliverables (not limited to the following)

- Research Surveys
- Evaluation reports
- Web Site / Implementation Strategy Document

Activity 1.2- User Experience Design

Profile Creation and User Group Research

- Development of user groups and profiles based on existing user behaviour patterns
- Conducting research to understand needs and new requirements and identifying a user group specimen.
- Establishing a framework for assessing the acquisition, utilization and regular consumption of information and services at digital contact points

User

- Creating an experience strategy for each of the defined user profiles, including channels and devices

Creating User Experience Journey

- Creation of a user journey to define the user's life cycle along the defined profiles and channels
- Establishing a framework for evaluating user interactions at contact points throughout the journey

Information Architecture Design

- Creating hierarchical architecture for information mapping to facilitate intuitive access to content

- Designing a framework for facilitating the understanding of information provision and matching them with the user journeys
- Designing interface elements navigation framework to enable users to access all hierarchies within the information architecture.

Wireframe Design

- Formulating an experience design strategy matched with business requirements, personal requirements, information design and formative test findings
- Creation of a prototype and the entire Wireframe tool for key user offer modules on devices and channels that shall provide a seamless and Omni-channel experience

User Interface Design

- Working with İŞKUR to understand the principles governing İŞKUR services
- Creation of a digital style guide that will be a subset of the superior service manual
- Enhancing colours, typography, iconography and layout styles
- Creation of user interface prototypes and design sets for all user profiles and user journeys between channels and devices
- Preparation of final versions of Interface Templates after the approval of İŞKUR

Deliverables (not limited to the following)

- User Profile
- Information Architecture
- Wireframes
- User interfaces
- Interface Templates
- Guidelines for existing developers and new developers (how to start, how to implement, important criteria, tricks, etc.)

Following these studies, the Contractor shall propose the “Design Guide” which aims to create a sound and clear transformation in the governance structure, and which includes all points that are problematic / to be changed / renewed etc., proposed changes in infrastructure and interfaces, the approach that can realize the software alterations and change that shall eliminate the problematic points in the easiest, fastest, most accurate and healthy way within the project period.

The usability testing process of the study shall be completed during the process of preparing the Design Guide.

The Design Guide shall provide İŞKUR with all the technical details, visual description, description, method, template and path to be comprehensively covered. The outputs to be created within the scope of the Design Guide shall be in accordance with İŞKUR's institutional identity guide and shall be authentic.

The proposed amendments shall be approved by İŞKUR before being implemented.

The Design Guide shall be submitted within 9 weeks after the signature of the contract.

The Contractor shall also prepare a Training Program for the relevant İŞKUR personnel to be determined by İSKUR in accordance with the content of the approved Design Guide. The draft program for the trainings shall be shared with İŞKUR as a part of the Design Guide. The Training Program shall be approved by İŞKUR.

Following the approval of the design, the Contractor shall revise the time and resource planning for the renewal of the infrastructure and interfaces if deemed necessary.

Component 2- Infrastructure Work

The Contractor shall implement all changes relating to approved E-İŞKUR interfaces. During the interface renewal study, the Contractor shall use up-to-date technologies (.Net Core UI, Angular, VueJS, React, Blazor) with their latest stable versions. Prior to utilization, selection of technologies and versions shall be submitted to İŞKUR for approval.

The operational aspect of the infrastructure and interface changes described in the Design Guide shall be directed to a new design that is consistent with the following requirements;

General Requirements

1. Help for all documents / materials developed by the Contractor, user manual, supervisor's manual, technical manual, training etc. services and documents shall be provided to İŞKUR.
2. User screen controls (User Control) shall be developed by the Contractor. (With the approval of İŞKUR)
3. The Contractor shall share its experience and knowledge throughout the Project.
4. İŞKUR and the Contractor shall decide whether third-party control boxes (Telerik, Infragistics, Devexpress, PrimeNG etc.) will be used.
5. The Contractor shall provide guidance and consultancy support for Devops transactions.

Technical Requirements

1. The system shall enable rapid and stable application development on the .NET Core platform.
2. The system shall be developed in SOA architecture and in at least 3 logical layers including data access, business rules and presentation layer.
3. The system shall be deployed in service-oriented architecture and shall be able to exchange data with external systems with REST-based API standards.
4. The system front-end and business rules layer shall be scaled to serve multiple servers. A server shall be added to the system to meet customer demands.
5. The system shall be based on the .NET Core infrastructure.
6. The system shall be developed with the Web API in ASP.NET Core as back-end technology.
7. The developed services shall be able to work with external organizations through the API Gateway provided by İSKUR.
8. In existing interfaces, the codes written to web forms shall be moved to the business layers.
9. For all methods used by web forms in all existing internal and external applications, service ends shall be written using the existing API infrastructure within İŞKUR.
10. New interface application shall be written and screen designs of all existing internal and external applications (web-windows) shall be transferred to the new interface application.
11. The Contractor shall carry out the processing of the incorrect codes on the front page of all existing pages to the business layer.
12. For the operations on all existing pages, the API endpoints shall be written by the Contractor using İŞKUR's existing API infrastructure.
13. All the developed API ends shall be connected to the Interface application designed by the Contractor and the screen designs shall be realized.
14. All development work to be carried out by the Contractor shall be performed on the current İŞKUR Version Control software determined by İŞKUR.
15. Process structure shall be supported in service-oriented architecture.
16. There shall be an error recording (Error recording / management) component that will record and manage errors that may occur in the whole system. Provided that the Dotlog core is supported, one of the generally accepted libraries such as Nlog and Log4net shall be selected.

17. If required, alarm or information messages shall be sent via SMTP (Simple Mail Transfer Protocol). Methods and services related to this definition shall be prepared.
18. There shall be a component that can cache fixed or rare data in the service and / or user interface layer.
19. SignalR shall be used for asynchronous server-client communication.
20. The system shall run smoothly (including mobile devices) in the latest versions of Microsoft Internet Edge, Microsoft Internet Explorer, Mozilla Firefox, Google Chrome, and Safari Internet browsers.
21. Easy use shall be provided with web components in the system. For example, interconnected drop-down boxes (for example, renewing the county list when a province is selected, etc.) shall be easily performed, the network used to list the data shall have the automatic paging feature, and the desired columns shall be added and removed from the data by the user.
22. The system shall allow screen-based and record-based authorization. The defined authorization shall apply to all transactions related to queries. In addition, the system shall allow user-based and role-based authorization.
23. The system shall allow the setting of rules for access through specific IP or web interfaces from computers.
24. Registration shall be made for each transaction performed by users.
25. The system shall also include web service support. It shall allow data sharing with the external environment through the Web service. It shall also allow access to data sources through the internal web service.
26. If more than one person has opened a record at the same time on the same screen, the system shall notify everyone who opened it. The simultaneous changes made by the persons shall be traceable and observable by each other.
27. The system shall allow the addition of new modules or the addition, modification and migration of functions to existing modules. These operations shall not interfere with running services.
28. If an error occurs on any page during application usage, a pop-up message shall be displayed. Detailed error information shall be stored in the database and these interfaces shall be managed by the administrator users.
29. End-user (customer) interfaces shall be flexible / responsive.
30. The system shall allow the interface / code developer groups to be created with the relevant authorization features. The system shall allow users to track requested and / or justified changes.
31. The system shall operate simultaneously without any performance loss depending on the maximum number of users.
32. All development work to be carried out by the Contractor shall be performed on the current İŞKUR Version Control software determined by İŞKUR.

Design Template Requirements

1. The Design Template shall be established on the infrastructure created by using the latest Bootstrap version available at the tender date.
2. The design template shall be specially designed for İŞKUR.
3. The design template components shall not be adapted from the ready template.
4. The screens to be prepared by the Contractor shall perform responsive design in order to ensure the efficient use of the screens in all browsers and shall be compatible with all web browsers.
5. The screens to be prepared by the Contractor shall operate smoothly when opened in mobile browsers.
6. All design and script files shall start with the "iskur" tag.
7. Design samples and templates of all components on the existing software and all components that may be required by İSKUR shall be created by the Contractor.
8. The software design template to be developed by the Contractor shall be designed in accordance with the principles specified in the İŞKUR Current Corporate Identity Manual.
9. Designs shall be implemented after approval by İSKUR.

Authorization & Identity Management Requirements

1. İŞKUR shall authorize or deny the Authorization Service by requesting operation information and user token value.
2. Unauthorized access to pages, modules or functions shall be denied even if summoned directly.
3. The system shall record incorrect entries from a particular user.

Logging Requirements

1. Data creation, deletion, updating, listing, reporting, user input-output operations, error records and similar records shall be logged on the system. These operations can both be performed via the interface and triggered in the system (automatically trigger database changes, etc.). Logging functions shall be presented through common infrastructure.
2. System errors shall be logged in detail. Logs shall be displayed and reported by the system administrator at any time. System administrators shall be informed about critical error types by e-mail and/or SMS.
3. System shall allow parametric and adjustable logging operations. Each logged data shall be instantly accessible through the common infrastructure.
4. Application name / ID, application interface type (Web, Mobile, etc.), user name, page, method / process type, process parameters, name of the computer on which the jobs are performed, IP while keeping records of the transactions performed by users (Data creation, Correction, Deletion, etc.) address, date and time shall be recorded in the database. All cases / versions before and after update / change of application data shall also be recorded.

User Interface Requirements

1. Graphic interfaces shall be designed with touch devices compatibility.
2. System shall provide ease of use by ensuring visual internal integrity on the user interface, placing the buttons in the same area of the screen, using similar designs on each interface of the software and other similar techniques (with full support UX compatible designs).
3. Application interfaces shall be developed with Responsive Web Design approach to the extent allowed by the system.
4. User dashboard shall be designed consisting of visual information, reminders, warnings and similar functions.
5. System language, messages, warnings shall be in Turkish and shall be defined by UTF-8 coding system.
6. All components in the interface shall communicate with the server side through API with JSON standards.
7. Interface side shall not directly access the İŞKUR integrated API system. It shall be accessible on the side of the code block running on its server.
8. State-Servers shall be installed for new interface applications, installation scripts shall be written and implemented.
9. Javascript and CSS codes shall not be available on the pages of the application to be developed. Javascript and CSS codes shall be available in separate files that are set as standard for each page. These CSS and script files shall be standard according to the name of each page under İŞKUR scheme.
10. Interface Application shall support user login with İŞKUR Integrated Authentication system.
11. The application shall have the following login screens;
 - a. Internal User login screen
 - b. External User - Job seeker login screen
 - c. External User - Employer login screen
 - d. External User - Service Point login screen
 - e. External User - Call Centre login screen
12. All components to be used in the application shall be used with the <iskur /> label.

13. The application shall support two-way binding.
14. All script and design files (including images) shall be integrated into the interface application with bundling and minification, which is made in a separate application.
15. The deployment process of the application shall be done with the powershell and bash scripts prepared by the Contractor.
16. The powershell and bash scripts to be prepared by the Contractor shall be capable of deployment to Windows, docker on Windows, Linux and the docker on Linux and retain deployment versions. It shall be changed to the desired version when needed.
17. The version of the powershell and bash script to be prepared by the Contractor shall be the same as the code version number sent to the version management system within İŞKUR.
18. Each time the deployment of the interface application to be developed by the Contractor is made, the used script and design files shall be refreshed in the browser cache.
19. When İŞKUR receives errors from the API services, fails to reach or receives an answer other than expected, the screens shall continue to run and appropriate messages shall be displayed to the user in the appropriate format.
20. The token value that will be sent to İŞKUR integrated API system on every request shall not be kept on the client side. It shall be held on the Session State Server, which will be co-edited.
21. Design samples and templates of all components shall be created by the Contractor.

Data Entry Requirements

1. System shall carry out automated audits to protect data integrity and to prevent inconsistent data entry.
2. System shall automatically carry out data verification checks on both client and server-side length, number, character, format, spacing etc.
3. Data entry fields shall prevent the user from entering incorrect entries. User errors (blank, duplicate, etc.) that occur during data entry shall not be displayed on a separate error page.
4. In the event of an error in any of the multiple and related transactions, the system shall automatically roll back transactions. If there is no error, it shall complete its transaction.

The Contractor shall implement pilot applications on the E-İŞKUR screens determined by İŞKUR, starting from the 10th week of the project to the 20th week of the project and shall ensure the completion of the infrastructure and interface work in cooperation with İŞKUR.

In the pilot application, the revised Design Guide within the scope of the issues learned in the pilot implementation shall be handed over to İŞKUR at the end of the 20th week. Trainings shall be organized on the 21st and 22nd weeks of the project for selected İŞKUR personnel and evaluation reports regarding the trainings shall be submitted to İŞKUR within 1 week after the trainings.

The Contractor shall provide the following software trainings to at least 10 (ten) technical personnel to be determined by İŞKUR;

- Training about the technology used in the developed interface application
- Software Architecture Training
- Secure Code Development Training
- Clean Code Writing Training
- Microsoft .NET Core

In parallel with the trainings, the Contractor shall also complete the interface and infrastructure work required for all screens of the E-İŞKUR in the light of the revised Design Guide in the 48th week of the project.

4. Approach and Methodology

The project shall be completed in 3 phases in total and each phase shall be completed with the activities described in the specification.

Inception Phase

The contract execution shall start with a kick-off meeting held at General Directorate of İŞKUR. The Contractor shall be responsible for the arrangement of the kick-off meeting and shall present its approach for the delivery of the project activities.

The Inception Phase shall include identifying existing problems and visualizing the solution to be identified. All stakeholders shall be involved at this stage in order to provide the project team with comprehensive information so as to enable them to make critical decisions about what the improvements would be.

The Meeting Report shall be prepared by the Contractor and shared with all parties within one week.

For the purposes of the development of a detailed work plan, it is important that the Beneficiary is consulted extensively. The Contractor shall prepare a draft work plan including the definition of roles and responsibilities of the project team. If necessary, the work plan shall be revised in line with the feedbacks from the UNDP and İŞKUR.

After 4 weeks from the contract signature, the Contractor shall present the draft Inception Report. The report shall include all the meeting minutes and any amendments or changes made on the Terms of Reference.

The Contractor shall present the English version of the Inception Report upon approval of the final version of the Inception Report in Turkish.

Execution Phase

It is important to note that all the activities in each project component are interrelated with each other and the Contractor shall pursue input-output relationships between activities as required and to maintain the project within the framework of these relations.

Closure Phase

Following the completion of renewal of E-İŞKUR interface infrastructure and interfaces, the Contractor shall prepare Final Report which shall include the results of activities taken throughout the project. Interview results, pilot evaluation results, evaluation of other changes and all other documents used during the project shall be included in the Final Report.

Final Report shall be submitted within 49 weeks after the signature of the contract.

The Contractor shall submit to İSKUR the project archive containing all the documents generated during the project (all source codes including manuals, licensed software, copyrights, all licenses received, codes not yet implemented etc.).

Project archive will be submitted within 51 weeks after the signature of the contract.

5. Deliverables and Schedules/Expected Outputs

| <i>Component</i> | <i>Deliverables</i> | <i>Submission Date of draft version (Following the contract</i> | <i>Expected Date for Review by UNDP and İSKUR (Following the</i> | <i>Expected date for delivery of final version (Following the contract signature</i> |
|------------------|---------------------|---|--|--|
| | | | | |

| | | <i>signature date)</i> | <i>contract signature date)</i> | <i>date)</i> |
|-------------------------------|---|-----------------------------|---------------------------------|-----------------------------|
| Inception Report | Inception Report | <i>3rd week</i> | <i>5th week</i> | <i>6th week</i> |
| Analysis, Design and Planning | Design Guide <ul style="list-style-type: none"> ▪ The rationale for the design and the background summary ▪ User guide (including all screen examples and error messages) ▪ UX design templates for all interfaces | <i>9th week</i> | <i>11nd week</i> | <i>12th week</i> |
| | <ul style="list-style-type: none"> ▪ Training program | <i>12th week</i> | <i>14th week</i> | <i>15th week</i> |
| Infrastructure work | All technologically revised E-İŞKUR screens in operation | <i>48th week</i> | <i>50th week</i> | <i>52nd week</i> |
| Final Report | Final Report | <i>49th week</i> | <i>51st week</i> | <i>52nd week</i> |
| | Project Archive | <i>51st week</i> | <i>52nd week</i> | <i>52nd week</i> |

In addition to the above deliverables, the Contractor shall submit monthly progress report for each month by 10th day of the following month.

All versions (i.e. draft, revised) of deliverables of this contract are subject to review of UNDP in consultation with İŞKUR. All comments by UNDP and İSKUR shall be addressed by Contractor. Contractor shall revise the documents in line with the comments of UNDP and İSKUR; and submit revised deliverables with narrative responses identifying revisions made by Contractor.

Final version of all deliverables shall be submitted in 2 hard copies and soft copy, if applicable. Editable version of soft copy shall also be submitted.

The deliverables shall be prepared in Turkish with an executive summary both in English and Turkish, if applicable.

6. Key Performance Indicators and Service Level

The Contractor shall continuously monitor the implementation of contract activities according to standard procedures (Inception Phase monitoring, periodic monitoring and final assessment). Project monitoring shall be based on a periodic assessment of progress on delivery of specified project results and towards achievement of the project objectives.

UNDP shall monitor the components of the contract and ensure timely and efficient implementation of the Project, in particular by commenting on the Inception Report and the Final Report and advising on progress towards the delivery of specific project outputs and the achievement of relevant outputs.

General terms are as follows;

- The works to be performed by the Contractor within the scope of this project must comply with applicable Laws and Regulations.
- The software to be offered by the Contractor for the renewal of the front-end and all back-end code running behind the interfaces shall run on a single platform. Separately proposed software solutions shall not be considered.
- The software shall work on local network and hardware infrastructure of İŞKUR.
- The Contractor shall complete all software procurement and all the conditions stated in the Terms of

Reference within the specified time / period and shall deliver the complete system ready for use as a turnkey system.

- The Contractor shall pay the intellectual property rights of all systems (software, etc.) to be provided in accordance with the provisions of the contract and any trademark, patent, industrial design and model rights. In the event of any breach of an intellectual and / or industrial property rights protected by the provisions of the relevant legislation during the fulfilment of its obligations under the Convention, the Contractor shall bear any administrative, legal, criminal and financial responsibility.
- The Contractor shall provide 1 (one) year warranty and maintenance support service commitment for the design and software to be prepared under this contract. The warranty period shall begin with final acceptance. During this period, problems that may arise in the software shall be solved.
- If there are additional features for the benefit of İSKUR in the replies to the Specification, they shall be clearly indicated in the proposals.
- The Proposer shall state the information about the application server infrastructure database management system required for the software development to be developed in its reply; the same answer shall also indicate the minimum requirement suggested in the reply.
- The software and screen designs to be created shall not be used by the Contractor in any other institution or organization.
- Only the corporate logo and inscription of İŞKUR shall be included in the software and screen designs to be created. There shall be no other logo or company information and no open or confidential link shall be given to any web address.
- In the software and screen designs, the namespace information shall be addressed only as determined by İSKUR. No other company extension or information shall be included.
- The codes to be developed and the changes to be made during the warranty period shall be sent to the version management system software determined by İSKUR.

Key performance indicators;

- The Contractor is obliged to carry out extensive tests prior to notification of provisional acceptance.
- The Contractor shall complete the deficiencies arising after the test, shall upload the final version of the software to the test platform and shall make it ready for the test again by implementing the necessary changes.
- In the tests performed, the provisional approval shall be made upon the elimination of the deficiencies specified in the previous report which prevent the provisional approval and the fact that there is no obstacle in execution of the service without interruption. If it is determined that the deficiencies in the previous report, which prevent the provisional approval, are not eliminated, the test process shall be repeated.
- Prior to acceptance of the software infrastructure, the commission consisting of the Contractor and İŞKUR personnel shall approve that all components of the system are working correctly and completely, and the system shall go live afterwards. After going live, the entire system shall be used with all users for at least 1 month. The problems encountered during this period shall be solved by the Contractor. The software will be accepted when the system works properly without any deficiency.
- All source code (including the licensed software), copyrights and all licenses acquired under this project shall be delivered to İŞKUR.

7. Governance and Accountability

Project Manager of UNDP Employment and Skills Development Project will directly supervise the Contractor. Contractor will be directly responsible to, reporting to, seeking approval/acceptance of output from Project Manager.

İSKUR is the beneficiary and implementing partner of the project, and the Contractor shall conduct all activities in close cooperation with İSKUR.

A coordination committee composed of UNDP and İŞKUR representatives will monitor and supervise the activities and be responsible for administration of the contract in line with the contract requirements. The committee shall meet in the Inception Phase to obtain information about the approach and about the Contractor, and to provide technical guidance for the results expected from the Contractor. The committee shall meet regularly during the implementation of the contract and shall finally meet upon the submission of the Final Report for review of the outputs.

The contractor shall weekly inform UNDP for the planned activities by e-mail and submit monthly progress reports summarizing the achievements and progress of the activities.

8. Facilities to be Provided by UNDP

UNDP will not provide any physical facility for the services of the Contractor.

The proposer shall ensure that experts are adequately supported and equipped and shall ensure that the service is in accordance with the provisions of the national legislation. In particular it shall ensure that there is sufficient administrative, secretarial and interpreting provision to enable experts to concentrate on their primary responsibilities. Furthermore, the Contractor must also transfer funds as necessary to support its activities under the contract and ensure that its employees are paid regularly and in a timely manner.

ISKUR will provide working space to the experts during the implementation of the Contract. The Contractor shall provide essential office equipment and material including IT equipment for his/her staff working at ISKUR premise.

When required, the meetings, potential workshops and trainings will be held in İŞKUR or UNDP premises.

All expert expenditure for travel to the pilot provinces shall be covered by the Contractor.

9. Expected Duration of the Contract/Assignment

The expected commencement time of the contract is May 2020.

The total duration of the inception and implementation of the Project is 13 months, and the warranty period of 12 months.

Maximum estimated number of man-days to be invested by the Contractor are as follows;

| | Maximum estimated number of man-days to be invested |
|--|---|
| Key Experts | |
| Team Leader | 200 |
| User Experience (UX) and User Interface (UI) Design Expert | 200 |
| Chief Software Engineer | 200 |
| Senior Test Expert | 200 |
| Non-Key Experts | |
| Software Engineers | 800 |
| Test Expert | 200 |

10. Duty Station

The project shall be based in Ankara. All experts shall perform in Ankara and visit the pilot provinces, if deemed

necessary. The pilot provinces are Gaziantep, Hatay, İstanbul, Kilis, Şanlıurfa. The experts shall carry out the activities at the General Directorate of İŞKUR with their own equipment.

11. Professional Qualifications of the Contractor and Key Experts

The Contractor shall have experience on development of software infrastructure of public entities similar to İSKUR, particularly providing services on data-driven changes, products, services, software and hardware in the process to improve productivity.

12. Key Experts

The Contractor shall provide adequate staff in terms of expertise and time, in order to complete the tasks required and to achieve the overall and specific objectives of the Contract in terms of time, cost and quality. The Contractor shall mobilize a team of experts comprising following key personnel and short-term experts.

Key Experts have a crucial role in implementing the project. The proposer shall submit the CVs of the key experts with the technical proposal and the CVs shall clearly indicate the related experience as years of experience.

Key Expert 1: Team Leader

The roles and responsibilities of the Team Leader are as follows;

- Technical management of the team, responsible for execution and compliancy of all activities with the this terms of reference and technical proposal of the Contractor.
- Ensuring communication and coordination between UNDP, İŞKUR and the project team
- Managing all project activities, following up the project and plans, reflecting the planned, actual and unplanned business items to the plan, ensuring that the project is carried out according to the method.
- Managing project-related risks.
- Planning, conducting and reporting periodic monitoring meetings.
- Following the decision to return or continue in critical situations.
- Coordinating, managing and motivating the project teams.
- Being responsible for the maintenance of project documentation and reporting systems.
- Managing project changes in accordance with the change management procedure.
- Participating in project management meetings and preparing status report on project activities
- Monitoring project activities, as well as guiding and managing the project team's timetable to meet the expectations
- Identifying project requirements in line with the Contract,
- Ensuring that the project outputs are of the expected quality
- Preparation of all reports required by this term of reference.
- Technical management of the team, providing technical inputs to the team ensuring full compliancy of the deliverables with this terms of reference and technical proposal of the contractor.

Qualifications and Skills

- Bachelor or higher degree in engineering and/or administrative sciences
- Good command of English

General Professional Experience:

- Minimum of 15 years of professional experience

Specific Professional Experience:

- Preferably 8 years, but at least 5 years of experience in administrative position as Project Manager/Project Coordinator/Team Leader
- Minimum 10 years of experience in analysis, design and development of software,
- Minimum 2 years' experience on DevOps,
- Demonstrated experience and knowledge in followings;

- Software Lifecycle and Methodologies,
- .NET-based Web Application Development,
- object-oriented analysis and design,
- DHTML, XHTML, CSS and JAVASCRIPT,
- XML and web service technologies
- ORACLE and / or SQL Server database technologies,
- SVN, GIT, HG or TFS,
- Microsoft Visual Studio
- ASP .NET (web forms / MVC)

Key Expert 2: User Experience (UX) and User Interface (UI) Design Expert

The roles and responsibilities;

- Being responsible for user experience and user interface design activities
- Identifying a test group between users and developing a test plan
- Analysing the test results and sharing the outputs and findings with the project team
- Performing post-design (summative) user usability testing
- Working in harmony with the leadership and coordination of the Team Leader
- Being responsible for the output quality of a UX and UI team with at least 2 people including herself/himself
- Participating in project team meetings and informing about the current status of project activities
- Regularly informing the Team Leader about project requirements
- Cooperating and coordinating with other Software Engineers and Test Experts and providing support when necessary
- Maintaining cooperation and coordination with the IT Department personnel of ISKUR

Qualifications and Skills

- Bachelor or higher degree in a related field,
- Having an academic degree in Graphics, Fine Arts, Design, Visual Communication will be considered as an asset.
- Good command of English

General Professional Experience:

- Minimum of 8 years of professional experience

Specific Professional Experience:

- Preferably 7 years, but at least 5 years of experience in web interface design,
- Demonstrated experience and knowledge in followings;
 - Interface development on digital platforms such as web, mobile and social media,
 - Javascript (Jquery, AJAX), HTML, CSS, Bootstrap technologies,
 - responsive design and cross-browser tests,
- Experience as an expert in similar projects at public entities will be considered as an asset.

Key Expert 3: Chief Software Engineer

The roles and responsibilities;

- Implementation of analysis, design and implementation processes
- Working in harmony with the leadership and coordination of the Team Leader
- Managing the team of software engineers
- Participating in project team meetings and informing about the current status of project activities
- Regularly informing the Team Leader about project requirements

- Developing and coding the software requested in line with the analysis to be performed in accordance with the infrastructure standards in which İŞKUR E-transformation applications are developed
- Providing maintenance and support of the project within the contract period after the software is put into use
- Cooperating and coordinating with other Software Engineers and Test Experts and providing support when necessary
- Maintaining cooperation and coordination with the IT Department of ISKUR
- Carrying out other duties assigned by the IT Department of ISKUR which may be formed within the scope of this ToR

Qualifications and Skills

- Bachelor or higher degree in computer engineering or electrical-engineering or software engineering or a similar field.
- Good command of English

General Professional Experience:

- Minimum of 10 years of professional experience

Specific Professional Experience:

- Minimum 7 years of experience in software development projects for public and private entities.
- Demonstrated knowledge of the current programming languages, provided that they have knowledge of the hardware of the computer peripherals and established network management security
- Demonstrated knowledge and experience on;
 - Visual Studio.NET C # and Asp.Net Web Forms
 - XML Web Services SOAP, RESTFul Services (Web API)
 - JQuery, Ajax Technologies, CSS3, XML, Javascript, HTML5, XHTML, Responsive Design
 - software life cycle and secure software development
 - SQL with PL / SQL (Oracle), Transact-SQL (Microsoft), stored procedure and function
 - Configuration / Change Management tool (svn, git, mercurial, tfs, etc.)
- Experience in supervision of a software development team will be considered as an asset.

Key Expert 4: Senior Text Expert

The roles and responsibilities of the Test and Documentation Specialist are as follows;

- Leading the testing process of the design and informing and guiding the team within the scope of the test outputs

Qualifications and Skills

- Bachelor or master's degree in Engineering or a related field,
- Good command of English

General Professional Experience:

- Minimum of 10 years of professional experience

Specific Professional Experience:

- At least 7-year experience and knowledge in software testing and documentation
- Demonstrated knowledge and experience on test concepts and techniques
- Demonstrated knowledge and experience on validation processes at CMMI-3 level,
- Experience in business processes will be considered as an asset.
- Experience in supervision of a team will be considered as an asset.

Non-key Experts:

CVs of the non-key experts to be recruited during the course of the project must be submitted to UNDP for approval at least two weeks before the start of their assignment. These approval requests shall be accompanied by a proper

description of the assignments and outputs/deliverables.

The Contractor shall take the time constraint into consideration and design the expert team accordingly to ensure parallel workstreams. In addition to key personnel, the team shall compose the following non-key experts, as minimum;

| Non-key expert | Number of experts to be mobilized and maximum estimated working days | Minimum specific experience required for the non-key expert |
|--------------------|---|---|
| Software Engineers | Minimum 4 experts as software engineer shall be mobilized. Maximum estimated number of man-days to be invested for non-key software engineers is 800 working days. | At least 5 years of experience in software development projects for public and private entities, Demonstrated knowledge and experience on; <ul style="list-style-type: none"> ▪ Visual Studio.NET C # and Asp.Net Web Forms ▪ XML Web Services SOAP, RESTFul Services (Web API) ▪ JQuery, Ajax Technologies, CSS3, XML, Javascript, HTML5, XHTML, Responsive Design ▪ software life cycle and secure software development ▪ SQL with PL / SQL (Oracle), Transact-SQL (Microsoft), stored procedure and function ▪ Configuration / Change Management tool (svn, git, mercurial, tfs, etc.) |
| Text Expert | An expert as test expert shall be mobilized. Maximum estimated number of man-days to be invested is 200 working days. | At least 5-year experience and knowledge in software testing and documentation Demonstrated knowledge and experience on test concepts and techniques Demonstrated knowledge and experience on validation processes at CMMI-3 level |

Qualifications, skills and experience for non-key expert shall meet the following minimum requirements in addition to above defined specific experience;

- University degree relevant to the assignment
- Moderate in English

The cost of backstopping personnel must be included in the Contract Price. No additional payment shall be made by UNDP with regards to these costs.

In order to execute the Project properly, the Contractor will be expected to employ the necessary support staff in order to carry out the responsibilities assigned under this contract.

13. Pricing and Schedule of Payments

The Contract price is based on a daily professional fee rate, and the payment method is “cost reimbursement”. The final price of the Contract will be determined on the basis of the actual number of days worked and the daily fee rates contained in the Contractor's financial proposal.

The proposer must include followings in the computation of professional fee rate;

- The remuneration actually paid to the experts concerned per working day,
- Administrative costs of employing the relevant experts, such as relocation and repatriation expenses, accommodation, leave, insurances and security arrangements and other employment benefits accorded to the experts by Contractor.
- The margin, covering the Contractor’s overheads, profit and backstopping facilities,
- Any other expenditure which is needed to implement the contract (e.g., travel, living allowances, taxes,)
- All the costs related to the scope of the works in this Terms of Reference,
- Costs for supplies and equipment including vehicles and other means of transport, computer hardware and software, fax and internet connection, photocopy machines, office supplies and reference materials, measurement and inspection equipment, etc.
- Costs for proper communication (English/Turkish) with interlocutors.
- Backstopping and support staff costs
- Costs for technical studies/tests

The proposer shall prepare financial proposal in accordance with the maximum estimated number of man-days to be invested. (Ref: I. Expected Duration of The Contract/Assignment section of this terms of reference)

Payments shall be made in accordance with the following schedule:

| | Conditions/documentations for Payment |
|--------------------------|--|
| Interim payment 1 | UNDP's acceptance of design guide within the scope of Component 1 “Analysis, Design and Planning” as per this terms of reference and technical proposal of the Contractor, Acceptance of interim payment report by UNDP |
| Interim payment 2 | UNDP's acceptance for completion of the pilot application and evaluation reports for trainings to ISKUR personnel. Acceptance of interim payment report by UNDP |
| Interim payment 3 | UNDP's acceptance of all deliverables/outputs within the scope of Component 1 “Infrastructure Work” as per this terms of reference and technical proposal of the Contractor, Acceptance of interim payment report by UNDP |
| Final payment | UNDP's acceptance of final report and project archive including a final invoice. |

Interim and final payment reports shall comprise justification for professional fees and supported by time sheets containing actual number of days worked and tasks completed by each key expert and non-key expert. The deliverables shall also be submitted to UNDP as part of interim and final payment reports.

Payment will be made only upon UNDP's acceptance of the payment reports. Payments shall be affected within thirty (30) days, after receipt of invoice and certification of acceptance of services issued by the responsible UNDP Project Manager.

If the Contractor is registered and operating in Turkey, the payment shall be realized in Turkish Liras (TRY). Payments shall be affected by converting United States Dollars (USD) to Turkish Liras (TRY) by the UN operational rate of exchange¹ valid on the date of money transfer.

¹ Available at the website: <https://treasury.un.org/operationalrates/OperationalRates.php#E>