ANNEX 4

DETAILED TEMRS OF REFERENCE

I.   Background Information and Rationale, Project Description

Since the outbreak of the pandemic, Turkey has adopted a swift and comprehensive policy response to the pandemic, which helped to mitigate the worst of the effects, and has set the stage for an earlier recovery, assuming the virus remains under control and policy measures continue to be adjusted. However, continued vigilance is essential to sustain this fragile trend. The economic impacts of this health crisis have been severe and have derailed the gradual recovery from the 2018-19 economic slowdown in Turkey. In that respect, continues support to small and medium-sized enterprises (SMEs), which Turkish economy is heavily reliant is critical as they also had the hardest hit by the economic impacts of the COVID-19.

SMEs that have faced severe disruptions and concerns are at higher risk of temporarily shut down due to COVID-19 than larger firms, across all sectors in Turkey. Some 30% of businesses were closed temporarily due to containment measures or demand shortages, with important variations depending on the line of business. SMEs are struggling to sustain employment and payments with limited working capital. Investment and growth plans have been postponed with possible implications also for potential growth. The impacts of the crisis on women in labour market including the women led enterprises is remarkable. 26.9% of women lost their businesses while this ratio was 16% for men. Finally, the ratio of private and public sector workers who lost their jobs was again higher in women (17.6%) compared to men (15.5%). On the other hand, access to finance is not the only difficulty women enterprises face. Indeed, technical business support (like consultancy, networking, technology) is considered as essential as financial support to make women entrepreneurship and women enterprises sustainable and competent.

According to the several surveys conducted by UNDP supported Business for Goals (B4G) Platform since March 2020 to measure the impact of crisis on SMEs in Turkey, it is assessed that while the practice of remote working (telecommuting) was adopted by some firms, it remained impossible for the majority of the companies, with striking differences between sectors and regions. Supporting enterprises' efforts at digitalization and putting technology to work to alleviate the effects of the health crisis emerges as an important area for increasing both their resilience and their productivity. The needs of enterprises center on areas of capacity building for a safe return to work, business continuity measures and business transformation for adaptation to the post-Covid economy including digitalization. Financial and technical support concerning digital platforms needs to be provided to self-employed women to enable their businesses to survive the crisis. Women who have lost their jobs in high-risk sectors could also be provided with online skill development opportunities for increasing their employability in the sectors.

The COVID-19 pandemic has further emphasized the necessity of accelerated digital transformation across sectors, industries, and enterprises. The UN SEIA of the COVID-19 in Turkey, finalized in August 2020, underscores these specific country challenges and suggests that the ongoing crisis should be understood as an opportunity by the authorities in Turkey to deal with structural issues and support the industry to diversify, modernize, digitalize, and become more innovation-intensive. The COVID-19 crisis also opens a window of opportunity for sophisticated business sector in Turkey. Global disruption can be a chance for the SMEs, if it accelerates the industrial productivity and competitiveness in global market.

Currently, while SMEs are still largely in survival mode, a key concern as businesses reopen on a larger scale lies in whether SMEs could adapt to a new post-COVID-19 environment and adopt new business models. Going forward, SMEs will need to embrace digital technologies to strengthen their resilience and propel further growth. However, they face substantial challenges with the lack of technical knowledge and the high costs associated with shifting towards digitalization. Given the relatively low capacity of SMEs, public initiatives and incentives are extremely critical and required in this area. Therefore, structural policies are needed to address not only short-term challenges faced by SMEs with remote working, but also broader and longer-term concerns with digitalization, training and innovation.

To answer above mentioned challenges and opportunities, "Beyond Recovery of SMEs through Digitalization (Digital Way)" project is designed and being implemented in collaboration with the General Directorate of Development Agencies of the Ministry of Industry and Technology. The project consists of two outputs;

•   **Output 1:** SME Digitalization Platform developed addressing digital disruption and innovation in SMEs.
•   **Output 2:** Piloted gender-sensitive incentive support schemes for digitalization in SMEs.

Within the scope of Output 1, a road map and activation plan for the "SME Digitalization Platform" addressing digital disruption and innovation in SMEs is being prepared.

II.   Specific Objectives

The overall objective of these services is to provide grounds for SMEs to boost their levels of digitalization by developing a comprehensive web-based platform including knowledge tools, matchmaking opportunities as well as guidance to technical and financial assistance. A web-based match making, service delivery and learning platform will be established and sustained by the development agencies to accomplish the objective.

III.   Scope of the Assignment

In the context of these services, a fully operational and user-friendly web platform for digitalization is expected to be developed by the Contractor, as well as required additional services are provided. The SME Digitalization Platform to be established within the framework of this services will address manufacturing and tourism sectors and will cover management/organization, marketing, finance, and operation/production aspects of digitalization. The platform will enable not only matchmaking but also collaboration among tech providers and peer learning. The problems addressing sustainability issues and the green economy will be prioritized. Also, the platform will be a capacity development tool for tech providers through e-learning opportunities. Since matchmaking will mainly be a demand driven process, a diagnostic tool to identify the digitalization gaps of tech user companies will be instrumental to create awareness about deficiencies and the potential of bridging the gaps between technology provider companies.

The "SME Digitalization Platform" will be consisted of 5 main modules:
1)   ***Assessment tool for determining the digitalization level of SMEs:*** The assessment tool will cover evaluations in manufacturing and tourism sectors and create personas regarding digitalization profile of the SME.
2)   ***Awareness-rising and information module:*** The module will cover training materials, an animation and 5 best-practices.
3)   ***SaaS module:*** At least 5 determined SaaS modules will be linked to the Platform.
4)   ***Technology providers module:*** A pool of service and product providers will be developed for SMEs willing to acquire personalized solutions for digital transformation. The module will cover a mechanism for matching SMEs and service and product providers.
5)   ***Funding module (mosaic funding):*** The international, national, and regional funding and credit opportunities will be listed and regularly updated within the Platform.

Once the Platform is designed, developed, established, and activated, sustainability will be ensured by a development agency (DA) determined by the Ministry of Industry and Technology (MoIT) with the technical support of the contractor.

IV.   Approach and Methodology

The approach and methodology of the task consists of technical specifications and sustainability measures. The Contractor is expected to meet the specified requirements and bring suggestions for further development of the Platform.

1. *Technical Specifications for the Platform*
1.1. Software Infrastructure
- A multitier architecture shall be used for the Platform and all layers shall be scalable.
- The Platform shall be modifiable in terms of adding and deleting modules.
- Common and up-to-date software development platforms shall be used in the Platform to ensure sustainability and ease the possible future modifications. Internationally accepted standards, programming languages and libraries shall be used.
- The Platform shall be compatible with the latest versions of popular web browsers and shall be useable without any functional or visual problem or add-ons within popular browsers such as Microsoft Edge, Internet Explorer, Mozilla Firefox, Google Chrome, and Safari.
- The Contractor shall examine the infrastructure of the selected development agency and bring recommendations for transference of the Platform to the servers and responsibility of the agency to ensure sustainability.
- There shall be an error recording (Error recording / management) component that will record and manage errors that may occur in the entire system.

- 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.

1.2. User Interface

- The Contractor shall present at least 2 design alternatives under Deliverable 1, for the Platform that ensures a consistent visual language. Following the confirmation by the UNDP and the MoIT, the Contractor shall proceed on coding of the Platform.
- The design template components shall not be adapted from a ready template.
- The user interface shall be "responsive" and compatible with all mobile devices or tablets and should work without any problem in these devices.
- The Platform shall have specialised variances of interfaces for registered and non-registered users.
- A content management system (CMS) shall be established for all contents including audio-visual materials, documents and data of the users shall be manageable from the CMS.
- The interface shall refer to the corporate identity of the Ministry of Industry and Technology (MoIT). However, as the SME Digitalization Platform is a separate web site, the interface and the design shall be distinctive and shall not be similar with the web site of MoIT.
- All texts in the Platform shall be Turkish and shall be meaningful including menu, external links, error messages etc. Turkish characters must be shown without any errors. All sorting and listings shall be in Turkish alphabetic order.

1.3. Authorisation and User Roles

- Visiting and browsing the Platform shall be open to all internet users without any need for signing in. The users (companies) willing to use the relevant modules (1, 3, 4 and 5) shall have to create an account and log in. The registration shall be covering general information about the company (name, sectorial code in NACE2.0 classification, address, communication details etc.).
- A fully authorised administrator role shall be defined. The administrator(s) shall be able to use and modify the Platform except for personal data of the registered users.
- Three user roles other than the administration panel and non-registered users (browsing users) shall be defined; (i) user SMEs, (ii) technology providers and (iii) funding bodies (such as RDAs, private banks etc.). Details of the registration forms will be prepared by the UNDP and the MoIT and shared with the Contractor.
- The account of the users shall be verified through their e-mail addresses automatically and by the system, and passwords shall be asked to be determined with minimum security criteria.
- A profile module shall be designed for users to customize their information and keep track of their activities.
- The captcha system shall be used in necessary login pages.
- The system shall allow screen-based and record-based authorization. The defined authorization shall apply to all transactions related to queries.
- The system shall operate simultaneously without any performance loss depending on the maximum number of users.

1.4. Security and Personal Data Protection

- Required measures regarding the Turkish Personal Data Protection Law (no. 6698) shall be taken and users will be asked for approval of processing of their data.
- Required protective measures shall be taken and protocols protecting from cyber-attack and threats using the web channel shall be implemented. Required cyber security measures including SSL certification shall be taken to ensure data and content security. A security testing report shall be delivered by the Contractor for security measures including but not limited to SQL injection, Cross-Site Scripting (XSS), URL manipulation.
- Secure login measures for the users including enforcement of strong passwords, recovery core for resetting login credentials, two-factor authentication and session handling shall be taken.

- The database management architecture shall be designed to enable data entry from different interfaces as in the data and relations of the data could be manageable as a separate DBMS file.

1.5. Platform Modules

    1.5.1.   **Module 1:** Assessment tool for determining the digitalisation level of SMEs

- The module shall cover an assessment for the SMEs to evaluate their (i) awareness for digitalization, (ii) actual level of digitalization, (iii) gaps in digitalization and (iv) their needs for performing the digitalization process.
- The assessment tool shall be compulsory for each SME registering to the Platform.
- The assessment questions and scoring model shall be provided to the Contractor following the signature of the contract and the Contractor is expected to develop the web-based assessment tool in accordance with the types of questions of the tool.
- The assessment tool will be tested on several pilot SMEs. The pilot SMEs shall be communicated by the UNDP and MoIT as soon as the tool is operational. Following the testing of the tool, the Contractor is expected to revise the tool, if necessary.
- The SMEs filling the form shall receive feedback including their "persona" categories. The "persona" categories of the SMEs shall be shown in the user profile section of the Platform. The SMEs shall be able to re-fill the form if approved by the Administrator.
- An evaluation form shall be used for data entry within the tool. The evaluation form shall vary according to the sectorial classification of the SMEs. Tourism and manufacturing sectors shall be the main break points. The questions shall differ according to the NACE classification chosen at registration. The questions shall be delivered to the Contractor following the signature of the contract.

    1.5.2.   **Module 2:** Awareness-raising and information module

- The module shall cover training materials and awareness raising tools such as animations, digital library with downloadable materials (.pdf), videos, links to videos and links to external resources.
- The contents of the module shall be shared with the Contractor, however the module shall be manageable by the Administrator to further upload or remove contents and materials.

    1.5.3.   **Module 3:** Software as a Service (SaaS) module

- 5 SaaS applications, selected by the UNDP and MoIT shall be linked within the module. The platform users, determined by the Administrator shall be directed to the selected SaaS applications.

    1.5.4.   **Module 4:** Technology providers module

- The tool shall cover a pool of technology providers for digitalization, including (i) the pool of technology product and service providers and (ii) the pool of mentors and advisors.
- The technology providers shall be able to enter, edit and remove their competencies and upload documents as their references and areas of expertise.
- The module shall match technology providers with the SMEs by considering their digital maturity level needs. A basic algorithm for matching technology providers and SMEs shall be indicated to the Contractor following the signature of the contract by the UNDP and the MoIT, and the Contractor is expected to implement required coding and querying tools within the Platform.
- The module shall be compatible with the module 1, as it will be used for matching technology providers and mentors to SMEs. The matching shall be included to the feedback report following the approval of the Administrator.

    1.5.5.   **Module 5:** Funding module (mosaic funding)

- The module shall cover possible financing sources of digitalization, including the financial support scheme of development agencies, the financial supports of the MoIT (including Hamle Support Programme, programmes of SME Development Organization – KOSGEB and Scientific and Technological Research Council of Turkey – TÜBİTAK) and credit opportunities of the public and private banks.
- The module shall allow "Funding Bodies" user roles to receive funding applications from users.

- The module shall cover links to external web sites such as (www.yatirimadestek.gov.tr).
- The information regarding the funding opportunities shall be able to be added by the "funding bodies" user role and by the Administrator.

1.6. Core Functionality Requirements

- User management module shall be consisted of general user, users (technology seekers, users (technology providers) and administrator.
- Web domain and hosting shall be reserved in advance for a 3 -year period from the service providers by the Contractor. The preferred name of the domain shall be shared by UNDP with the Contractor. The Contractor shall propose hosting type and hosting requirements.
- The Platform shall contain but not be limited to: user friendly navigation bar, contact information, news, calendar, events, etc. The site tree of the Portal shall be defined during the design period.
- The interface must be user-friendly, appealing for target audiences and have clean design.
- **Intellectual Property**: All the information uploaded on the web portal shall be the property of UNDP and MoIT. The Contractor shall submit all source code and documentation to these parties upon successful completion.
- Relevant keywords shall be embedded in website architecture (headings, page titles, meta descriptions, URLs, etc.) for maximum searchability/visibility on popular search engines.
- Adaptation for various devices (mobile phone, tablets, desktops) including touch screens shall be ensured.
- Data creation, deletion, updating, listing, reporting, user input-output operations, error records and similar records shall be logged on the system.
- Testing of the web portal shall be conducted and reported before operationalizing the Platform. This process shall include functionality testing, web usability testing, interface testing, website compatibility testing, performance testing, web accessibility testing.

2. *Sustainability of the Platform and Trainings*

- The Contractor shall provide a detailed one-day training session and develop a guideline for sustaining the Platform. The beneficiary of the trainings and materials shall be the staff of the development agencies, MoIT and UNDP. Trainings shall be provided to 10 persons at a single session.
- Trainings shall be organized face-to-face at MoIT premises in Ankara. If required, any transportation (intra-city and inter-city) or accommodation expenses for the team leader and key expert shall be covered by the Contractor.
- Monthly reports for the Platform performance and recommendations for improvements and updates shall be produced.

V.   Deliverables and Schedules/Expected Outputs

The Contractor shall schedule submission of deliverables/outputs to meet target deadlines, considering that UNDP and/or MoIT will also invest time for review as detailed in below table.

UNDP may reject deliverables if Contractor fails to revise the outputs in line with the comments of UNDP in consultation with the implementing partners. Any rejection shall not delay the target delivery.

The list of tasks, activities, deliverables and their due dates are as follows:

Deliverable #	Task description	Deadline
Deliverable 1: Draft Design of the Platform	1. Conceptual design of the web-platform with detailed structure, required functionality and other technical details required for further web-development and description of the web-platform's content developed, submitted with a report and a presentation, and agreed by the UNDP and MoIT with a written approval. 2. The prototype of the web-platform is developed and agreed with the UNDP and MoIT.	20 calendar days after contract signature.
Deliverable 2: Final Platform Design and the Platform Becoming Fully Operational	1. A clean, user-friendly, and fully operational web-platform is tested and published. All technical specifications under Section IV are completed. All the coding is handed over to UNDP and MoIT. The web-platform with all 5 modules is fully operational with all proposed technical functions outlined. 2. The hosting type and hosting requirements are proposed, set up and secured by the Contractor until December 2024. The domain owner shall be MoIT. 3. Reports for security testing and general testing are delivered and approved by the UNDP and the MoIT.	60 calendar days after contract signature.
Deliverable 3: Final Report	1. Technical updates and maintenance are performed as needed (at least, once per month) after the Platform becomes operational and until 15 April 2022. 2. The Final Report will include the process and final status of the Platform is delivered as of 15 April 2022.	At the latest until 15 April 2022.

Ensuring effective use of communication tools and UNDP, MoIT in all phase of the Programmes by conducting consultations with the Project Communication Expert and in line with Project Communication and Visibility Strategy/Plan.

VI.   Key Performance Indicators and Service Level

Key services required and performance indicators are elaborated in the table below:

Key services required	Minimum standard of services acceptable
Development of the Digital Platform	– Design and operationalization of a user-friendly unique web-based SME Digitalization Platform. – Preparation and submission of reports (monthly performance and recommendations reports, testing reports, draft design report and the final report) within deadlines and in accordance with UNDP CO approved contents and templates. – Delivering developed codes and databases digitally. – Provision of supporting services such as training and preparing manuals. – Provision of operations and maintenance services until 29 April 2022.

VII.   Governance and Accountability

The Contractor shall be responsible directly to Local Economic Development (LED) Projects Manager in charge of the Project for all the deliverables.

The Contractor shall inform UNDP Local Economic Development (LED) Projects Manager in charge of the Project for all the deliverables bi-weekly via e-mail and without a fixed reporting template regarding the progress they have made.

The Contractor shall contact/meet with the MoIT, DAs, local economic actors and SMEs during the design/preparation of the Platform.

The approving authority of each deliverable will be UNDP. Its implementing partner will have inputs with regards to the services prepared by the Contractor. The Contractor is obliged to finalize activities by taking into account UNDP's and MoIT's feedback on deliverables. The Contractor shall provide regular information to the UNDP on a weekly basis via e-mails. The Contractor is obliged to respond for any immediate demand for information by the UNDP and the MoIT within 24 hours.

VIII.   Facilities to be provided by UNDP and Duty Station

UNPD will not be providing a facility for the Contractor to work during the contract. UNDP and MoIT will facilitate organizing the meetings with key stakeholders if required. 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 provision to enable experts to concentrate on their primary responsibilities. It shall also transfer funds as necessary to support its activities under this contract and ensure that its employees are paid regularly and in a timely manner.

The Contractor shall work on a home-based basis. 3 face-to-face coordination meetings are planned at the MoIT premises in Ankara during the contract period. All additional costs such as travel, accommodation, living or other costs of experts for attending meetings with the UNDP and the MoIT as well as conducting the training in Ankara will be covered by the Contractor and the professional fees for experts shall include these costs. No additional payment shall be made to the Contractor for these expenses.

IX.   Expected duration of the assignment

The assignment is expected to start on **24 December 2021** (starting date is indicative and may be updated considering actual contract signature date) and completed until **29 April 2022**.

X.   Qualifications and Requirement of the Key Personnel

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.

Key personnel to be proposed by the Contractor shall include the following members:

Team Leader: Team Leader shall be responsible for coordinating all the activities and review the documents before submission to UNDP and inform UNDP regularly regarding the developments as required. The team leader may provide technical support and design services as well. The CV of the Team leader shall be submitted in technical proposal.

The qualifications of the team leader are as follows:

Team Leader	Minimum Requirements	Assets
General Qualifications	− University degree in relevant field. − Proficient in both Turkish and English.	− **Asset:** Advance Degree or PhD. in relevant field is an asset.
General Professional Experience	− At least 5 years of general professional experience.	
Specific Experience	− Expert knowledge of modern multimedia and interactive website design techniques, including graphic	− **Asset:** Knowledge of web portal design for SME Digitalization.

design and web-based application platforms. – Project coordination experience in similar setting.	

Key Expert (Web Designer): Web Designer shall be responsible for the design, preparation and operationalization of the Digital Platform. The Proposers shall submit CVs in technical proposal.

The qualifications of web designer are as follows;

Key Expert (Web Designer)	Minimum Requirements	Assets
General Qualifications	– University Degree in relevant fields. – Proficient in both Turkish and English.	– **Asset:** Advance Degree or PhD. in relevant field is an asset.
General Professional Experience	– At least 3 years of general professional experience.	
Specific Experience	– Expert knowledge of modern multimedia and interactive website design techniques, including graphic design and web-based application platforms. – Specific experience in developing web-based applications involving data illustration, based on the provided samples	– **Asset:** Knowledge of web portal design for SME Digitalization.

The Contractor shall provide support facilities to the team of experts (support and back-stopping staff) during the implementation of the contract, if necessary.

XI. Price and Schedule of Payments

The Contract price is based on a **deliverable basis**. The contract price is a fixed price regardless of extension of the herein specific duration. The amount paid to the Contractor shall be gross and inclusive of all associated costs such as all travel, accommodation, transportation (intercity and intracity), equipment, office and etc. expenses required for the successful provision of services and deliverables as well all legal expenses, including but not limited to social security, income tax, pension, visa etc., which shall be required by applicable laws. Contractor will not receive any additional payment for whatsoever reason. Payments will be affected to the contractor on percentage basis in line with the percentages listed in the following table, upon acceptance of deliverables by UNDP.

The Contractor based in Turkey shall be paid in TRY. The Contractor based in another country shall be paid in USD through conversion of the TRY amount by the official UN exchange rate valid on the date of money transfer. Payments shall be made in accordance with the following schedule:

Payments	Percentage of Payment	Pre-requisite for Payment
Payment 1	40%	UNDP's written acceptance (i.e., not mere receipt) of the quality of the following deliverables: - Draft Platform Design, - Receipt of invoice from the Contractor
Payment 2	50%	UNDP's written acceptance (i.e., not mere receipt) of the quality of the following deliverables: - Final Platform Design and Operationalization - Delivery of all codes and databases and requested reports - Receipt of invoice from the Contractor

Payment 3	10%	UNDP's written acceptance (i.e., not mere receipt) of the quality of the following deliverables: - Final Report - Receipt of invoice from the Contractor

Payment will be made only upon UNDP's acceptance of the reports/documents stipulated under "Pre-requisite for Payment" column on above table for each payment. Payments shall be affected within thirty (30) days, after receipt of invoice and certification of acceptance of services issued by the responsible UNDP Local Economic Development (LED) Projects Manager.