

Annex-1 Terms of Reference for Individual Consultancy for Digital Transformation

1. BACKGROUND

“Improving Productivity in Manufacturing Industry”, one of the main objectives stated in the 10th National Development Plan is an important topic on the agenda of Turkish Government. Besides, improving productivity levels, particularly in SMEs, is also one of the strategic objectives of Turkey’s present SME Strategy and Action Plan (2015-2018). SME-SAP defines five strategic areas, first of which aims at improving competitiveness of the SMEs and facilitating their growth. The first strategic objective under this strategic area focuses on institutionalization, branding and productivity of the SMEs. In the same vein, Turkey’s Productivity Strategy and Action Plan (2015-2018) pays a special attention to productivity levels of the SMEs in the manufacturing industry. The sixth objective of the P-SAP includes, among others, measures geared towards improving productivity of SMEs, falling under the fourth transformation area, defined in the P-SAP. As drawn attention in those national strategic plans and policy documents, because of low productivity levels in SMEs the need to improve productivity through utilising all kind of resources in an optimally designed production environment becomes more crucial in today’s competitive business environment. Therefore, the enterprises should strengthen their infrastructure and core capabilities on lean manufacturing, digitalisation (within the context of Industry 4.0), quality management, innovative product development, energy efficiency etc. through some well-developed transformation programmes and practice-based trainings in order to improve capabilities of technical staff, engineers and mid-level managers. One of the effective solutions applied in many developed countries in the last two decades is to build well-designed training Centers including a real didactic manufacturing environment (a real product, a real assembly line, real machines, real processes and real operators) and specialised training programs based on a series of hands-on and step-by-step exercises to improve the manufacturing processes within a "transformation" context.

A project for establishing the first of those training Centers (aka “model factory” or “applied capability Center”) in Turkey is being carried out in cooperation with Ankara Chamber of Industry, ASO 1st OIZ, Ministry of Industry and Technology, and United Nations Development Programme (UNDP). It is planned to complete the establishment and operationalization process of the first model factory in Turkey at the end of this project.

In addition, the knowledge and experience in establishment of a model factory is highly specialized and available in the international markets. UNDP's strong international networking capabilities and means for accessing specialized knowledge will help Ministry access such information as well in a cost-efficient manner.

Production line (for training purpose) of Ankara Model Factory is established and the project activities focusing on lean production is ongoing. As an additional service line, digitalization of this production line is on the agenda. Several digital use cases will be deployed on the current line; so the project needs to procure an industrial IoT platform (the internet of things platform that facilitates the connectivity between digital use cases and collects data. It includes both software and hardware) and integration services for smooth implementation.

2. OBJECTIVE AND SCOPE

As mentioned above, main aim of the project is to increase the productivity level of SME's by conducting diagnostic analysis, experiential trainings and awareness raising seminars focusing on lean and digital transformation. In this sense, Digital Transformation Consultant will have a crucial importance in reaching the strategic goals of the project by providing technical advisory services focusing on the technical requirements of the digital transformation phase of the project. This phase of the project aims to upgrade the shop floor with digital capabilities and support the firms in their digital transformation process; complementarity to lean transformation. To achieve this aim, the project team need to manage a highly technical upgrading process including i. establishment of an Internet of Things Platform to facilitate connectivity between machines and sensors and data management; ii. establishment of the digital use cases including digital quality control, smart logistics, digital performance management; human robot collaboration etc iii. technical integration service to solve communication problems between devices and iv. application development. Following the deployment of these capabilities the team will focus on the development of the digital transformation training agenda and its pilot implementation.

As seen above, this phase of the project requires technical capabilities on digital transformation. In this respect, the objective of the assignment is to provide assistance to the project team to determine the technical requirements of the digital capabilities to be deployed; to provide technical support to the evaluation, acceptance and quality monitoring procedures of the goods and services to be procured and to provide general technical advisory on digital transformation when necessary.

In this sense, one Individual Consultant (IC) will be mobilized, as “Digital Transformation Consultant” who will be expected to i. support the team to determine the technical requirements of the digitalization phase of the project ii. provide technical support to the evaluation, acceptance and quality monitoring procedures of the goods and services to be procured iii. provide technical consultancy on digital transformation to the project team when necessary.

3. ACCRONYMS AND ABBREVIATIONS

Unless otherwise noted;

- UNDP refers to United Nations Development Programme Country Office in Turkey,
- The Assignment refers to the present Assignment,
- IC refers to the Individual Consultant,
- DTC refers to Digital Transformation Consultant,
- MoIT refers to Ministry of Industry and Technology,
- MF refers to the Model Factory,
- Director refer to the Center Director,
- Center refers to the Model Factory.

4. DUTIES AND RESPONSIBILITIES OF THE INDIVIDUAL CONSULTANT

UNDP will mobilize individual consultant as Digital Transformation Consultant on a framework contract basis. The following duties and responsibilities are indicative and subject to further detailing through specific service requests to be made by UNDP during the contract duration.

- Within the scope of the Assignment; based on their expertise, the IC is expected to provide consultancy services for the below listed generic activities: Support the project team to determine the technical requirements of the digitalization phase of the project,
- Provide technical support to the evaluation, acceptance and quality monitoring procedures of the goods and services to be procured,
- Provide technical consultancy on required needs on digital requirements/capabilities/activities of the project when needed
- Provide technical consultancy for Project partners for the identified digital use cases in line with the Project work plan

If required by the UNDP the IC could be requested to provide additional consultancy services on topics related to their expertise area for other activities of the Project.

The IC will report to Centre Director, who was contracted by UNDP. The IC will work closely with the Project teams mobilized by the UNDP.

5. DUTIES AND RESPONSIBILITIES OF UNDP

UNDP will provide all relevant background documents. UNDP is not required to provide any physical facility for the work of the IC. However, depending to the availability of physical facilities (e.g. working space, computer, printer, telephone lines, internet connection etc.) and at the discretion of the UNDP and relevant stakeholders such facilities may be provided at the disposal of the IC. UNDP and/or the relevant project partners will facilitate meetings between the IC and other stakeholders, when needed. The Consultant will report directly to the Centre Director.

6. DELIVERABLES

The Assignment will include interim and final deliverables, which will be defined in the specific service requests to be made by UNDP to the IC.

All reports should be submitted in English.

7. ESTIMATED INPUTS BY THE INDIVIDUAL CONSULTANT (IC)

IC is expected to invest (at maximum) 100 man/days, which will be detailed through specific service requests during the contract period. UNDP does not entail into a commitment through signature of the contract with regards to requesting service from the expert or using the maximum number of man/days indicated in this Terms of Reference. As indicated in Section 9 as well, UNDP's financial commitment will be established on an ad-hoc basis every time as services are officially requested by UNDP.

8. REQUIRED QUALIFICATIONS

The required qualifications and/or experience are presented below:

i. General Qualifications

- ☐ Bachelor or master's degree in the field of engineering **is required**,
- ☐ Perfect communication and presentation skills **is required**,
- ☐ Fluency in English **is required**,
- ☐ Degree in industrial, computer or electronical engineering **is an asset**,

ii. General Professional Experience

- A minimum of 4 years of general professional experience **is required** in the fields of digital transformation and IoT platform development (both hardware and software)

iii. Specific Professional Experience

- Specific experience in computer programming **is an asset**.
- Experience in establishment of several IoT platforms for manufacturing sector is **an asset**.
- Specific experience in integrating apps, hardware to the IoT platforms and to each other, and/or managing/supervising such integration processes **are also assets**
- Experience in preparing procurement documents in digital transformation sector **is an asset**.
- Working knowledge of at least 1 and knowledge of at least 3 industrial IOT platforms **is an asset**.

9. TIMING AND DURATION

The Assignment is expected to start in early November 2018 and will be completed by the end of 2019 and IC is expected to invest (at maximum) 100 man/days over 14 months throughout the contract validity.

10. PLACE OF WORK

Place of work for the assignment is Ankara. All travel, accommodation and living costs in duty station (Ankara) will be covered by the Consultant. It may be required that the Consultant travel out of the duty station (Ankara) within the scope of this Terms of Reference. In case, travel out of the duty station is needed, the travel and accommodation costs of these missions will be borne by UNDP. The costs of these missions may either be;

- Arranged and covered by UNDP CO from the respective project budget without making any reimbursements to the consultant (Any assignment-related travel (economy class), accommodation (bed & breakfast) outside duty station will be arranged by the travel agency UNDP works with, when necessary, by receiving prior approval of UNDP) or
- Reimbursed to the consultant upon the submission of the receipts/invoices of the expenses by the consultant and approval of the UNDP. The reimbursement of each cost item is subject to the following constraints/conditions provided in below table;
- Covered by the combination of both options.

Cost item	Constraints	Conditions of Reimbursement
Travel (intercity transportation)	full-fare economy class tickets	1- Approval by UNDP of the cost items before the initiation of travel 2- Submission of the invoices/receipts, etc. by the consultant with the UNDP's F-10 Form 3- Acceptance and Approval by UNDP
Accommodation	Up to 50% of the effective DSA rate of UNDP for the respective location	
Breakfast	Up to 6% of the effective DSA rate of UNDP for the respective location	
Lunch	Up to 12% of the effective DSA rate of UNDP for the respective location	
Dinner	Up to 12% of the effective DSA rate of UNDP for the respective location	
Other Expenses (intra city)	Up to 20% of effective DSA rate of UNDP for the respective location	

transportations, transfer cost from /to terminals, etc.)		of the invoices and F- 10 Form.
--	--	------------------------------------

11. PAYMENTS

The contract to be signed between UNDP and successful candidates will not entail a financial commitment from UNDP. UNDP's financial commitment will be established on an ad-hoc basis every time as services are officially requested by UNDP.

Service Requests will be detailed and signed by both parties for a Service Request to be effective. However, if the deliverables are not produced and delivered by the Consultant to the satisfaction of UNDP as approved by the responsible Centre Director no payment will be made even if the consultant has invested man/days to produce and deliver such deliverables.

Payment terms and conditions will be specified in the specific service requests. Payment terms and conditions along with the daily fee rate (indicated in the contract) and number of days invested (not to exceed maximum number of days in the service request) will be the basis of payment to the IC. Payments will be made against submission of the deliverable(s) in the specific service requests by the IC and approval of such deliverables by UNDP. The total amount of payment to be effected to the Consultant within the scope of this contract cannot exceed 100 days.

The expert shall be paid in US\$ if they reside in a country different than Turkey. If he/she reside in Turkey, the payment shall be realized in TRY.

The amount paid to the consultant shall be gross and inclusive of all associated costs such as social security, pension and income tax etc.

Tax Obligations: The IC is solely responsible for all taxation or other assessments on any income derived from UNDP. UNDP will not make any withholding from payments for the purposes of income tax. UNDP is exempt from any liabilities regarding taxation and will not reimburse any such taxation to the IC.