

TERMS OF REFERENCE (TOR)TO RECRUIT A FIRM FOR THE OPERATIONALIZING SERVER ROOM, MIS SYSTEM DEVELOPMENT AND E-COMMERCE WEB PLATFORM FOR SMMEs

I. GENERAL INFORMATION

Services/Work Description:	Making server room operational at FSMMIPA, MIS system	
	development and E-commerce web platform development for SMMES	
Project/Program Title:	Supporting an Inclusive and Multi-Sectoral Response to COVID-19 and Addressing its Socio-Economic Impact in Ethiopia	
Duty Station:	Addis Ababa	
Type of the Contract:	Consulting Firm	
Supervisor:	FSMMIPA/MOTI/Job creation commission	
Duration:	150 days	
Hiring Unit:	IGSD	
Expected Start Date:	September 2020	

II. INTRODUCTION

Small and medium manufacturing enterprise (SMEs) tend to be small in developing countries, and the percentage of medium-sized firms is often low. A number of studies show that both small and large firms account for most of the employment in developing countries. Helping SMEs in developing countries to grow would lead to income growth and poverty reduction. The fact that SMEs tend to be smaller in developing countries suggests that they face greater constraints to growth, including financial constraints. An environment that fosters dynamism by allowing easy entry and exit of new enterprises and helps in their growth is critical.

In spite of the enormous importance of the SME sector to the national economy with regard to job creation and alleviation of abject poverty in Ethiopia, the sector is facing a myriad of challenges, ranging from limited access to finance, lack of access to information regarding local, regional and international markets for their products and services, lack of network across value chain actors, limited capacity to develop skills of their workers and inadequate technical and managerial skills which hinders competitiveness and innovation. According to the National Plan for Job Creation (2019), four broad challenges undermine the government support provided to SMEs: (i) poor policy design, (ii) inadequate skill training, (iii) lack of targeted financial support, and (iv) poor market linkages.

To make things worse, the recent **COVID-19** epidemic has posed unprecedented challenges for MSMEs in Ethiopia as has been the occurrence in many developed countries impacted by the virus. SMMEs- currently estimated at 20,000 being most under-banked segment of the economy are finding it hard to sustain their enterprises due to customer losses. Greatest impact is being felt by low wage workers hired by the SMEs,

service industry, manual labourers, seasonal workers, and majority engaged in the entertainment industry. The recent macroeconomic assessment of the COVID-19 on Ethiopia estimated- basing approximately 30% of Ethiopia's SMEs, majority in urban areas- could be in critical danger assuming the effect could last up to extended periods.

Following the first case, the government of Ethiopia have adopted a number of measures to reduce the spread including the setting up an inter-ministerial task force chaired by the Prime Minister; the activation Emergency Operations Centre (EOC). It has also prepared a National Emergency Response Plan (NHRP) costed at USD 1.6 billion for 3 months (released on 1 April); imposed a State of Emergency (effective 8 April); expanded testing sites across the country; encouraged local production of essential supplies; and taken a host of policy and budgetary measures to respond to the pandemic.

UNDP has been supporting the government in its COVID-19 responses and has developed an offer which is anchored in the core premise of strengthening rather than supplanting country capacity to handle the pandemic in ways addresses immediate needs while generating a stream of benefits beyond current challenges. Within the framework of the broader UN response, UNDP designed program document with supplemental budget from Japanese Government on Supporting an Inclusive and Multi-Sectoral Response to COVID-19 and Addressing its Socio-Economic Impact in Ethiopia, with Ministry of Finance as main Partner and implementing Partners of MoTI, MoUDC, JCC, and NDRMC¹. UNDP seeks to scale up its ongoing support to government focusing on high priority policy and advisory support for assessment and planning; continuity of critical government functions; mitigation of the social impact of the virus; and the reinforcement of social capital to fight the pandemic. These areas are broadly interlinked in three outputs including: strengthening the health systems; ensuring inclusive and integrated crisis management and responses; and addressing the socio-economic impact of COVID-19 including livelihoods improvement with a major focus on enterprises development (MSMEs) and jobs creation. Addressing these will contribute to containing the spread of COVID-19 and strengthen resilience of communities.

With an aim to curb some of the drawbacks above and responding to COVID-19 influence, UNDP CO intends to support SMMEs in the areas of SMME database and mobile platform -within the realm of the agreed programmatic interventions- both in long term market development and short term COVID response measures.

These identified interventions of UNDP to support MSMEs and the jobs within is designed in such a way to help the MSMEs in Ethiopia to *prepare, respond and recover.* The overall approach to supporting MSMEs centers around 5 pillars -1) provide forward-looking market intelligence, 2) facilitate market access and build inclusive markets including with Multinational Corporations - 3) accelerate digital transformation, 4)

¹ MoTI- Ministry of Trade and Industry; MUDC- Ministry of Urban Development and Construction; JCC- Job Creation Commission; NDRMC – National Disaster Risk Management Commission

deploy financing for MSMEs and local governments with UNCDF, and 5) strengthen ecosystems for MSMEs to survive and grow.

UNDP Ethiopia support's the Government's efforts to accelerate pro-poor economic growth, with SMEs development and transformation as the key driver of economic resilience. The focus is on supporting inclusive and sustainable SMEs development, enhance access to information and critical productive services, support efficiency of marketing systems, and leverage appropriate technology and practices to boost productivity and value chain development in the SME sector. UNDP also supports policy and diagnostic work, codification of knowledge, and testing of innovative practices that can facilitate solutions to practical bottlenecks in building capacities of producer and private sector institutions to enhance access of the poor, especially women and youth, to industrial technologies, inputs, finance, and markets. As part of the COVID-19 response and SME development support in the area indicated above, this database and system development tasks become critical both from the side of the government and the private operators to have the proper information and management in a way that facilitate the SMEs information communication and digitalization.

In order to provide proper support, information related to the SMEs need to be gathered in an efficient manner. Currently, there is no system of gathering the necessary information at the lowest level and link to the upper policy makers' level. This leads to deficiency to know the status of SMEs and the obstacles they face thereby hinders to provide efficient support. In this regard, introduction of ICT system to gather industry related information from SMMEs and e-commerce to enhance the development of the sectors are on the agenda.

So, these terms of reference is prepared to invite qualified and experienced firm to undertake three interrelated tasks to be accomplished for the proper support and management information system to the small and medium manufacturing enterprises (SMEs). **The first task** covers maintaining existing ZTE based ICT network infrastructure and expand the coverage for different buildings in the premises of its head office located in Addis Ababa. **The second related task** is to develop #etworks Management information system (#etworks -MIS) and link to the data center at FSMMIPA from selected pilot sites covering information concerning about the profiles of existing small & medium manufacturing industries and their periodic reports are expected to be collected hierarchically from woredas or towns at the lowest level to the higher federal level even for minister level at the Ministry of Trade and Industry. As the work is related, labour market system is also to be established to have one system for different functionalities. **The third task** comprises development of E-commerce web-portal platform to the SMEs encompassing a range of resources usually includes Order request, payment gateway, database of company profiles of each SME's Manufacturer, online registration system, search facility, directory of other sites, news, e-mail, notification , market information, events, tips and latest findings in the field, online-chat system, customer feedback, best



practices of other countries, government policies, Visitor counter (Google Analytic) , investment opportunities, etc. In addition, it contains links to websites of firms engaged in this sector

III. BACKGROUND

To give due emphasis to manufacturing sector and critical support to SMEs, currently the government has re-established the Federal Small and Medium Manufacturing Industries promotion Authority (FSMMIPA) with the objective of accelerating the expansion of small and medium manufacturing industries in order to lay a broad base for the development of large scale industries, maintain equitable distribution of wealth and accelerate the transformation of agricultural-led economy to industrial-led economy.

Therefore, to strengthen, assist and coordinate institutions that provide support to small and medium manufacturing industry sector, the Federal Small and Medium Manufacturing Industries (FSMMIPA) was established by the council of ministers regulations number 373/2016 on February 15,2016 and it is accountable to the Ministry of Trade and Industry.

The small and medium manufacturing industries promotion sector is foundational to the nation's future industry lead economy. Nevertheless, the current contribution of this sector to the nation's GDP, new job opportunity creation, and export market contribution is not yet well documented as expected. To solve this core challenge of the sector's database package there comes a need to collect, develop, standardize and to make it easily accessible to the core stakeholders of the sector from the regional level to the federal level. The data base package comprises the following

3.1 Maintaining existing ZTE based ICT network infrastructure:

The whole network infrastructure at the FSMMIPA is made using ZTE switches and firewall except Router. The infrastructure is built following the standard hierarchical network topology schemes. Because of the extreme vitality of the infrastructure, the Authority has initiated and prepared to maintain the ZTE company-initiated work to complete to make operationalize and expand the infrastructure so as to assist the entire activities of the Authority, ICT as enabler to decision making process. As per the initial requirement assessment conducted to complete the system, the basic needs and requirements have been identified as a guiding line for further study, analysis, and recommendation for additional supply of items that may be required for implementation of this project. The output of the project is aimed at and for the Authority to have modern ICT infrastructure that will enable the information exchange, properly running the already functioning MIS systems like WEDP, IFMIS, internet, data and others.

3.2 Developing SME Management information system and link to the data center at FESMMIPA from selected pilot sites:

All information the SMEs have originate at the woreda level because information required by the SMEs to fulfill the legal requirement and when they fulfill the necessary business licenses are issued at woreda level. Thus, all the data need to be filled at the woreda level and access to the data are required at zone, region



and FSMMIPA as well as at the Ministry of Trade and Industry, and the jobs creation commission. The data system established requires analysis of system requirement at woreda level, system design, system development and implementation. The information system need to be linked with the data center indicated above. As there are more than 1147 woreda sites this system eventually holds, the information system at this phase is limited to some pilot woreda sites selected for this purpose thereby scaled up to all sites at a later stage.

As shown in figure 1 below, everything originates from WoSMMIDOs and ends at FSMMIPA and then to Ministry of Industry. Figure 1. demonstrates the flow of compiled data/reports from different WoSMMIDOs and come to a Center for aggregation. The same trends are exercised when it moves up one step until the Ministry level. At the WoSMMIDOs level detailed Industries' profiles are expected to be recorded for identification, classification, management, and reporting purposes. Not all but Industries data is data relating to a single Industries, such as name, initial capital, number of members, TIN number, type, location, addresses, etc. Enterprise(Industries) -base data is important when one wants to track longitudinally the progress of an Industries over time. For example, if one wants to track how an Industry is working and responding to the various business transactions, such as returning loans, etc., it would need Industries - based data.



The hierarchy of the data flow is intended to follow hierarchical architecture as it is defined in the **Figure** *1below*.



On the other hand officials at the higher level need to access complete, accurate and up-to-date aggregated data/reports so as to shape the next roles SMEs will play to transform the economy in line with the Growth Plan of the country. Most importantly aggregated data is used for strategic planning so that the Ministry can use swiftly and flexibility. Aggregated data is the consolidation of data relating to multiple Industries, and therefore cannot be traced back to specific industries. They are merely focused on the amount of capital distribution per Industries, total number of SME per regions, number of WoSMMIDOs per regions , number of trained members, etc. Aggregate data cannot provide the type of detailed information which an industries level data can, but is crucial for planning and guidance of the performance of SME in the country. Therefore, data aggregation is increased when one move up to the next higher level sequentially for the simplicity of its implementation.



Figure 2 Hierarchy of the Data Flow

However, SMEs have faced a number of constraints to organize the expected information from the sector not only using electronic-based but also paper-based data management system. Conceptually every WoSMMIDOs is expected to use Woreda Net and Broadband infrastructures to distribute its information for



the next level following the defined hierarchy. Practically this assumption has not been exercised properly because of different drawbacks: some WoSMMIDOs have no the mentioned ICT infrastructures in place; some WoSMMIDOs have no the skills needed to make use of these infrastructures for their purposes; some WoSMMIDOs have already the infrastructures but they didn't allow to use it for sending their reports; some WoSMMIDOs have submitted their reports when request comes from higher officials in steady of reporting periodically; some WoSMMIDOs lack the skills of report preparations; some WoSMMIDOs don't aware the values of information use; and others have used extra reporting templates in addition to the ones sent to them from FSMMIPA.

As a results of these drawbacks, comprehensively organized information hasn't been used for decision making purpose at the higher level satisfactorily. Therefore, currently FSMMIPA initiate this project to make use of ICTs to overcome the identified problems. Implementing computer-based system is not the only solution to facilitate information flow via the defined hierarchy. In addition capacity building and report form standardization tasks should have to be performed seriously. In general, the integration of automation, capacity building and report format standardization ensures the sustainability of information flow at the right time and format, and for the right destination.

When automation is taking place in the specified application area, it is crucial to consider two different systems to be implemented with layers. One of the two systems has to deal with the routine operations taken place at the WoSMMIDOs level, for example SME registration. The other system should be interfaced with Enterprise(Industries-based system) so as to aggregate the required data following the defined hierarchy until the top-tip destination of the report. This is the intention of the Ministry (MOTI) for initiating the automation project by nominating a consultancy firm. The automation is supposed to be similar with the following system model (see fig. 1.3).A system at the MOTI level is not part of this assignment but it is needed to interface as shown in this model.

Figure 3 Required Systems' Model





On top of the above requirements for SMEs, the system should integrate and be able to collect and aggregate labor market information (LMI) starting from woreda level up to the federal. The objective is that Citizens, enterprises, and policy-makers will eventually be able to use the LMI to understand the state of the Ethiopian labour market, as well as to ease their labour-related activities including registration of a company or finding appropriate labour force. Hence the following architectural design depicts the requirement to develop such a system. The LMIS made of four modules:

- *Data sources*: including designing the back-end infrastructure of the LMIS, creating live data connections to existing surveys and centralising all the data
- Intelligence: including data security, verification, aggregation and user management
- Insights: including expanding the data sources and insights that the LMIS consists of
- *Services*: including a Mobile and Desktop software used by employment service providers, a Mobile app used by job seekers and enterprises.

The system architecture section, outlined next, elaborates the technical intervention in detail depicting the back-end components of the LMI system, the different data sources and their integration with LMIS, the different elements of Intelligence & Insights module. The various submodules of Labour market services module are also described showing the interaction of different LM actors in service provision.

The architectural design of the LMIS is categorized and presented in four sections. Figure 4 below shows a wholistic view of the LMI system architecture. The details functional and non-functional requirements are detailed under Annex III

() U N D P

Figure 4: Wholistic view of the LMI system architecture.







- LMIS back-end: this section shows the different back end components of the LMIS; Hardware, Software, services, Security.
- Data source synchronization: this section shows how LMIS connects with multiple data sources and centralizes these data cents for analysis and interpretation
- Labour Market Intelligence and Insights: this section shows how the centralized data sets and leveraged to produce insights and indicators, and made accessible for use
- Labour Market Services: this section shows the services provided by LMIS that ease the employment journey of youth and workers, employers as well as labour market intermediaries

LMIS Back-end: this section shows the different back end components of the LMIS; Hardware, Software, services, Security.

The back-end architecture for LMIS consists of services and servers.

- ✓ Services
 - **Data synchronization service**: this service will automatically connect to different live databases and fetches required data in a predefined communication protocol and centralizes these data & store the centrally on the data base server.
 - Labour Market intelligence service: this service will Intelligently anonymize, aggregate, verify data and also do analysis & production of indicators and insights. This service will do the job of the Labour market intelligence module of the technical intervention.
 - Application program interface service (APIs): this service an interface or communication protocol between a client and a server intended to simplify the building of client-side software. This service will be a bridge to the client-side applications (Mobile, desktop and web applications) and the backend central data base. All client-side applications will securely fetch and update data from/to the central data base through this API.
 - Raw Data Access service: is a service that will help LMI Actors have access to important raw LM data that can be used for many purposes. Researcher, policy makers, and government agency/institutions might be the primary users of these data but anybody with appropriate data access clearance can have access to these raw data. These data can be accessed through one of the three access platforms; mobile, desktop or web applications
 - Security Manager service: this service will handle user management, authentication, authorization, security level clearance for all data access from any of the available access platforms
 - SMS notification service: this service will all the LMIS to connect to telecom provider SMS gate way and allows the system to send out SMS notifications to identified LMIS actors. The service will be primarily used for sending out SMS notification to job seekers for available vacancies, to recruiters on potential job seekers, to update tracking status of linked job seekers, and alike
- ✓ Servers
 - **A central data base server**: centralizes the different datasets collected and live fetched data from various data sources. The data base server will be hosted on a high spec server with



maximum security and privacy procedures installed. The data base will store routine data, survey data and Admin data. The central data base center will be at FSMMIPA.

- *Report server*: contains the technologies required to generate online visualization of data insights/reprots into the labour market to inform and support decision making. The generated Labour market Insights will be though a visible interface and are accessed by end-users. The Labour Market Insights module - the data-driven part of the LMIS - informs by providing data insights on the labour market.
- **API server:** this will host the application programming interface service.
- *Web server*: different web technologies will be hosted here and will be made accessible for use by different LMI actors
 - Career Advice CMS: Different career advices will be posted and be available to LMI actors through this content management system
 - Data integrator: this web technology will be used to collect Admin, routine or survey data from the different data sources.
 - Vacancy aggregator: this is a web technology that will aggregate vacancy postings from different Job posting sites and acts as a hub to facilitate and ease vacancy searching.
 - Job linkage and assignment tracker: is a web technology that will be used by Job Linkage administrators to assign jobs to job seekers and tracks assignment trackers.
 - Job & enterprise registration: a web technology that will allow registration of jobs seekers and enterprises.
 - Raw data access: web technology that will allow LMI Actors to have access to raw data based on their secure level clearance and privilege.

Data source synchronization: this section shows how LMIS connects with multiple data sources and centralizes these data cents for analysis and interpretation.

The Labour market information system uses a wide range of existing data bases of three types: routine data, survey data and administrative data. CSA, private employment agencies, public organizations, Ministries and Industrial parks are some of the data sources identified so far that LMIS integrates with. Some of those data sources will be updated on an annual basis (e.g. CSA surveys) while other might be accessed quarterly or biannually (e.g. routine data). As can be seen in Figure below, the LMIS central data base accesses these data sources either through Live connections to existing survey and administrative data bases, or using data capturing technologies through mobile applications, desktop application or web applications. The data synchronisation service, one of the LMIS services, will fetch the required data from selected live data sources in a pre-configured time schedule and automatically updates the LMI central database. For Non-live data, identified users for each data sources will input the required datasets using either of the three data access platforms; mobile, web or desktop applications.

Labour Market Intelligence and Insights: this section shows how the centralized data sets and leveraged to produce insights and indicators and made accessible for use. The labour market information system

connects to various data sources, intelligently analyses and brings out insightful indication on the current labour market in Ethiopia. The Labour market intelligence and insights architecture, as shown in figure 5 below, depicts these four sections; the back-end components contributing to this module, Insights & reports types expected, access platforms and finally beneficial labour market information actors.

Anonymization, aggregation, verification, analysis, and production of indicators & insights are the major functionalities of this module. The online visualization of data insights into the labor market helps to inform and support decision making hence they should be Interactive charts, tables, graphs, trend reports, and alike. Users should be able to search, filter based on different levels of views, and download or share data with an easy access & actions tools. This service data can be accessed through one of the three access platforms; mobile, desktop or web applications. Researchers, policy makers, job seekers, general public, Government institutions, International organizations, Employment Agency, and private enterprises are some primary Labour market information beneficiaries.

The expectation from this system is once its implemented per requirements listed under Annex III, it should allow other systems to fetch data from this system through an API for easy integration and data sharing.

Labour Market Services: this section shows the services provided by LMIS that ease the employment journey of youth and workers, employers as well as labour market intermediaries The labour market service is a collection of digital solutions that are interconnected and related services through which information is provided to workers, employers (and labour market intermediaries) to enhance their efforts to improve their work situation or their labour force, respectively. LM services expected to offer the following services to different LMI actors.

- Career Advice Content management service: a service that enhances the capacity of various LMI actors by providing valuable information and advisory guides on different dimensions for career advancement. These includes Interview Tips, CV Tips, and How to guides on related job topics. The service will be provided through either texts, images, audios, videos or combination of all. It will be centrally administrated and public audiences are the expected users of the service. This service data can be accessed through one of the three access platforms; mobile, desktop or web applications.
- Raw data access provision: this service will allow different LMI actors to have partial or full access to
 LMI raw data either on survey, admin or routine data. Users of this service need to be
 authenticated & should be granted access based on their level of data clearance and privilege.
 The service will allow users to search, filter based on different levels of views, and download or
 share data with an easy access & actions tools. This service data can be accessed through one of
 the three access platforms; mobile, desktop or web applications.



- Job Linkage and Assignment tracker service: aggregates and interlinks three other sub-services. This
 service is core & powerful part of the labour market services module. It is thorough this service
 that job linkages are created and their status is tracked accordingly. To do this, it first registers
 jobseekers & enterprises, aggregates & centralizes existing vacancies for ease of access, and
 finally makes the linkage between the two & tracks assignment status.
 - **Registration**: this sub-service will allow the registration of job seekers, enterprises seamless either through mobile access platform. Job seekers and enterprises can directly register themselves using a mobile application. OSSs can also register Job seekers and enterprises from their centres using one of the three access platforms; mobile, desktop or web applications. The registration data gets persisted/stored to the central LMIS data base for further analysis & insights generation.
 - Vacancy Aggregation: this sub-service is an aggregator of online existing vacancies that centralizes and eases the job-hunting process through a live integration to different job/vacancy listing services like ethiojobs, Employee Ethiopia, Ezega, and alike. HR administrators of public organization expected to post their vacancies on these vacancy listing services, through MoU, and LMIS is expected to seamlessly bring all these into one for easy of access by job seekers.
 - Linkage and tracking: this sub-service executes two things. One, it creates a linkage between job seekers and enterprises/recruiters and two, in addition of the linkage, it keeps track of the status of created linkage & updates the system accordingly whenever there is a change in the created linkage. This will allow different LMI actions to have the correct and updated information on linkages and their status. This service data can be accessed through one of the three access platforms; mobile, desktop or web applications and will also allow users to search, filter based on different levels of views, and download or share data with an easy access & actions tools. Linkage administrators can only operate and should have access to this service with the right level of access and privilege. Its proposed that whenever a linkage is created or status of a linkage is updated, concerned LMI actors (job seekers/recruiters) should be updated either through an SMS or any other notification technologies.

3.3 Development of E-commerce web-portal platform to the SMEs

Currently FSMMIPA is committed to support and increase the import substitution and export-oriented economic sector. Some of these priority sectors are leather products, textile and garment, coffee, Agroprocessing, metal and wood work and the likes. So that government of Ethiopia is committed to boost SME's Manufacturing and Service sector Enterprise using E-commerce Web portal platform technology for promoting their products and competitiveness in the global market. Integrating this system with the two tasks indicated above, ICT as an enabler and development of **digital** economy has been considered vital to the SMEs growth and better contribution of the manufacturing industry to GDP of the country.



SME's Manufacturing and Service sector Enterprise in Ethiopia have been growing rapidly and showing an important element in the country's efforts to expand and diversify the economy, raise export earnings and job creation. With this consideration, FSMMIPA is working its level best to utilize the potential of SME's towards facilitating the Manufacturer and Service sector by using Technology for enhancement of productivity and competitiveness in the global market. The Authority has planned to develop and integrate the E-commerce Web portal platform for SME's Export Hub, in such a way that to exchange information, search for market access about their product and services nationally and internationally by the online E-commerce Web portal platform.

The E-commerce Web portal platform encompasses a range of resources. usually includes Order request, payment gateway, database of company profiles of each SME's Manufacturer, online registration system, search facility, directory of other sites, news, e-mail, notification, market information, events, tips and latest findings in the field, online-chat system, customer feedback, best practices of other countries, government policies, Visitor counter (Google Analytic), investment opportunities, etc. In addition, it contains **links** to websites of firms engaged in this sector.

Therefore, this TOR document is prepared to use as guideline for inviting and selecting a competent ICT firm to implement the three related tasks described above: i) to implement Networking and Security Components, and Data Center Components, ii) automation of Management information system and iii) for the development and implementation of E-commerce Web portal platform Export Hub For SME's to be used for promotion of the companies in local, regional & international market.

IV. OBJECTIVES

There are interrelated objectives on implementing these assignments. The **first objective** lies maintaining and expanding ICT infrastructure project through further assessment of requirements and implement network infrastructure, data-center and security, On completion, it will make and enables information exchange more reliable and stable. One of the focus on this shall be maintaining the current established data center systems that includes network and server room installations in order to.

- ✓ Facilitate coordination and information sharing both internal and external to the participating organizations.
- ✓ Enhance the ability and effectiveness of staff to perform their jobs.
- ✓ Facilitate on time data collection process.
- ✓ Provide high levels of data security.
- ✓ Provides an open, flexible, reliable technology base for the future.
- ✓ Implement online information management systems.
- ✓ Improve connectivity.
- ✓ Enhance institutional capacity and integrity.
- ✓ Enables reliable data storage capability.

The **second** is to automate operations taken place at the Woreda levels. The automation task should be continued to the next levels following the data flow structure indicated above for aggregating received routine reports from Woreda level until it reaches to FSMMIPA. The ultimate goal of the assignment is to make small and medium Enterprise (Industries) and labor market related information available with the right content and format, and at the right time and place to be utilized by the different government bodies,



private sectors, researchers, etc. Thus, this project is expected to fill the information gaps observed in the SME sector.

The **third** objective is to develop and deploy dynamic Informational and transactional E-commerce Web portal platform for SME's. SME's can have the right to use and manage their respective pages based on the platform. Therefore, E-commerce Web portal platform integrated with the other two systems mentioned above shall support SME's Manufacturing and Service sector Enterprise to promote and sell their products and Services online in advanced manner in order to run their businesses more effectively and efficiently.

The **fourth** is to develop Labor market services system the purpose of which is to make the OSSCs² at the woredass more efficient by digitizing and automating their services to job seekers. The LMSS will have three components that facilitate the engagement and participation of job seekers, employers and employment agencies in the jobs creation and placement efforts

V. SCOPE OF WORK

The tasks required are integrated system but for clarity and easy understanding the detail work under the three categories are stated here-below.

5.1 Maintaining existing ZTE based ICT network infrastructure:

The expected task of the Data-Center (server room, networking, security) component covers study of the current network design at the FSMMIPA, identify the network infrastructure and server problems, maintain the network infrastructure hierarchy problem compatible with the existed ZTE configuration and implement LAN with nearly 400-500 nodes which is found in the Authority departments. And also configure MS-Windows Server Operating system, and other related Database systems.

The existing established Data center and network infrastructure will hold different services design and supplies:

- > Troubleshoot existing ZTE based network and propose optimum solution for the network.
- Relocate some ZTE switch to other building.
- Reconfigure ZTE UTM system.
- Reconfigure ZTE core and aggregate switches.
- Check and reuse existing fiber network.
- > Deploy the additional switches in the network and integrate with existing system.
- Prepare professional as built document.
- ➢ VLAN segregation.
- Troubleshoot the existing three server problem and configure the DNS and Active directory with polices.

² OSSC are to mean one stop service centers which are offices at wereda level that responsible on the registration of job seekers, establishments of enterprises, job matching and providing other services to citizens.



In order to achieve the aims of this assignment, the firm will, among others, undertake the following tasks:

5.1.1 Requirement analysis of the existing (established) infrastructure

As stated in the previous section, FSMMIPA will maintain and expand ICT infrastructure to state-ofthe-art data facility that is going to be built serves users in the Authority. Taking the number of all staffs in the Authority, the expansion and maintenance is required and very urgent.

Having the above explained facts, due attention and considerations must be given for the following basic requirements that are identified by the Authority.

Most of the requirements are roughly identified through previous activities and so the implementer firm may further identify additional requirements:

- ✓ Observe the actual site of the Authority building, understanding the Authority's basic operations taken place at the different nodes;
- ✓ Critically analyze the existing problems of the network infrastructure, identify challenges that affect the operations of the sector, and recommend solution.
- ✓ Produce a final Requirement Analysis Document (report) in hard and soft copies make it part of the proposal.

5.1.2 System Design (infrastructure design)

- ✓ Design and propose technically and operationally feasible systems based on the existing system requirements that overcome the identified drawbacks and future expansion of the organization;
- ✓ Design network and security systems of the established data-center.
- ✓ Data center structured design must include labeling on Wall-Outlet label, ACCESS Switches labels on Each Floor, Patch-Panel labels on Each Floor, Patch-Panel labels at Data Center Room, labels on The aggregator Switch and labels on the Core Switch and labeling 400-500 newly installed nodes.
- ✓ Identify and prepare required items which are not included in purchase list in Annex 1 that meet the users and system requirements along with detailed cost estimations and duration of maintenance time.

5.1.3 Implementation

On the basis of the design, supply of items, installation and configuration of LAN, data-center implementation tasks will be undertaken.

After rigorous testes a well functional infrastructure will be commissioned based on the overall technical requirements.

✓ Design LAN and Data-Center layout plan based on the established network infrastructure.



- ✓ The vendor shall provide Standard Operating Procedure (SOP) documents for each and every component delivered and installed at data center.
- ✓ Supply, delivery, installation /configuration the selected items
- ✓ Redundant CAT-6 Network wiring of the data center and other components as per the requirement.
- ✓ The vendor should be able to provide the periodical and regular preventive maintenance of Datacenter's components as per the Authority's requirement.
- ✓ The vendor itself shall carry out the data center operations during handholding period, i.e., up to 2 months; providing training for 10 days during the working period; and handover the operation to the Authority's IT Department.
- ✓ The vendor shall be responsible to redesign, construct and commission the LAN and data center to confirm to the best international industry standard and practices.
- ✓ Configuration of Fiber-optic devices.
- Ensure proper installation, configuration, function, safe operation of the entire datacenter devices

5.2 Developing #etworks Management information system and link to the data center at FSMMIPA from selected pilot sites:

The firm selected for these tasks is supposed to cover all the phases of a system promotion life cycle which include requirement analysis, detailed system design, promotion and implementation activities. The firm shall also prepare detailed hardware, software and communication network specifications with their quantities and cost estimations required for implementing the envisaged systems on the selected pilot sites. These systems will enhance the administration and management of potential SMEs' registrations, and improve various service deliveries mainly at the lowest service providing areas. In addition, this system is expected to integrate the labor market system as detailed in annex III. Both systems are planned to be completed across the nation phase by phase to cover all existing sites (Regions, zones and Woredas/towns) existing in 11 regions and 2 City Administrations, and also linked with the main system stationed in the Authority (FSMMIPA). Out of these overall sites, the firm in this phase is expected to cover 20 pilot weredas of Oromia, Amhara, Harari, Diredawa and Addis Abeba.. In order to achieve the aims of this assignment, the firm will, among others, shall undertake the following tasks:

5.2.1 Requirements Analysis of the system to be developed

- ✓ Some of the requirements are identified through previous activities; the firm shall conduct detail requirement studies.
- ✓ Adopt the country's open Information Exchange Standards while developing the system;
- ✓ Review of the proclamation No. 373/2016 on February 15,2016) for establishing the Authority; and five year sector promotion programs, and strategic plan of the Ministry (SME strategic plan and MOTI strategies) and the Authority as well. Besides, review of Business Process Reengineering (BPR) and Balanced Score Card (BSC) designed and implemented in the Authority;



- ✓ Review templates which are already prepared at the federal level for data collection from the WoSMMIDOs and also the other templates designed for the regions' consumptions.
- ✓ Consider what is required to satisfy data quality requirements including any specialized processes to cleanse data and report data quality issues:
- Review the different reports circulated throughout the defined data flow structures and understand their deficiencies to be corrected by the automation:
- ✓ Observe the actual operations taken place at the different nodes in the SMEs sector:
- ✓ Understand the various mechanisms used for data aggregation purpose:
- Critically analyse the existing manual system, identify challenges that affect the operations of the sector, and recommend an automated information system by which FSMMIPA would need for efficient operations of collection and aggregation of Industries -based data at the different levels of the sector;
- Specify all functional requirements that the users wish to see in the solution such as generation and distribution of reports, preparation of aggregated data as per the requests, etc.;
- ✓ Identify important non-functional requirements such as data maintenance, service level and performance requirements, etc.;
- ✓ Identify data movement requirements and data integration specifications;
- ✓ Produce a final System Requirement Analysis Document (report) in hard and soft copies.

5.2.2 System Design

- Design and propose technically and operationally feasible systems based on the system requirements that overcome the identified drawbacks and future expansion of the sector:
- Analyse and design data storage structures including, staging area design, operational data stores (ODS), data warehouse design, and data mart design;
- ✓ Design data usage, reporting and analytical mechanisms including any business intelligence tool design specifications;
- ✓ Determine the levels of aggregation;
- ✓ Determine the best indexing strategy for the aggregation;
- ✓ Determine data movement design including:
 - Interface design;
 - System processes;
 - Process architecture;
 - Extract Transform and Load (ETL) mechanisms;
 - Data integration and aggregation specifications;
 - Physical data mapping, source to target map, including business rules to be applied to extracted data;
 - o Mechanisms for data transfer and load; and
 - Data load strategy.
- ✓ Determine data security design, including:
 - Backup/recovery specifications.
- ✓ Prepare data quality design specifications;



- ✓ Prepare system design specification document for the proposed automated information system following the identified system requirements;
- Prepare a realistic plan for developing and deploying Industries/Enterprise-base Information System (EIS) and the other systems (SME-MISs) used for aggregation purpose;
- ✓ Consider and plan the **localization functionalities** of the proposed systems;
- ✓ Integrate these system as shown in the above system model;
- ✓ Iteratively present the system design and its prototypes to the revenant bodies until the matured integrated system is developed;
- ✓ Based on the inputs from presentation, the consultant is expected to modify and finalize the submitted Design Specification document;
- ✓ Identify and prepare hardware, software and communication network specifications that meet the users and system requirements along with detailed cost estimations; and
- ✓ Produce a final Design Specification Document (report) in hard and softcopies.

5.2.3 System Promotion Requirements

On the basis of the design, undertake application promotion tasks that are needed for realizing the systems with multi-lingual (English, Amharic, Oromiffa) presentation based on the needs of the end users. The following conditions must be satisfied for the realization of envisaged Enterprise(Industries)-base Information System and #etworks -MISs for the total operations mandated for Labor market and SME sector throughout the country.

5.2.3.1 Application Software requirement

- Perform basic record manipulations: insert, update and void(delete);
- Perform basic record navigations:-Move first, Move Next, Move Previous, Move last, and move to specific records.
- Perform Record searching: search records as per user need.
- Support basic process of Small and medium manufacturing industries tasks which will be identified at the analysis phase of the system promotion.
- Generate report according to the processes in Small and medium manufacturing industries system, Users' need, and report standards.
- Support network based data exchange among computers which run similar operations; i.e., it has to be **web based system**.
- Has to be scalable for further data base management needs over networks; i.e., scalable for distributed database management system.

5.2.3.2 Database requirement

- The firm shall propose appropriate database management system that will support the data and must get approval from FSMMIPA
- Should support huge small and medium manufacturing industries data

5.2.3.3 Non-functional Requirement



System Architecture and Design: The system architecture and design must show system components and modules and database model.

Security: Role based access should be implemented for the head office and Regional offices (FSMMIPAs and ReFSMMIPA) / city administrations

- Data encryptions should be supported by the application on data stores of the system.
- Password should be applied at functions of the system where authorization is needed.
- Should support flexible and secured data backup.
- Disaster recovery mechanism has to be put in place.
- During promotion put in place important mechanisms to ensure the security of system when it is implemented on networked environment along with database and application layers;

Graphical User Interface (GUI): The GUI of the system should be user friendly and support common browsers.

Language Support: The system should support both Amharic and English for data processing. The GUI of the system should also be prepared in Amharic and English and open for customization for regional languages.

Record Searching and Sorting Flexibility: The Small and medium industries system should enable users to search and sort records in the database both in Latin and in Ge'ez in a very flexible and dynamic way. **Calendar Support:** The system should support Ethiopian calendar and Gregorian calendar.

5.2.3.4 Functional requirement

The system should have list of sub systems and functionalities as highlighted in Annex II and III of this TOR.

- ✓ All the expected functional requirements should be incorporated when the envisaged system are developed to meet the needs and expectations of end users
- ✓ The interface should give users direct and intuitive way to accomplish their tasks. Typing commands should be avoided whenever it is more user friendly to do the task by selecting a user interface object and triggering an action
- ✓ All important system components have to be validated to ensure the quality of captured data during data entry process;
- ✓ Responses to user request should be provided at all times;
- ✓ No hung-ups against errors, delay, and unexpected behavior etc .The user should be notified about any exit due to sever errors the system could have encountered.
- \checkmark Critical bugs must be totally avoided at delivery of the system .
- ✓ The user must be able to cancel operations at any time so that the system must avoid modes that severely restrict the interaction available to users at any given point.
- ✓ The systems should support traceability for any committed errors
- ✓ The system should be conceptually, visually, functionally and logically consistent to make average users get to know their operation with simple training.
- ✓ All visual elements including pictures used in windows elements should be immediately comprehensive and should correspond to the real world analogues. The interfaces for other applications should incorporated clearly



✓ Data entry and report format should be uniform on each administrative level in the Authority

5.2.4 System Implementation

Before a newly developed system is putting into operation, a number of factors have to be considered.

5.2.4.1 Language Support (localization)

- Currently the system is expected to be operational in English, Amharic, Tigrigna, Oromiffa languages, and it must also be easily customizable to include other Ethiopian languages when the needs come;
- ✓ The character code for Amharic, both the database representation as well as the user interface must be in Unicode. The system should also support UNICODE based local fonts;
- ✓ User related system documentation (users' guide and online help) should be provided in the above languages;
- ✓ Reports should be provided in the above two languages as per the users' needs;
- ✓ Ensures that adequate resources are available for deployment of the release;
- ✓ Confirms the operational environment's readiness for receiving the release;
- ✓ Reviews the preparation of the release for deployment into the operational environment;
- ✓ The system should support data entry and reporting using the Ethiopian calendar and the Gregorian calendar; and
- ✓ Searching facility should be available for the above two languages.
- ✓ Identifies and develops the processes, tools, and technologies required to deploy the release;
- ✓ Ensure that all components can be incorporated correctly;
- ✓ Finalizes project acceptance.

5.2.4.2 System Integration

- ✓ The developed systems should be integrated properly for inbuilt data exchange and aggregated report distribution following the data flow structure exercised in the sector. Besides, data import and export facilities to standard database formats, such as Microsoft Excel, should be available;
- Reports should be generated in such a way that users can manipulate it easily. Easy to generate PDF files, word file, excel files.

5.2.4.3 Reliability

- ✓ The System must have the capacity of being available at all times. The system should support multiple database servers;
- ✓ Flexible query designer should be incorporated in the system to enable users to generate their own reports when necessary;
- ✓ The system should be highly flexible to accommodate changes;
- ✓ During network failures, a local WoSMMIDOs should be able to work independently and merge with the main database later on;
- ✓ Numerical computations should be accurate enough, number of significant digits, must be flexible to the users' requirements;
- The system should provide analysis and "what if" capabilities, to allow analysis of trends, forecasts, correlation, and other capabilities; and



✓ The system must be tested and be operational on the Ethio-Telecom infrastructures.

5.2.4.4 Performance

- ✓ Report generation, data entry and update must not take noticeable delay.
- ✓ Up to 2300 concurrent users must operate without significant loss in performance.
- ✓ The system should be easy to use and not require skills on other software packages;
- ✓ The application shall include a help facility;
- ✓ The technology should be one for which support is widely available in Ethiopia;
- ✓ The platform should support recent windows operating systems like windows XP service pack2, windows 2008 serverR2, Windows 7, Windows 10, etc.;(Plate form independent)
- ✓ The platform should have a product life cycle for at least the coming 10 to 12 years;
- ✓ The platform should support recent innovations in distributed computing like Web Services, Service Oriented Architecture (SOA) and Smart Client; and
- ✓ Code shall be modular, and easily scalable.

5.2.4.5 Testing

- ✓ Prepare an acceptable test procedures;
- ✓ Set test data that can be reused as necessary;
- Perform necessary corrections on the computer programs depending upon the results of the test and conduct demonstration on the rectified system;
- ✓ Specifies how quality assurance testing will be managed, who will be responsible for creating test cases, what software test tools will be required, and how project acceptance will be determined; and
- ✓ Perform performance testing to confirm that the system is operating correctly and can handle the required data volumes and that data can be loaded in the available "load window".

5.2.4.6 Training

- ✓ Specifies the objectives, needs, strategy, and curriculum that should be addressed to ensure that all stakeholders receive needed instructions on how to use and maintain the planned system;
- ✓ Determine especial training needs for system admin users on each system development progress
- ✓ Determine the end users and technical staff training needs, define the necessary training on the system installed, and conduct the training based on the approved schedule; and
- ✓ Ensure that all training's have been conducted completely.

5.2.4.7 File Conversion

- Ensure the proper installations of the developed systems on the specified hardware, software, and communication network infrastructures as planned;
- ✓ Recommend backlog data entry alternatives after system installation;
- ✓ Supervise and control the clarity of captured data in line with the paper-based documents;
- ✓ Discuss with the responsible bodies to verify and select appropriate file conversion method, out of direct cutover, parallel, phase-based, and pilot conversion types, before the systems start their intended operations.



5.3 Development of E-commerce web-portal platform to the SMEs

The scope of the assignment comprises integrating with the systems indicated in 4.1 and 4.2 as well as detail work covering the following:

5.3.1 Development of the system-

- To develop and Deploy E-commerce Web portal platform integrated with E-payment System.
- The E-commerce Web portal platform should use attractive and user-friendly graphic designs so that it is intuitive for all users.
- The solution should preferably be a cloud-based solution. Implementing suitable security features.
- Fully install, configure and test installation of E-commerce Web portal platform on FSMMIPA Datacenter.
- Preparing deployment and training schedule
- Conduct and Provide user training on the E-commerce Web portal platform software and familiarize them with all functionalities of the system in accordance with the users' type and access rights
- Prepare and summit required final user manual to FSMMIPA, Private Sector Industry support Technology Directorate with the technical proposal all required training materials (in softcopy and hard copy)
- Provide standard user training material for individual trainees
- Organize training facilities such as necessary computing and training aid.
- Award certificate of participation to each participant upon ensuring successful completion of the training and Should prepare refreshment for trainees
- Develop training material as a reference guide for the users and conduct trainings
- Training is to be conducted for approximately 100 to 150 SME's, FSMMIPA staff, SME's regional staffs and SME's enterprise
- One year warranty service after Deployment
- The development tool must be highly secured like Java, Payton and Perl.

5.3.2 Software Development of an E-commerce platform has

- a. an online products catalogue, (for up to 25,000 Enterprises)
- b. a user registration system
- c. an online ordering system
- d. personalized pages for Enterprises
- e. payment system(pre- Delivery and On Delivery)
- f. logistic system
- g. Managing contents of the portal

For this, the e-commerce platform shall need to have the following features:

- Capacity to process the volume of online buyers.
- Compile and organize the purchase requests in an easy to access/review database backend so to facilitate the sales transaction.
- Capacity to host online catalogues and provide user-friendly interface to the sellers for updating the online catalogues, retrieve sale orders and process.
- Customizable subpages for each Enterprise so they have their customized pages under the main ecommerce site.



- The e-commerce platform should also comply with globally accepted best security policies.
- Provide technical support to client as well as to the SMEs'.
- Compatibility mode
- Search engine
- Able to create admin users and assign different roles to users, Make changes to backend to bring changes (Add, Edit, Delete, search...) to items in/on main menu
- The system should generate Reports and dynamic charts about information of products and
- Visitor counter inter linked with Google analytic

During the development and deployment step, most of the companies' data should be gathered at least in the following, major categories:

- Ethiopia, FSMMIPA at a glance (good opportunity)
- Company profile
- Company classification
- Company legal information
- Financial Information
- Reports and plans
- Multimedia
- Statistical reports and analyses
- Vacancy and tender
- HR Information

5.3.3 Other tasks to be considered

The following, but not limited to are, the activities to be considered:

- Hosting and commissioning the Portal
- Domain name registrations
- A document describing the deployment schedule, training methodology, and schedule
- User and administration Training Manuals
- Conduct trainings E-commerce Web portal platform for FSMMIPA staff members, SME's regional staff and Selected Enterprise.
- Awarding certificate of completion for trainees
- Fully installed, configured and tested installation of E-commerce Web portal platform FSMMIPA Datacenter
- Multi-Lingual (National at list three language (English ,Amharic, Oromigna....) (and International) portal that links to each version of the site, to give a clear description on each version.
- The system is required to provide metadata or detail information about SME's Manufacturer every company's products & services. This should allow potential users of the system to see new products, services, status of Authority and more about the Enterprises.
- The development of the system should follow common and new version platforms so that it can be integrated with other government systems to exchange data and/ or information automatically.
- The consulting firm should provide with full set of documentation and training so that the portal can be easily maintained and content updated.
- Should have a functionality to generate reports by category such as by service type, product type, license grade etc.

- Easy to use (User friendly).
- Open, flexible and extendable
- Safe to use (data storage, data protection)
- Social media and useful links integration.

User Management: Admin users should be able to create/delete/update/search and view the other users as well as system updates. The membership user option should be included.

- Main Functions:
 - User Creation.
 - Scope of Users.
 - User Rights.
 - Type of Users.
- **Membership System:** The users can become the member by filling online subscription form. A system generated password should be assigned to the user and same should be sent to them on their alternate email address for verification. The database of the users registering to be maintained and a proper reporting system is ensured.
- Business Matchmaking
 - In this section the visitors or users can fill in a form online for their business Matchmaking interest details.
 - Search other interested parties for Business Matchmaking.
 - The visitor should be able to add their information and select the business area and the region for joint venture.

There are two main areas of this section Matchmaking and the Match Searching.

Main Functions:

- Matchmaking Form having the different areas and region option.
- Match Search self-query making by using the region and business nature option.

RSS Feed

- The RSS Feed should be used in the website but the source of RSS feed has to be dynamic.
- Social media linkage: The platform will integrated to various social Medias to name few; Facebook, twitter, Instagram etc

Main Functions:

- RSS displayed in main site.
- The RSS details should be opened in the site.
- RSS should be controlled by the admin user.
- Search Engine Optimization (SEO): Search engine optimization should be required to place the site in the top while searching from the leading search engines (like Google news indexing, Yahoo).

VI. EXPECTED OUT PUT OF THE TASKS

The firm will be expected to fulfill following integrated outputs during the period of the assignment:

A. Maintaining existing ZTE based ICT network infrastructure and expand the coverage for different buildings in the premises of its head office located in Addis Ababa. This part also

include : detailed data Center design including LAN design documentation and acceptance test specification, data Center hard ware supply and installation and configuration, fully reconfigured Data-Center implementation, in accordance with the agreed design and build documentation, Execution of acceptance testing and documentation of test results and Knowledge transfer or Conduct Training for IT Staff Members

B. Developing #etworks information system and linking to the data center at FEMMIPA from selected pilot sites covering information concerning about the profiles of existing small & medium manufacturing industries and their periodic reports to be collected hierarchically from woredas or towns at the lowest level to the higher federal level even for minister level at the Ministry of Trade and Industry.

The firm is also expected to submit both electronic and hard copies of all relevant documentations, including but not limited to:

- ✓ Progress reports including inception reports and various first drafts prepared within the different phases of the assignment;
- ✓ Present at different stages of the work progresses to relevant bodies;
- ✓ Deliver finalized documents including requirement analysis report, detailed system design specification documents, Data movement requirements and data integration specifications reports, and operational data stores and data warehouse security requirements reports;
- ✓ Source codes and application structure and module/sub-module/ program/ subroutine relationship;
- ✓ Complete technical and configuration documentations;
- ✓ Application security procedures;
- ✓ Disaster recovery procedures such as database and application back-up, recovery and checkpoint procedures;
- ✓ Program test plans (unit, integrity and acceptance);
- ✓ Instruction manuals on installation, implementation and maintenance of the applications;
- ✓ Training schedule for personnel working with the application;
- ✓ Well-trained users and professionals at all administrative levels.
- ✓ File conversion strategy document;
- ✓ The software package; and
- ✓ Provide one year post-delivery system maintenance and user support services.
- **C.** Development of E-commerce web-portal platform to the SMEs encompassing a range of resources including Order request, payment gateway, database of company profiles of each SME's Manufacturer, online registration system, search facility, directory of other sites, news, e-mail, notification, market information, events, tips and latest findings in the field, online-chat system, customer feedback, best practices of other countries, government policies, Visitor counter (Google Analytic), investment opportunities, etc. In addition, it contains links to websites of firms engaged in this sector

VII. METHODOLOGY/APPROACH OF THE SERVICE

The assignment is required to be provided by foreign firms /local firms or combined with local or as consortium where all of them should have adequate knowledge and experience on the desired areas



through practical system system design, development, implementation and maintenance as requested in this TOR.

The firm(s) shall be expected to carry out this assignment by:

- Assessment of existing data center and identifying the remaining work to complete the maintenance and expand the operation coverage as per the need of the FSMMIPA
- Mapping and assessment of the need at different hierarchy the MIS system on system requirement, identifying of hardware and software including training need, system design, development and implementation and linking with the data center
- Assessment of visions, plans and strategies of MOTI and FSMMIPA with regard to the SMEs development to ensure the system to be implemented addresses the vision and strategies
- Assessment and modify/upgrade or supplement the information templates to capture the information/report needs of the users at the different hierarchy.
- Assessment of the users demand on e-commerce and web platform and develop integrated system that responds to the users demand
- Assessment of best international practices applicable to the assignment and drawing lessons for the implementation of the three outputs
- Consultation and closely working with FSMMIPA and other concerned parties such as Federal Ministry of Trade and Industry, Job creation Commission, woredas, zones and regions ...etc.

It is anticipated that the firms submitting their offer to design appropriate methodologies using their knowledge and experience to carry out the assignment at the required level

VIII. LOCATION AND DURATION

This assignment is expected to be completed within a period of 5 months. The assignment will be based in Addis Ababa and shall be required to travel for fieldwork to the 4 regions (Oromia, Amhara, Diredawa, Harai) of Ethiopia and Addis Ababa for MIS system establishment at the pilot woredas/towns. The firm(s) is expected to execute the assignment stationed at the Federal Small and Medium Manufacturing Promotion Authority, Ethiopia. The firm will be accountable to FSMMIPA, and also liable to execute the given assignments due diligently according to this TOR.

IX. IMPLEMENTATION ARRANGEMENTS

The firm will be recruited under the UNDP terms and conditions, and undertake the assigned tasks and responsibilities under the direct supervision of the FSMMIPA and Ministry of Trade and Industry. All items and travel costs related to the assignment shall be included in the financial offer.



X. PAYMENT MILESTONES AND AUTHORITY

The prospective firm will indicate the cost of services and required items for each deliverable in US dollars all-inclusive³ lump-sum contract amount when applying for this assignment. The firm will be paid only after approving authority confirms the successful completion of each deliverable as stipulated hereunder. The qualified firm shall receive his/her lump sum service fees upon certification of the completed tasks satisfactorily, as per the following payment schedule:

Instalment of	Deliverables	Duration	Percentage
payment/period			of Payment
1 st Installment	Up on submission of inception report comprising of current system status, system requirements, system design ,development and implementation requirements, methodology to accomplish the tasks, time schedule and breakdown of activity of the work and weighted in percentage, as well as time frame for the completion the work	10 days	20%
2 nd instalment	Up on submission and approval of progress milestone- completion of 40% of the total work	70 days	20%
3 nd Instalment	Up on submission and approval of progress milestone- completion of 80% of the total work	50 days	20%
4th Instalment	Up on submission and approval of progress milestone- completion of 100% of the total work, provision of training to the required personnel and submission of all materials, manuals, tools, certificates and warranty and after sales service	20 days	40%

XI. MINIMUM FIRM AND CONSULTANCY REQUIREMENT

The prospective firm (s) is expected to meet the following minimum requirements:

- Recognized and reputed institution/firm known for system and networking design, development, implementation, maintenance and training in ICT sector. The firm shall have Network Certified Professionals experienced in Routing and Switching, Own Tools including for splicing and testing.
- It must have at least 10 years of practical experience in activities related ICT infrastructure design, installation, MIS system design, development and implementation as well as networking and ecommerce web portal development and implementation

³ The term "All inclusive" implies that all costs (professional fees, international travel costs, living allowances, communications, consumables, etc.) that could possibly be incurred by the Contractor are already factored into the final amounts submitted in the proposal



- Knowledge of relevant industrial sectors selected as priorities in the Ethiopian Industrial Development Strategy in general and SMEs in particular and access to stakeholders and relevant information sources, especially of the benchmarked region.
- Experience working with Government of Ethiopia or UN supported project of similar in nature or other international organizations beneficial.
- Capability to deploy strong experts on the field who are knowledgeable and skillful on the required area, analytical aptitude, communication and presentation expertise.
- Capability to deploy good communication expertise in the language(s) the systems are to be developed
- Certification from appropriate organization / institution
- It shall demonstrate its capabilities, understanding of the TOR, and methodology of the approach

The multi-disciplinary team should comprise members with the following educational qualifications; experience and competencies:

- <u>Team Leader (Principal) Consultant</u>: PhD in the area of ICT project management and at least 10 years of experience on similar assignments.;
- <u>Associate Consultants</u>: University Master's degree in the area and solid experience are mandatory. The following are the preferred qualifications and experience expected from the associates.
 - Two Electrical engineers with Masters in communication and minimum 7 years of related professional experience preferably in high quality electrical installations, security camera installations, data center electrical equipment installations:
 - Two Networking Infrastructure Designers with Masters in Newt-working and minimum 6 years of professional experience in datacenter network routing and switching:
 - One Networking Infrastructure specialists and database Admin with a qualification in Masters in Networking or Database and professional experience of minimum 6 years on surveillance network and deployment system
 - One WAN specialist with qualification in masters in networking and professional experience of minimum 6 years in Network Administrator, and telecom industry relevant to IP network.
 - One System Architects With MSC degree in Computer Science or related fields having a wide range of minimum 6 years of experience in architecting large scale systems including Architecture, Data Access Framework, Validation Framework and Exception Management.
 - Two Senior Systems Analysts with Masters in networking and system design and at least ten years IT experience and with four years system analysis experience in a wide range of projects. Solid experience and knowledge of software engineering practices and Experience of working with formal Project Management methodologies and tools is expected.
 - Two Database Specialists: With Masters in database and ten years IT experience with six years' experience in database design and implementation. Should have experience in data modelling, data analysis, open system platforms, database design and systems integration using Internet technologies, database maintenance and tuning and experience working with various commercial databases (relational, object-relational, object, etc. including SQL, Oracle).



Two Software Specialists with masters in software engineering and at least five years commercial promotion experience with project related technologies. Project experience with one or more object-oriented promotion languages in an application server environment and should have knowledge of software design processes. And should have skills in GUI applications, database applications, database APIs, security APIs, Web technologies including J2EE, .Net C#, asp, technologies etc. Experience in designing and implementing XML based solutions.

A. Functional Competencies

- All experts deployed to this assignment requires to have outstanding communication skills
- Positive and constructive approaches to work with energy
- Demonstrate openness to change and ability to receive and integrate feedback
- Excellent written and verbal communication skills
- Strong time management and meet established time lines.
- Training and hands-on experience in industrial information system development and implementation
- Ability to work under pressure, and to deliver in a timely manner without compromising quality standards;

B. Language and Other Skills

- Excellent knowledge of English, and other languages the system development requires including the ability to write reports clearly and concisely and to set out a coherent argument in presentation and group interactions
- Capacity to facilitate and communicate with different qualification and experience of leaders participating in the training
- Full command of Microsoft applications (word, excel, PowerPoint) and common internet applications

XII. CRITERIA FOR SELECTING THE BEST OFFER

Upon the advertisement of the Procurement Notice, qualified firms are expected to submit both the Technical and Financial Proposals. Accordingly; firms will be evaluated based on Cumulative Analysis as per the following scenario:

- Responsive/compliant/acceptable, and
- Having received the highest score out of a pre-determined set of weighted technical and financial criteria specific to the solicitation. In this regard, the respective weight of the proposals are:
 - a. Technical Criteria weight is 70%
 - b. Financial Criteria weight is 30%

Summary of Technical Proposal Evaluation		Score Weight	Points Obtainable
1	Expertise of Firm / consultant	30%	300
2	Proposed Methodology, Approach and Implementation Plan	40%	400
3	Management Structure and Key Personnel 30%		300
	TOTAL	100%	1000

Technical Proposal Evaluation		
Expertise	Points Obtainable	
1.1	Reputation of Organization and Staff / Credibility / Reliability / Industry Standing	50
1.2	General Organizational Capability which is likely to affect implementation - Financial Stability - Loose consortium, Holding company or One firm - Age/size of the firm - Strength of the Project Management Support - Project Financing Capacity - Project Management Control	90
1.3	Extent to which any work would be subcontracted (subcontracting carries additional risks which may affect project implementation, but properly done it offers a chance to access specialized skills.)	15

4.4		25
1.4	Quality assurance procedure, warranty	25
1.5	Relevance of:	120
	- Specialized Knowledge related to the assignment	
	- Experience on Similar Programme / Projects	
	- Experience on Projects in the Region	
	- Work for UNDP/ major multilateral/ or bilateral programmes	
	SUB TOTAL	300
Propos	ed Methodology, Approach and Implementation Plan	
2.1	To what degree does the Proposer understand the task?	30
2.2	Have the important aspects of the task been addressed in sufficient	25
	detail?	
2.3	Are the different components of the project adequately weighted relative to one another?	20
2.4	Is the proposal based on a survey of the project environment and was this data input properly used in the preparation of the proposal?	55
2.5	Is the conceptual framework adopted appropriate for the task?	65
2.6	Is the scope of task well defined and does it correspond to the TOR?	120
	Is the presentation clear and is the sequence of activities and the	
2.7	planning logical, realistic and promise efficient implementation to	85
	the project?	
	SUB TOTAL	400
Manag	ement Structure and Key Personnel	
3.1	Task/Project Manager / Team Leader /	
	General Qualification	
	Suitability for the Project	
	- International experience	25
	- Training experience	20
	- Professional experience in the area of specialization	45
	- Knowledge of region	30
	- Language qualification	20
	SUB TOTAL	140
3.2	Senior Expert(s) / Lead Consultant(s)	
	General Qualification	
	Suitability for the project	
	-Deploying the required mix of senior expertise indicated in the TOR	20
	- International experience	15
	- Training experience	15
l i		1.5

6	9
U	Ν
D	Ρ

	- Professional experience in the area of specialization	30
	- Knowledge of the region	20
	- Language qualification	20
	SUB TOTAL	120
3.3	Project Staff/ Associate Consultants General Qualification Suitability for the project	
	-Deploying the required mix of associate expertise indicated in the TOR	
	- International experience	
	- Training experience 5	
	- Professional experience in the area of specialization 7	
	- Knowledge of the region 7	
	- Language qualification 7	
	SUB TOTAL	40
	Aggregate	1000

XIII. RECOMMENDED PRESENTATION OF TECHNICAL PROPOSAL

For purposes of generating quotations whose contents are uniformly presented and to facilitate their comparative review, a prospect firm is given a proposed Table of Contents. Therefore prospective firm Proposal Submission must have at least the preferred contents which are outlined in the Proposal Submission Form incorporated hereto.

XIV. CONFIDENTIALITY AND PROPRIETARY INTERESTS

The firm shall not either during the term or after termination of the assignment, disclose any proprietary or confidential information related to the service without prior written consent. Proprietary interests on all materials and documents prepared by the firm under the assignment shall become and remain properties of the recruiting body (FSMMEIPA). The firm shall agree to the following terms regarding ownership, intellectual property, legal rights and non-disclosure of information:

 \succ The firm agrees that, all documents, materials, softcopies, Source Code, designs, logos, data and reports coming out of its assignment belong solely to the client (FSMMIPA) and are not to be used by the consultant or to be passed over to any third party without prior agreement of the client.

> In particular, the firm agrees that the system that will be developed as part of this assignment solely belongs to FSMMIPA and free of any charge. Hence, FSMMIPA may use the system in any use and may transfer to any other party in the future,

> The Firm will keep confidential all information coming out of its application and/or assignment. This includes all written and non-written information, i.e. meetings and their results,

plans, reports and e-mails. The facilitator will not pass on any information related to the assignment to any third party, either verbally or in writing, without the written consent of the client.

Annex II: List of sub-systems and functionalities

No	Sub system	Functionalities



1	Small and Medium profile	• Register members of the SME profile (SME name ,Address,
	data Registration	sector .sub sector initial capital)
	management sub system	 The system allows to modify and delete the corresponding
		records(SME profile)
		 Verify registration (register their detail information)
		• The system allows the user to filter by their sub sector from
		sme registration
		• Reports aggregate and detail data list, exports to PDF and
		excel format so that farther data process is possible (a list of
2	Training registration	 Register different kind of training i.e (Business management
	management sub system	training, technical training, kaizon training),
		 Managing Training(record, modify and permanently delete
		training record)
		 Managing training given in organization(record, modify and
		permanently delete training list given at a given organization)
		 Managing training request and session(record ,modify,
		permanently delete training request and session)
		 Register training need assessment , impact assessment
		 trainer who give the training and participant from SME
		(record ,delete the trainer
		 Register training need assessment , impact assessment
		 training participant (sme) [record ,modify and delete
3	Industrial extension	 Register of the industrial extension
	registration management sub	 Modify and delete the selected industrial extension data
	system	starting and ending date, record type of extension
4	Exhibition Registration	 Register (record)exhibition and exhibition participant
	management sub system	 Modify and permanently delete the selected exhibition and
		exhibition participant
5	Workplace and building data	 Record work place and building registration.
	registration management sub	 Search and modify work place and building data registration.
	system	 Delete permanently the selected work place and building
6	Technology registration and	 Register and modify the detail of technology and specific
	dissemination management	technology dissemination to the data base
	sub system	 Searching registered technology and technology
		dissemination from the database
		 Permanently delete technology record and specific
		technology dissemination from the data
		 Register, search and modify detail of disseminated
		technology sales to the database.
		 Permanently delete the selected or detail disseminated



7	Market linkage (Opportunity)	• Register, Modify and delete market opportunities record.
	management sub system	 Select industry(SME) for a market opportunity
		Print selected SME report
		 Register market link.
		 Delete SME from a market link.
		 Remove an SME from the selection
8.	Loan and lease financing	 Register SME saving data in to the database
	management sub system	 Modify saving record details.
		 Permanently delete the selected record from the database
		 Record Loan in details and Modify .
		• Permanently delete the selected or detail loan data from the
		data base
		 Attaché business plan document
		Print loan letter
		 Register and modify loan repayment record
		• Permanently delete the selected or detail loan repayment
		data from the data base.
		 Register lease (register machineries data) in detail.
9	Model SME selection	• Register model SME's (detail data of the lists to be published
	management sub system	on directory, all lists can be exported to excel and standard
		data base management tools)
		• Search engine(the system allows the user to search model SME)
		 Modify selected model (the system allows the user to modify
		selected model SME information)
		Register developed technology prototype
		• Permanently delete the selected or detail SME record from
		the database(the system allows the user delete the selected
		or detail data from the database)
		• Manage attachment of additional information of model SME
10	Promoted SME registration	Register SME transition from Small to medium and medium
	management sub system	to large scale record.
		• Search transition SME recorded data from the data base as
		per user need
		• Modify and delete the selected transition SME recorded



11	SME follow up management sub system	 Search SME and print follow-up form. Register SME Follow- up result (search SME follow –up number, modify SME product record and permanently delete the selected or detail data). Evaluate progress. Give consultancy service. Register SME problem encounter (search SME, insert SME problem encounter record, modify SME follow –up resulted record).
11	Content management subsystem (lookups)	 Register look up contents(notifications, announcements, news, actions)
12	Report Generator subsystem	• There are more than 42 different report types that will be generate on PDF files, word file, excel file (some of them will be available by FSMMIPA)
13	Admin subsystems	 Create different user levels, grant privileges, register WoSMMIDOs, details

Annex III: System requirement to be integrated with annex II

The purpose of the Labor market services system is to make the OSSCs⁴ at the woredas more efficient by digitizing and automating their services to job seekers. The LMSS will have the following three components that facilitate the engagement and participation of job seekers, employers and employment agencies in the jobs creation and placement efforts.

- A. <u>An information system for OSSCs staff</u> to support then in delivering all services provided by the job centers, which include performing the registration of jobseekers and vacancies, matching job seekers and vacancies, and following-up on a jobseekers' cases. This system is also to automate the registration of enterprises and services they get from woreda
- B. <u>An online OSSCs for self-service to job seekers, employers, enterprises and employment agencies,</u>. This *delivers* the services of the OSSCs over an online platform, which allows for a self-service delivery to job seekers and employer to including self-registration, uploading vacancies, providing career advisory guides, registering for career counselling and related events.
- C. <u>A National Jobs Portal</u> that will aggregate and centralize vacancies (from existing job listing portals and those directly posted by employers at the Job Portal) and help job seekers apply for jobs and employers post their vacancies online.

Requirements: the functional requirements provided below are a high-level description, and the functional details should be further discussed on regular basis with the team once the vendor is selected and the project is kicked-off.

Functional requirements

1. Platforms

The system shall be accessible on the following platforms.

- A. Native Android mobile app
- B. Web app (optimized for mobile devices) accessible through a browser

2. User profiles

The system shall enable the following user profiles and address their information needs.

⁴ OSSC are to mean one stop service centers which are offices at wereda level that responsible on the registration of job seekers, establishments of enterprises, job matching and providing other services to citizens.



- A. OSSC staff: register job seekers and vacancies, match them and provide career counselling and other support to job seekers. Job counselling will be provided in person. However, job centre staff need to be able to:
 - i. register job seeker, employers and post vacancies
 - ii. use the Job Portal to refer job seekers to vacancies and apply for jobs on behalf of the jobseeker
 - iii. add information about services provided to the job seeker, add comments and notes about the job seeker (e.g. after counselling or after follow up)
 - iv. access information about job seeker and employer (e.g. information collected during registration, information about services provided)
- B. Job seekers: register online or at OSSCs in search of jobs and careering development guidance. Job seekers need to be able to:
 - i. register online
 - ii. book an appointment at the job centre
 - iii. access their profile online (information added by the job seeker counsellor, information about vacancies they were referred to etc)
 - iv. use Job Portal to search and apply for jobs
 - v. view websites with job search and labour market information
- C. Employers: post their vacancies on the system and look for suitable job seekers. Employers need to be able to:
 - i) register with the system online
 - ii) post vacancies online
 - iii) book an appointment at the job centre
 - i) access their profile online (information added by the employer counsellor, information about job seekers that applied for their vacancy etc)
 - ii) view websites with recruitment and labour market information
- D. Employment agencies: post vacancies on behalf of their clients (employers) and look for suitable job seekers. The features for employment agencies similar to employers as stated on above.

3. Informative pages

The system shall have the following informative pages.

- A. About Jobs Creation Commission
- B. LMIS and how it works
- C. Information about #etworks and how it works
- D. Information about the Job Centres, their location and the services they provide
- E. Information about private providers and the services they provide
- F. Contact us, basic info and direction



- G. A page where users can follow the tweets/posts of JCC accounts by pulling this info from the official JCC sites
- H. Terms and conditions, and privacy policy
- I. FAQs
- J. A user manual so that users can learn about the system and its features

4. Authentication

- A. The system shall authenticate users before they obtain access (i.e. log in) to it.
- B. Based on predetermined roles/privileges of users, the system shall reveal and hide some modules of the system.
- C. The system shall have a page where first time users agree to the terms and conditions of using the system including data sharing and privacy agreement.
- D. Wereda/OSSC staff shall only see content relevant for their wereda/zone/city/region based on their profile which is created based on the position of the employee. However, they can also choose to see content at national level.

5. Job seeker registration and profile management

A. The system shall have two job seeker registration steps.

a) An initial registration that takes two minutes and requires the job seeker to create login and password, and answer a few questions.

b) The system shall enable the job seeker to continue with the full registration online and answer more questions, or make an appointment with the Job Centre in order to finish the registration at the OSSC.

- B. The system should assign an employee of the job centre to the job seeker upon registration.
- C. They system shall inform job seekers that by continuing the registration online they will be able to avoid registration at the OSSC, save time and receive other services faster.
- D. For those who do not complete the registration online, the system shall inform job seekers that by answering the first few questions they will be able to book a timeslot for full registration and skip the queue at the OSSC.
- E. The system shall ask those job seekers who choose to continue with the registration questions about their education, experience, vulnerabilities and job preferences.
- F. The job seekers shall be automatically profiled based on the information s/he provided and a set of pre-specified conditions.
- G. The system shall enable job seekers to upload their CVs.
- H. If job seekers are not able to upload their CVs to the system, it will inform them they can bring their CVs to the appointment at the OSSC.



- I. The system shall allow any job seeker to register by providing basic information such as photo, credential scan copy (e.g. diploma), and other documents either at OSSCs or online.
- J. The system shall enable job seekers to schedule an appointment with OSSC staff.
- K. Those job seekers who choose to make an appointment with a OSSC will be asked by the system to choose a OSSC they would like to register with and will be offered a time slot.
- L. Job seekers booking an appointment with a OSSC shall receive a confirmation email with a link to the useful parts (e.g. job portal) and content of the system (e.g. how to write a CV, how to give an interview).
- M. Job seekers shall be able to amend their profile information whenever necessary.
- N. The mobile app shall enable job seekers and OSSC staff to capture data offline and send it when the device is connected to the Internet later.
- O. The system shall capture the historical activities of the job seeker and their timing (e.g. vacancies applied to, jobs matched to, jobs obtained, training provided via system and taken by the job seeker, events and career counselling sessions registered to and attended). And the job seeker should be able to view some of these information when logged into to the system.
- P. The system shall enable OSSC staff to edit job seekers' historical timeline of activities.
- Q. Jobseekers should be able to see job search information and LMI (tailored to the needs of the jobseeker)

6. Employer registration and profile management

- A. Employers shall be able to register themselves and post their vacancies either online or through the interface for OSSC users, which is a same process of registration as online but it's carried out by an employee of the job centre rather than by employer
- B. Employers shall be able to amend their profile information whenever necessary.
- C. Employers shall be able to view information about job seekers who applied for their vacancy and information added to their profile by the employees of the job centre.

Employers should be able to see recruitment information and LMI (tailored to the needs of employer)

7. Employment agency registration and profile management

- A. Agencies shall be able to register themselves either online or through OSSC assistance using the OSSC employees user interface.
- B. Agencies shall be able to amend their profile information whenever necessary.

8. Job seeker identification:

A. Phone number, birthdate and grandfather name shall be used to uniquely identify a job seeker.



B. The system shall allow job seekers or OSSC staff to electronically generate and print a job seeker ID.

9. Skill assessment and profiling:

- A. The system shall enable job seekers to perform skill assessment either online or through the assistance of OSSC staff.
- B. Based on pre-set skill assessment logic, the system shall assess job seekers' skills and profile them accordingly.
- C. The system shall group all job seekers who complete full registration into three streams: wage employment, self-employment & entrepreneurship, and overseas employment based on their indicated preferences (the preferences can be changed at a later stage).
- D. The system shall allow OSSC staff to override the above job seeker classification.
- E. The system criteria used to classify the job seekers are to be defined but will likely include:
 - Demographic data: age, gender, geographical location, civil status, family responsibilities, disability, migration status, affiliation to a minority group
 - Employment and skills related assets: skills and qualifications, education level, work experience (also as compared to potential experience), length of unemployment
 - Other non-employment related factors: housing, health problems, availability of affordable child-care services
- F. All job seekers that are interested in following the waged employment path, after finishing the registration, shall see a screen with links to materials about:
 - How to choose a career? together with a tool that helps job seekers assess their skills, interests
 and motivations (activities one is good at, work they are interested in, how they prefer to work,
 what they want from work this follows the tests offered by the UK Career Service)
 - How to look for a job? adapted to Ethiopian context, this will also contain a link to the Job Portal with information how to use it
 - How to prepare a CV? together with a tool that creates the CV for job seekers after they answer some questions.
 - Benefits of providing references together with a template of a reference letter
 - How to prepare a cover letter?
 - How to prepare for a job interview?
 - How to dress for a job interview?
 - Trainings and services provided by the private sector

- G. All job seekers that are interested in following the waged employment path, after finishing the registration, shall see a screen with links to a website that, after choosing a profession, will show information about:
 - Description of responsibilities for the profession
 - Pay at the profession
 - Job opportunities for the profession (chances of getting a job)
 - Qualifications required for the profession
 - Length of training for the profession
 - Work conditions for the profession
 - Career prospects for the profession (progression)

10. Career advice and guides

- A. Based on job seekers' profile, the system shall suggest services that the job seeker can sign up for and receive at the OSSC.
- B. The system, via email or mobile text, shall send a confirmation to job seekers upon successful registration for a service
- C. Ready-made and general career advice should also be delivered to the job seekers either through scheduled meetings or via online documentation and links.
- D. The system shall also send a calendar invite to job seekers that register for scheduled services.

11. Counselling/training delivery

- A. The system shall have unrestricted content (e.g. how to write a CV, how to give an interview) that is accessible to anyone with Internet access.
- B. The system will provide restricted services which will be mostly provided in person (counselling, training). From the IT system point of view there will be constraint access to signing up (online) for these services. However, all information on websites etc will be provided in an unrestricted way.
- C. Only some job seekers will be able to sign up for more intense services (counselling, training). But the service will be provided at the job centre/OSSCs and then the information that the job seeker participated in a services will be added to job seeker's online account by an employee of the job centre/OSSC
- A. The system shall enable OSSC staff (counsellors) to update the system with the completion and successfulness of a counselling session or career event following the registration of a job seeker for such a session.



12. Job portal

- A. The system shall aggregate and centralize online vacancies for ease of access.
- B. The system shall enable OSSC staff to register vacancies.
- C. The system shall enable employers to post their vacancies to the portal.
- D. The system shall enable employment agencies to post their vacancies to the portal.
- E. The system shall enable job seekers, OSSC staff, employers and employment agencies search for and filter vacancies.
- F. The system shall list the Commission's stakeholders, their logos and contact addresses on the main page.
- G. Clicking on the logos or names of the Commission's logos shall redirect the user to the stakeholder's webpage in a new browser tab (session).

13. Job matching, placement, linkage and tracking

- A. The system shall allow job seekers and jobseeker counsellor (on behalf of the job seeker) to apply to jobs posted on the job portal. Aggregated jobs are excluded.
- B. The system shall allow jobseeker counsellor to refer a job seeker to a vacancy. Referal means that the jobseeker counsellor suggest to the job seeker that a vacancy may be suitable for her/him and the job seeker decides if to apply for this vacancy.
- C. The system shall propose possible job matching to the user.
- D. OSSC staff, employers, employment agencies can update the status of the job seeker's application status.
- E. The system shall enable job seekers to update their employment status.
- F. The system shall enable OSSC staff to filter job seekers and link them to employers and agencies as potential applicants.
- G. The system shall enable employment agencies and employers to:
 - a. List applicants per vacancy
 - b. Filter and search for job seekers per their custom search criteria
 - c. Obtain an automated list of proposed job seekers for a vacancy
 - d. Access job seekers' contact information.
 - e. Consult Wage Employment form 003-2 fields
 - f. Consult Overseas form 003-4
 - g. Consult Enterprise model form 006-3
 - h. Consult Enterprise profile status change form 003-1

14. Notification

UN DP

The system shall notify job seekers up on the following instances using text and/or email:

- A. Registration
- B. On scheduled career advice
- C. Possible job matching
- D. Account management
- E. On successful completion of career counselling
- F. On successful completion of services delivery with possible attachment of electronic documentation
- G. Job placement status with an additional alert to update OSSC staff if there is any change in status.

15. Data collection

- A. The system shall enable data collection in offline mode; hence agents should be able to collect using the below forms even when the internet is not working. The system shall sync the data accordingly when the internet is back.
- B. Whenever possible, the system shall use drop-down menus in data collection forms in order to standardize data entry and improve data quality.
- C. The system shall enable data collection through the following forms.
 - OSSC profile collection form 001
 - Enterprise profile form 003-1 should be linked to registered job seekers (note that some forms below that revolve around enterprises cross cut with this one, hence one form should be in place that allow the data capture process to be seamless from different data input providers with appropriate roles/responsibilities)
 - Enterprise work premises form 006-1
 - Enterprise Youth revolving fund form 006-3
 - Center of excellence/career centers- 009-1
 - Center of excellence/career centers trainees list 009-2
 - Incubation center 010-1
 - Incubation center counselled/Trained list 010-2
 - Machinery Lease requestors enterprise list 011
 - Machinery Lease beneficiary enterprise list 012
 - Market linkage Cooperatives with enterprise list 013
 - Foreign Market linkage enterprise list 014
 - Technology Prototype list 015
 - Scaled up technology prototype list 016
 - Federal and regional research papers list 017

• Training delivery for non-job seekers - form 005

16. Report generation

- A. The system shall allow users with privileges to filter/search/scope/categorize/sort and download reports in different file formats (pdf, word, excel, csv, ...)
- B. The system shall enable users to generate the following reports on.
 - Total number of users of the system
 - Total number of new monthly users
 - Employer/agency with their job vacancy statistics
 - Available career advice with statistics on applicant statistics
 - Counselling statistics
 - Job matching, placement, tracking
 - Training delivery for job seeker and enterprise (details on their members)
 - Tracking
 - Wage employment form 003-2 fields should be consulted
 - Wage employment form 003-3 fields should be consulted
 - Statistical and detail report on
 - Jobseekers
 - Vacancies
 - Linkages (job seekers who found jobs?)

C. Report on data collection forms/services:

- The system shall enable collection of data through the following forms.
- The system shall enable users to obtain reports from the data collected through the following forms. The system shall manage use access and privileges to data based on the users' profile
 - OSSC profile form 002
 - Enterprise profile form 003-1
 - Enterprise profile summary form 004
 - Enterprise service reports form 003-1
 - Enterprise saving and loan summary form 006-2
 - Enterprise work premises form 006-1
 - Enterprise Youth revolving fund summary form 006-4

- Enterprise Market linkage summary form 006-5
- Training delivery for non-job seekers form 005
- Enterprise model form 007
- Job seeker summary 008-3
- Center of excellence/career centers- 009-1
- Center of excellence/career centers trainees list report- 009-2
- Incubation center 010-1
- Incubation center counselled/Trained list 010-2
- Machinery Lease requestors list 011
- Machinery Lease beneficiary enterprise list 012
- Market linkage Cooperatives with enterprise list 013
- Foreign Market linkage enterprise list 014
- Technology Prototype list 015
- Scaled up technology prototype list 016
- Federal and regional research papers list 017

17. Language requirements

- A. The system user interface for OSSC staff, job seekers, employers and employment agencies shall be in the following languages:
 - English
 - Amharic
 - Oromifa, and
 - Tigrigna
 - > Afar
 - Somali
- B. The platform's administrative panel shall be only in English.

18. Admin module

- A. The system shall easily allow administrators to add language packages whenever there is a need to scale up the system to other languages without the need to release a new app version or assistance of a software engineer.
- B. Administrators shall be able to manage accounts, roles and assign appropriate user privileges to different modules of the system per OSSC /wereda level based on the hierarchy.
- C. The system shall allow administrators to generate statistics reports on all users and user groups.



- D. The system shall enable administrators to configure and/or amend regions, zone and wereda names, other dropdown menus in the system, and the system shall be able to automatically use them.
- E. The system shall enable administrators to set up API for third parties so they can access the platform's data directly.
- F. The system should allow admin or other users with privileges to filter/search/scope/ download/sort raw data access from the system based on privilege and role. This can be used for many purposes including:
 - Data on job seeker (training given or not)
 - Vacancy
 - Linkage
- G. The system shall allow administrators to update and maintain the list of the Commission's stakeholders, their logos and contact addresses.
- H. The system shall track and maintain audit log of user activities in the system.

Non-functional requirements

1. System hosting requirements

The system and its data shall be hosted on the Cloud. The Vendor is required to specify the hosting arrangements and include in its project price quotation the hosting fees for four years.

2. Technology requirements

The Vendor is preferred if it

- A. Uses open source (non-proprietary and free of charge) software and technologies all front, middleware and back-end components of the systems.
- B. Design and build a new platform using freely available technologies.

3. Project deliver methodology

The Vendor is required to adopt an agile methodology in executing the project. Accordingly, the Vendor shall work on deliverables iteratively, obtain feedback from the Commission on deliverables and implement them on the project quickly.

4. End user training and support

A. The Vendor, in addition to a detailed user manual, shall train selected staff of the Commission as trainers (training of trainers).



- B. The vendor shall provide one year of system support to the Commission after the completion of the system pilot.
- C. The vendor shall provide system warranty for a year and half following the completion of the system pilot. During this period the vendor shall fix all system issues without additional charge. This support shall not include the implementation of additional requirements.

Note: The data collection forms will be shared during the start of the service.