

TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING AUTHORITY

TERMS OF REFERENCE

TENDER NAME:

SUPPLY, CONFIGURATION, TESTING, DELIVERY AND COMMISSIONING OF ERP SYSTEM, ONLINE SERVICE PORTAL (TVET MIS) AND ASSOCIATED HARDWARE

TENDER NUMBER:

TVETA/T02/EOIERP/2024

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List of Abbreviations

API - Application Programming Interface

CEO - Chief Executive Officer

EOI - Expression of Interest

ERP - Enterprise Resource Planning

FOFO - First In First Out

HELB - Higher Education Loans Board

ICT - Information Communication Technology

IPRS - Integrated Persons Registry System

ISO - International Standard Organisation

KUCCUP - Kenya Universities and Colleges Central Placement Service

LAN - Local Area Network

LPO - Local Purchase Order

LSO - Local Service Order

MIS - Management Information System

ODeL - Open, Distance and e-Learning

PWD - Persons Living with Disability

RFP - Request for Proposal

SCM - Supply Chain Management

SLA - Service Level Agreement

SMS - Short Message Service

SOP - Standard Operating Procedures

SRS - Software Requirement Specification

SSL - Secure Sockets Layer

TVET - Technical and Vocation Education and Training

TVETA - TVET Authority

VPN - Virtual Private Network

WAN - Wide Area Network

1.0 Background

The Technical and Vocational Education and Training Authority (TVETA) is a State Corporation established under the Technical and Vocational Education and Training (TVET) Act No. 29 of 2013. It is a regulatory government agency whose mandate is to regulate and coordinate the TVET sub-sector through inspection and accreditation of institutions, training programs, and trainers; development of TVET standards; recognition and equation of TVET qualifications awarded by local or foreign institutions as well as assure access, quality, equity, and relevance in education and training. The Authority's strategic plan for 2023 – 2027 has a strong digital transformation pillar on which this project is anchored.

1.1 Current ICT Environment

The Authority has an elaborate Wide Area Network (WAN) network that connects three of its regional offices in Mombasa, Kisumu, and Eldoret to its headquarters in Nairobi. There are plans to establish other regional offices. The Nairobi office and the three regional offices have a strong Local Area Network (LAN) that connects their respective staff offices and workstations. All the offices are connected to the Internet.

There is a legacy Enterprise Resource Planning (ERP) system that automates processes in finance management, human resource management, and supply chain management. Currently, staff access the existing legacy ERP system through WAN and from the internet using a secure remote connection tool. The current number of staff in the Authority is 80, but this number may increase in the future as more regional offices are expected. All the employees in the Authority are eligible for self-service features in the current systems and this is expected to continue in the proposed ERP system. In addition, the Authority has a web-based online service portal (*the online service portal is branded as "TVET MIS" throughout this document*) which automates applications by clients for specific core services that are offered by the Authority (visit http://mis.tveta.go.ke). Currently, the Authority is implementing a bulk SMS solution that has the necessary API interface to integrate with any other internal or external system to enable SMS notifications and SMS short code inquiries. Thus, the bulk SMS platform will be operational before the start date of this project. The number of ICT officers responsible for managing the ICT environment is four (4).

1.2 Business Process Documentation and Business Process Re-Engineering

The TVET Authority is ISO 19001-2015 certified with well-defined processes (as-is) that guide various activities in technical departments and support departments. The as-is processes are well documented in Standard Operation Procedures (SOPs) manuals and aligned with workflows in existing legacy systems. The as-is processes are audited annually by the internal ISO audit team to identify any process gaps that require improvement. Ideally, the proposed systems under this project will be configured to align with the current ISO procedures – "as-is" processes. However, the Authority understands that there may be instances where a business process reengineering ("to-be" processes) may need to be done to align some business processes with the workflow in the proposed systems. If such instances or needs arise, the review and documentation of the "to-be" processes during business process reengineering will be done by TVETA's internal team.

2.0 Objective of the Project

The objective of this project is to replace the two existing legacy systems namely; the legacy ERP system and the legacy TVET MIS with a robust ERP system and a well-designed web-based TVET MIS that could integrate with systems owned by other government agencies, payment gateways (banks, mobile wallets, eCitizen, etc.), etc. In this regard, two highly integrated systems will be delivered – an ERP system and a web-based TVET MIS together with associated software and hardware.

The two systems will be integrated with other 3rd party managed systems e.g. ICT systems owned by other government agencies, payment gateways (banks, Mobile Money Wallets, eCitizen, etc.), email systems, bulky SMS solutions, etc. The web-based TVET MIS shall automate the core services offered by the Authority to the public while the ERP system shall automate processes in financial management, human resource management, supply chain management, and office administrative services. The infrastructure shall be on-premise and thus the appropriate hardware i.e. two servers, server accessories, operating systems, databases, and utility software that will support effective on-premise hosting of the two systems shall also be supplied, configured, tested and commissioned as part of the project.

3.0 List of In-Scope Deliverables (Scope of Work)

The deliverables in the project comprise supply, configuration, testing, delivery and commissioning of:

- a) A web-based TVET MIS
 - **Note:** The source code, database schema and designs for TVET MIS shall be handed over to the Authority, and thus, the successful tenderer *SHALL NOT own any copyright/license* to the source code and database schema or the designs;
- b) An ERP system;
 - **Note:** The database credentials and root user account will be handed over to the Authority.
- c) Internal and external integrations that support APIs;
- d) Hardware and accessories two physical servers, operating systems, database software & utility software necessary for the effective hosting of the deliverables (a), (b) and (c);
- e) List of licenses required for deliverables (b), (c) and (d) to ensure effective implementation;
- f) Enforcement of data security, data privacy and redundancy in the design and configuration of deliverables (a), (b), (c), and (d);
- g) Data cleanup, data conversion and data migration from legacy systems to the proposed systems;
- h) End-user training;
- i) Technical training and knowledge transfer to ICT staff;
- j) Detailed system documentation e.g. system design documents, user manuals, database schema, etc.;
- k) System warranty period of not less than 1 year;
- 1) Service Level Agreement (SLA) commencing after the warranty period.

Project Timeline: Completion of all the in-scope deliverables shall not take more than 8 months after the start date.

4.0 Description of In-Scope Deliverables (Scope of Work)

This section summarizes the expected functionality and capability of the proposed systems to guide tenderers' responses to the Expression of Interest (EOI). Detailed documentation of the software requirements specification (SRS); workflow diagrams; security requirements, and system integration parameters (APIs), etc. will be provided during the request for proposal stage. The summarised functional requirements and specifications of each deliverable are presented in subsections 4.1 to 4.12 below.

4.1 Supply, Configuration, Testing, Delivery and Commissioning of TVET MIS

The proposed web-based TVET MIS will automate core services offered by the Authority to the public as provided in the TVET Act No. 29 2013 and applicable TVET standards. The key clients that seek TVETA services include TVET institutions, trainers in the TVET sector, anyone who wishes to have his TVET qualification recognized and equated in Kenya, curriculum developers in the TVET sector, etc. The web-based TVET MIS system is revenue-generating and thus its ability to integrate with the most commonly used payment channels is a mandatory requirement in this project. The table below summarizes the in-scope processes (services) for the proposed TVET MIS namely; the process/service description, clients/users, process input (input data), process output (reports and data analytics), internal and external integrations, and workflow controls.

Table 1: List of business processes in TVET MIS

Process/Services Description	Clients & Internal Users	Process Input	Process Output	Internal & External Integration	Workflow Controls
	nd Licensing Proc	esses		integration	
Application by institutions for accreditation: • vocational training centers, • technical & vocational colleges, • technical trainer colleges • National Polytechnics • Special TVETS	Institutions (local or foreign)- process initiator Records management officers Accreditation Officers Head of Accreditation Services	 Submission of an online application form by applicants Applicants attaching documentary evidence in support of the application Accreditation officers undertaking inspection, completing an online inspection form and submitting a report to the Board 	Accreditation certificate or license with QR code for online verification Several quarterly analytical reports (data analytics dashboard)	Payment gateways (eCitizen, Mobile Wallet, Banks) eCitizen Single Sign-on Finance receivable module in ERP (Customer registration, invoice generation, receipt generation, customer statement of account, etc.) Bulky SMS solution to enable client notifications	A 3-level sequential approval workflow is expected. The Head of Accreditation Services shall approve final changes in this process as the final approver
Maintenance of the register for accredited institutions and closed institutions	Accreditation Officers - process initiator Head of Accreditation Services	Institutions issued with certificates of accreditation or licenses	A Register of Accredited Institutions Several quarterly analytical reports (data analytics dashboard)	None	A 1-level sequential approval workflow is expected. The Head of Accreditation Services shall approve final changes in this process as the final approver
Renewal of accreditation by institutions after expiry of accreditation or license.	Institutions (local or foreign) - process initiator Records management officers Accreditation Officers	Submission of an online application form by applicants Applicants attaching documentary evidence in support of the application Accreditation officers undertaking inspection, completing an online inspection form and submitting a report to the Board	Accreditation certificate or license with QR code for online verification Several quarterly analytical reports (data analytics dashboard)	Payment gateways (eCitizen, Mobile Wallet, Banks) Citizen Single Sign-on Finance receivable module in ERP (Customer registration, invoice generation, receipt generation, customer statement of account, etc.) Bulky SMS solution for client notifications	A 3-level sequential approval workflow is expected. The Head of Accreditation Services shall approve final changes in this process as the final approver

Process/Services Description	Clients & Internal Users	Process Input	Process Output	Internal & External Integration	Workflow Controls
	Head of Accreditation Services				
Application by institutions to introduce new (additional) training programmes	Institutions (local or foreign) - process initiator Records management officers Accreditation Officers Head of Accreditation Services	Submission of an online application form by applicants Applicants attaching documentary evidence in support of the application Accreditation officers undertaking inspection, completing an online inspection form and submitting a report to the Board	Accreditation certificate or license with QR code for online verification Several quarterly analytical reports (data analytics dashboard)	Payment gateways (eCitizen, Mobile Wallet, Banks) eCitizen Single Sign-on Receivable module in ERP (Customer registration, invoice generation, receipt generation, customer statement of account) Bulky SMS solution for client notifications	A 3-level sequential approval workflow is expected. The Head of Accreditation Services shall approve final changes in this process as the final approver
Application by institutions for expansion of student enrolment	Institutions (local or foreign) – process initiator Records management officers Accreditation Officers Head of Accreditation Services	Submission of an online application form by applicants Applicants attaching documentary evidence in support of the application Accreditation officers undertaking inspection, completing an online inspection form and submitting a report to the Board	Accreditation certificate or license with QR code for online verification Several quarterly analytical reports (data analytics dashboard)	Payment gateways (eCitizen, Mobile Wallet, Banks) eCitizen Single Sign-on Finance receivable module in ERP (Customer registration, invoice generation, receipt generation, customer statement of account, etc.) Bulky SMS solution for client notifications	A 3-level sequential approval workflow is expected. The Head of Accreditation Services shall approve final changes in this process as the final approver
Application by institutions to offer ODeL Programmes (ODeL Centers)	Institutions (local or foreign) - process initiator Accreditation Officers Records management officers Head of Accreditation Services	Submission of an online application form by applicants Applicants attaching documentary evidence in support of the application Accreditation officers undertaking inspection, completing an online inspection form and submitting a report to the Board	Accreditation certificate as an ODeL centre with a QR code for online verification Several quarterly analytical reports (data analytics dashboard)	Payment gateways (eCitizen, Mobile Wallet, Banks) eCitizen Single Sign-on Finance receivable module in ERP (Customer registration, invoice generation, receipt generation, customer statement of account, etc.) Bulky SMS solution for client notifications	A 3-level sequential approval workflow is expected. The Head of Accreditation Services shall approve final changes in this process as the final approver
Application by institutions for accreditation as Center of Excellence for specific training programme(s)	Institutions (local) -process initiator Records management officers Accreditation Officers Head of Accreditation Services	Submission of an online application form by institutions Applicants attaching documentary evidence in support of the application Accreditation officers undertaking inspection, completing an online inspection form and submitting a report to the Board	Accreditation Certificate as Center of Excellence for the specific training programme(s). There will be a QR code for online verification Several quarterly analytical reports (data analytics dashboard)	Payment gateways (eCitizen, Mobile Wallet, Banks) eCitizen Single Sign-on Finance receivable module in ERP (Customer registration, invoice generation, receipt generation, customer statement of account, etc.) Bulky SMS solution for client notifications	A 3-level sequential approval workflow is expected. The Head of Accreditation Services shall approve final changes in this process as the final approver
Application by an institution for accreditation as a Recognition of Prior Learning (RPL) centre	Institutions (local) -process initiator Records management officers	Submission of an online application form by applicants Applicants attaching documentary evidence in support of the application Accreditation officers undertaking	Accreditation Certificate as RPL centre with QR code for online verification Several quarterly analytical reports	Payment gateways (eCitizen, Mobile Wallet, Banks) eCitizen Single Sign-on Finance receivable module in ERP (Customer registration, invoice generation, receipt	A 3-level sequential approval workflow is expected. The Head of Accreditation Services shall approve final changes in this process as the final approver

Process/Services Description	Clients & Internal Users	Process Input	Process Output	Internal & External Integration	Workflow Controls
	Accreditation Officers Head of Accreditation Services	inspection, completing an online inspection form and submitting a report to the Board	(data analytics dashboard)	generation, customer statement of account, etc.) • Bulky SMS solution for client notifications	
Application by an institution for approval to re- location	Institution (local) process initiator Records management officers Accreditation Officers Head of Accreditation Services	Submission of an online application form by applicants Applicants attaching documentary evidence in support of the application Accreditation officers undertaking inspection, completing an online inspection form and submitting a report to the Board	Accreditation certificate or license with QR code for online verification Several quarterly analytical reports (data analytics dashboard)	Payment gateways (eCitizen, Mobile Wallet, Banks) Citizen Single Sign-on Finance receivable module in ERP (Customer registration, invoice generation, receipt generation, customer statement of account, etc.) Bulky SMS solution for client notifications	A 3-level sequential approval workflow is expected. The Head of Accreditation Services shall approve final changes in this process as the final approver
Application by individuals to be licensed as TVET trainer	Individuals- process initiator Records management officers Accreditation Officers Head of Accreditation Services	Submission of an online application form by applicants Applicants attaching documentary evidence in support of the application Accreditation officers undertaking inspection, completing an online inspection form and submitting a report to the Board	Trainers License with QR code for online verification Several quarterly analytical reports (data analytics dashboard)	Payment gateways (eCitizen, Mobile Wallet, Banks) Citizen Single Sign-on Registrar of persons- IPRS Finance receivable module in ERP (Customer registration, invoice generation, receipt generation, customer statement of account, etc.) Bulky SMS for client notifications	A 3-level sequential approval workflow is expected. The Head of Accreditation Services shall approve final changes in this process as the final approver
Application by a licensed trainer for renewal of trainer license upon expiry of an existing license	Individuals- process initiator Records management officers Accreditation Officers Head of Accreditation Services	Submission of an online application form by applicants Applicants attaching documentary evidence in support of the application Accreditation officers undertaking evaluation/assessment, completing an online inspection form and making a determination.	Trainers License with QR code for online verification Several quarterly analytical reports (data analytics dashboard)	Payment gateways (eCitizen, Mobile Wallet, Banks) Citizen Single Sign-on Registrar of persons- IPRS Finance receivable module in ERP (Customer registration, invoice generation, receipt generation, customer statement of account, etc.) Bulky SMS for client notifications	A 3-level sequential approval workflow is expected. The Head of Accreditation Services shall approve final changes in this process as the final approver
Application by an individual for Recognition & Equation of local or foreign TVET qualification	Individuals or employers-process initiator Records management officers Accreditation Officers Head of Accreditation Services	Submission of an online application form by applicants Applicants attaching documentary evidence in support of the application Accreditation officers undertaking an online evaluation of the qualification and making a determination.	Certificate of Equation and Recognition Several quarterly analytical reports (data analytics dashboard)	Payment gateways (eCitizen, Mobile Wallet, Banks) e eCitizen Single Sign-on Finance receivable module in ERP (Customer registration, invoice generation, receipt generation, customer statement of account, etc.) Bulky SMS for client notifications	A 3-level sequential approval workflow is expected. The Head of Accreditation Services shall approve final changes in this process as the final approver
Application by curriculum developers for approval of changes in TVET curriculum	Curriculum developers- process initiator Records management officers Accreditation Officers	Submission of an online application form by applicants (curriculum developers) Applicants attaching documentary evidence in support of the application Accreditation officers undertaking	Letter/Certificate of Approval of Curriculum Several quarterly analytical reports (data analytics dashboard)	Payment gateways (eCitizen, Mobile Wallet, Banks) eCitizen Single Sign-on Finance receivable module in ERP (Customer registration, invoice generation, receipt generation, customer statement of account, etc.)	A 3-level sequential approval workflow is expected. The Head of Accreditation Services shall approve final changes in this process as the final approver

Process/Services Description	Clients & Internal Users	Process Input	Process Output	Internal & External Integration	Workflow Controls
	Head of Accreditation Services	evaluation/assessment of the proposed changes in the curriculum and making a determination.		Bulky SMS for client notifications	
Application by private institutions for a Letter of No Objection for use as a name of an institution	Private TVET institutions initiator Records management officers Accreditation Officers Head of Accreditation Services	Submission of an online application form by applicants Applicants attaching documentary evidence in support of the application Accreditation officers undertaking online evaluation/assessment of the proposed name and making a determination.	Letter of No Objection Several quarterly analytical reports (data analytics dashboard)	Payment gateways (eCitizen, Mobile Wallet, Banks) Citizen Single Sign-on Citizen- Registrar of company Finance receivable module in ERP (Customer registration, invoice generation, receipt generation, customer statement of account, etc.) Bulky SMS for client notifications	A 3-level sequential approval workflow is expected. The Head of Accreditation Services shall approve final changes in this process as the final approver
Inspection of TVET Institutions by accreditation officers	Accreditation Officers- process initiator Head of Accreditation Services	Online real-time inspection form that allows multiple entry by multiple users at the same time	Inspection report Several quarterly analytical reports (data analytics dashboard)	Note: This report should be unique for each inspection and each institution. The inspecting officers who participated in the inspection should append unique identifiable electronic signatures	A 3-level sequential approval workflow is expected. The Head of Accreditation Services shall approve final changes in this process as the final approver
Appeal by institutions in case an application was not successful. • vocational training centres, • technical & vocational colleges, • technical trainer colleges • National Polytechnics Special TVETS	Institutions (local or foreign)- process initiator Records management officers Accreditation Officers Head of Accreditation Services	Submission of an online application form by applicants Applicants attaching documentary evidence in support of the application Accreditation officers undertaking inspection and completing an online inspection form and submit a report to the Board	Accreditation certificate or license with QR code for online verification Several quarterly analytical reports (data analytics dashboard)	Payment gateways (eCitizen, Mobile Wallet, Banks) eCitizen Single Sign-on Finance receivable module in ERP (Customer registration, invoice generation, receipt generation, customer statement of account, etc.) Bulky SMS solution to enable client notifications	A 3-level sequential approval workflow is expected. The Head of Accreditation Services shall approve final changes in this process as the final approver
Appeal by trainers in case an application was not successful. Compliance and I	Individuals- process initiator Records management officers Accreditation Officers Head of Accreditation Services	Submission of an online application form by applicants Applicants attaching documentary evidence in support of the application Accreditation officers undertaking an evaluation/assessment of the application and making a determination	Trainer license or license with QR code for online verification Several quarterly analytical reports (data analytics dashboard)	Payment gateways (eCitizen, Mobile Wallet, Banks) eCitizen Single Sign-on Finance receivable module in ERP (Customer registration, invoice generation, receipt generation, customer statement of account, etc.) Bulky SMS solution to enable client notifications	A 3-level sequential approval workflow is expected. The Head of Accreditation Services shall approve final changes in this process as the final approver
Maintenance of annual compliance audit work plan	Compliance and Enforcement Officers process initiator Head of Compliance and Enforcement	List of accredited institutions	Annual compliance audit work plan Several quarterly analytical reports (data analytics dashboard)	None	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of Compliance and Enforcement as the final approver
Management of compliance audits	Compliance and Enforcement Officers-	Undertaking compliance audit and completing an online form to capture	Compliance audit reports done per the	Note: The findings of each compliance audit should be mapped to each institution	A 2-level sequential approval workflow is expected.

Process/Services Description	Clients & Internal Users	Process Input	Process Output	Internal & External Integration	Workflow Controls
	process initiator Head of	findings from compliance audit Review and approval of	compliance audit annual work plan Several quarterly		Final changes in this process shall be approved by the Head of Compliance and
	Compliance and Enforcement	the compliance audit report by the Head of Compliance and Enforcement before submission to the Board	analytical reports (data analytics dashboard)		Enforcement as the final approver.
Management of complaints in TVET sector	Complainant (individual or organisation) - process initiator Compliance and Enforcement Officers Head of Compliance and Enforcement	Complainants submitting a complaint through an online form Or receiving emails, and letters through the CEO's office Or Persistent social media posts Compliance officer evaluating the complaint to determine its merit The Head of Compliance and Enforcement	Investigation reports done upon receipt of the complaints Complains register Several quarterly analytical reports (data analytics dashboard)	None	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of Compliance and Enforcement as the final approver
Management of investigations	Compliance and Enforcement Officers- process initiator Head of Compliance and Enforcement	deciding to investigate or not Online form to capture findings from investigations The Head of Compliance and Enforcement reviews the draft report and approves the final report for submission to the Board	Investigation reports done upon receipt of the complaints Several quarterly analytical reports (data analytics dashboard)	Note: The findings of each investigation should be mapped to each institution	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of Compliance and Enforcement as the final approver
Research and Dev	elopment Process	es			
Submission of quarterly returns by institutions. Annual returns comprise of disaggregated datasets on: • Students' enrollment • Training programmes • Trainers & support staff • Students' completion rates • Findings in tracer studies • Etc.	Institutions- process initiator Research Officers Head of Research	Submission of dataset by institutions as prescribed in applicable guidelines Statistical data analysis by research officers	Statistical data on the TVET sector (Statistical dashboard) Several quarterly analytical reports (data analytics dashboard)	Note: Each quarterly return should be mapped to institutions	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of Research as the final approver
Maintenance of research annual work (approved research proposals)	Research Officers- process initiator Head of Research	List of approved research proposals for each financial year	Research report for each approved research proposal Several quarterly analytical reports (data analytics dashboard)	None	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of Research as the final approver
Maintenance of online directory of research reports and TVET statistical	Research Officers- process initiator	Upload final research reports Upload TVET statistical booklets	A subscription- based repository of research reports and	Payment gateway (eCitizen, Mobile Wallet, Banks) to facilitate payment for research reports and statistical booklet	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head

Process/Services Description	Clients & Internal Users	Process Input	Process Output	Internal & External Integration	Workflow Controls
booklet in digital form	Head of Research		TVET statistical booklet Several quarterly analytical reports (data analytics dashboard) e.g. number of downloads, number of views, etc.	which may not be offered free to the public	of Research as the final approver
Standards Develo					
Maintenance of online directory of approved TVET Standards	Standards Development Officers- process initiator Head of Standards Development	Upload approved TVET standards	A repository of TVET Standards Several quarterly analytical reports (data analytics dashboard) e.g. number of downloads, number of views, etc.	Payment gateway (eCitizen, Mobile Wallet, Banks) to facilitate payment for TVET standards before downloading.	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of Standards development as the final approver
Tracking of changes and versions of the approved TVET Standards	Standards Development Officers- process initiator Head of Standards Development	A register of revisions/changes to each TVET Standard	A version control register for each approved TVET Standard Report of change in each version of a standard	None	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of Standards development as the final approver
Outreach Services	Processes				
Maintenance of online directory of educational resource materials – PDFs, word documents, excel documents, videos, audio, PowerPoint presentations, etc.	Outreach services officers- process initiator Head of Outreach Services	Upload of educational resource materials	Downloadable educational resource materials on the portal. Several quarterly analytical reports (data analytics dashboard) e.g. number of downloads, number of views, etc.	None. Individuals who wish to access the materials will be required to sign up before downloading the materials from the online directory.	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of Outreach Services development as the final approver
Strategy and Plann	ing Processes				
Maintenance of: strategic plan, Authority's annual work plan performance contract	Process owners-process initiator Strategy and Planning Officers	Approved annual work plan and PC targets Quarterly update of activities done against the Authority's annual work plan and PC targets Upload of evidence that supports completion of	Quarterly reports on the status of completion of items in the: • Annual work plan • Performance Contract	None	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of Strategy & Planning development as the final approver.
	Strategy & Planning	each activity	Several quarterly analytical reports (data analytics dashboard)		
Monitoring and evaluation of departmental work plans	Process owners-process initiator Strategy and Planning Officers	Annual departmental work plan for all the departments. Upload of evidence that supports completion of each activity Evaluation/Assessment reports done by Strategy	Quarterly reports on the status of completion of items in the Departmental work plan Several quarterly analytical reports	None	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of Strategy & Planning development as the final approver

Process/Services Description	Clients & Internal Users	Process Input	Process Output	Internal & External Integration	Workflow Controls
	Head of Strategy & Planning	& Planning Officers for each departmental work plan	(data analytics dashboard)		
Monitoring and evaluation of compliance with internal policies	Process owner- process initiator Strategy and Planning Officers Head of Strategy & Planning	List of approved internal policies Upload of evidence that supports compliance with each policy statement (as applicable) Evaluation/Assessment of the level of compliance for each internal policy by the strategy and planning officers	Annual reports on the compliance levels for each of the approved internal policies.	None	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of Strategy & Planning development as the final approver
Public Relation Pro	ocesses				
Online directory for digital copy of TVET Magazine	Public Relations Officers- process initiator Head of public communication	Upload of a softcopy of TVET Magazine and Newsletters	A repository of digital copies of TVET magazine Several quarterly analytical reports (dashboards) e.g. number of downloads, number of views, etc.	Payment gateway (eCitizen, Mobile Wallet, Banks) to facilitate payment for TVET Magazine before downloading.	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of public communication as the final approver
System Administra	ation Processes				
User management	Process ownerprocess initiator ICT Officers Head of ICT	User details (addition, update, deletion, archive, etc.)	User activity reports – objects created, changed, deleted, etc.	None	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of ICT
Access control and privilege management	Process ownerprocess initiator ICT Officers Head of ICT	Access control matrix	Access logs reports (success & failure)	None	Final changes in this process shall be approved by the Head of public communication
Monitoring of system performance	ICT Officers Head of ICT	Performance parameters/indicators	Data analytics on the parameters of the system	None	None
Database tuning and patching	ICT Officers Head of ICT	Set performance parameters	Database performance analytics	None	None
Backups and recovery management	ICT Officers Head of ICT	Backup schedule (daily, Weekly, Monthly)	Backup completion/status reports	None	None

4.2 Supply, Configuration, Testing, Delivery and Commissioning of ERP System

The ERP system will automate processes in support departments in the Authority namely; finance management and accounting processes, human resource management processes, and supply chain management processes. The key users of the ERP system are employees in the departments mentioned above. For the self-service feature, the users are employees (employees' portal-store requisition, purchase requisition, expense claim, imprest warrant applications, etc.), suppliers (supplier portal) and job applicants (online job application portal).

Table 2: List of business processes in the ERP system

Module/Process	Users	Expected Functionality (in Summary)	Expected Reports (in Summary)	Internal and External Integration	Workflow Controls
Finance Managem	ent Processes	Summary)		integration	
General ledger Maintenace	Finance and Accounts Officers (process initiator) Head of Finance& Accounts	 Chart of Account setup Edit and update the chart of the account Processing of journals Etc. 	Quarterly and end-year financial reports: • Chart of Accounts Listing • Trial Balance • Cashflow statement • Cashflow analysis • Etc.	None	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of Finance& Accounts as the final approver
Budgeting Process	Finance and Accounts Officers (process initiator) Head of Finance& Accounts	Budget setup (period, currency, etc.) Maintenance of consolidated budget Maintenance of departmental budget Maintenance of project-based budget Archive the consolidated budget after the close of FY	Monthly and quarterly analytical reports: Budget vs Actual End of Year Financial Report Quarterly Management reports per ledger account Budget utilisation analytics Etc.	Annual Procurement Plan in Supply Chain Module	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of Finance as the final approver
Receivable Process	Finance and Accounts Officers (process initiator) Head of Finance& Accounts	Customer Registration Setup of services/products offered by the Authority Generation of customer invoices Customer Statement of Accounts Receipt generation Credit/Debit Memo Taxation (withholding tax, etc.) Etc.	Monthly and quarterly analytical reports: Outstanding invoice reports Customer Statement of Account Revenue per type of services/product Customer listing per customer category Debtor aging list Receivable analytics Customer invoice listing Monthly, Quarterly, Annual Revenue Statement Etc.	TVET MIS Payment gateway (banks, mobile wallets, eCitizen, etc.) Bulky SMS for clients to receive notification	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of Finance as the final approver
Payable process	Finance and Accounts Officers (process initiator) Head of Finance& Accounts	Processing Staff Imprest Disbursement Processing of staff imprest surrender Processing of supplier invoices Processing of payment vouchers Suppliers Statement of Accounts Credit/Debit Memos Processing of staff expense claims Taxation Etc.	Monthly and quarterly analytical reports: • Listing of outstanding supplier invoices • Details of payments • Payment vouchers • Supplier Statement of Accounts • Payable analytics reports • Payable aging report • Etc.	Integration with Supply Chain module Integration with the Human Resource Management module Bulky SMS for a payee to receive notification	A 3-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of Finance or CEO as the final approver

Module/Process	Users	Expected Functionality (in	Expected Reports (in Summary)	Internal and External	Workflow Controls
		Summary)		Integration	
Cash & Bank Management	Finance and Accounts Officers (process initiator) Head of Finance& Accounts	 Bank reconciliation Cash reconciliation Petty cash maintenance Etc. 	Monthly and quarterly analytical reports: • Bank Statement • Petty Cash statements • Bank reconciliation statement • Etc.	Integration with commercial banks for statement downloads	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of Finance as the final approver
Asset Financial Management	Finance and Accounts Officers (process initiator) Head of Finance& Accounts	 Asset (re) valuation Asset maintenance cost Capitalization of significant asset maintenance costs Etc. 	Monthly and quarterly analytical reports: • Asset register • Asset movement report • Asset valuation/movement report • Etc.	Integration with the Supply Chain module in the ERP	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of Finance as the final approver
Human Resource	Management				
Online Job applications (self-service)	Job applicants (process initiator) HR Officers Head of Human Resource Management	 Posting of the existing vacancies Submission of online applications by job applicants Update of evaluation criteria to enforce minimum qualification for automatic longlisting and shortlisting Etc. 	Quarterly analytical reports: • Listing of all job applicant • List of shortlisted applicants per set criteria • Listing of jobs posted online (start date - close date) • Etc.	None Note: Job applicants should sign up before applying for a vacant role. Bulky SMS for job applicants to receive notification	A 2-level sequential approval workflow is expected. The Head of Human Resource Management shall approve final changes in this process.
Maintenance of employees' master data	Employees (process initiator) HR Officers Head of Human Resource Management.	 Addition of employee personal details Update/Revision of Employee personal details Etc. 	Quarterly analytical reports: • Employee master data report • List of employees per category (gender, county of origin, PWD, etc.) • Etc.	Integration with the payable module in finance and accounts for processing of imprest warrants and employee expense claims.	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by Head of Head of Human Resource Management.
Payroll Processing	HR Officers (process initiator) Head of Human Resource Management. Head of Finance & Accounts	Set up of payroll master data Set up of earning Set up of deductions Addition/Revision of earnings Addition/Revision of deductions Processing of payroll PAYE computation Etc.	Monthly and quarterly analytical reports: • Earning by-products • Deduction by-products (Sacco, bank loans, insurance, etc.) • Employee pays lip • Etc. • Net Salary remittance listing • Compliance with 1/3 rule listing • Etc.	Integration with the payable module in the finance module	A 3-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of Human Resource Management or the Head of Finance
Leave application (self-service)	Employees (process initiator) Supervisors	 Leave days setups Online form for leave application Etc. 	Quarterly analytical reports: • Employee leave statement	Bulky SMS for employees to receive notification	A 3-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of

Module/Process	Users	Expected Functionality (in	Expected Reports (in Summary)	Internal and External	Workflow Controls
	Head of Human Resource Management.	Summary)	Schedule of employee balance leave days Etc.	Integration	Human Resource Management.
Performance management (self-service)	Employees (process initiator) Supervisors Head of Human Resource Management.	Set up employee annual performance targets Quarterly update of completed tasks/activities Quarterly supervisor performance evaluation and appraisal Annual HRM performance evaluation and appraisal	Quarterly analytical reports:	None	A 3-level sequential approval workflow is expected. Final changes in this process shall be approved by Head of Head of Human Resource Management.
Transport Requisition	Employees (process initiator) HR Officers	Requisition for transport Approval and assigning of motor vehicles Upload of work ticket for each transport service Driver assigned to each transport request Addition/Update on incidences related to the staff itinerary Etc.	Quarterly analytical reports: • List of approved transport request • Downloading of work tickets • Listing of motor vehicle incidences • Etc.	Note: Aligned with employee master data and motor vehicle asset register. Bulky SMS for employees to receive notification	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by Head of Head of Human Resource Management.
Supply Chain Mar	nagement				
Development of annual procurement plan	Process owners (process initiator) SCM Officers Head of Supply Chain Management.	Maintenance of approved annual procurement plan Revision of approved annual procurement plan	Quarterly analytical reports: • Quarterly report on Budget vs Actual • Several analytical reports (procurement per department, procurement per items/service, etc.) • Etc.	Integration with the budget process in the finance module	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of Supply Chain Management.
Supplier Portal (self-service for registration of suppliers)	Supplier (process initiator) SCM Officers Head of Supply Chain Management.	 Set up of Supplier category or type Online registration by suppliers Revision of suppliers' master data Deactivation of supplier account of dormant/debarred 	Quarterly analytical reports: • Supplier listing per category of service/items • Listing of purchases from a supplier • Etc.	Integration with the payable functionality in the finance module	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by Head of Head of Supply Chain Management.
Purchase Requisition (Self-service)	Employee (process initiator) Supervisors	Raising the purchase requisition Raising the purchase commitment	• Listing of purchase requisition per employee; department; product/service, etc.	Integration with the annual procurement plan in the SCM module and budget in	A 4-level sequential approval workflow is expected. Final changes in this process shall be approved by the CEO

Module/Process	Users	Expected	Expected Reports (in	Internal and	Workflow Controls
		Functionality (in Summary)	Summary)	External Integration	
	Head of Supply Chain Management Head of Finance and Accounts	 Approval of purchase requisition Approval of purchase commitment 	Listing of approvers for each purchase requisition Several quarterly analytics reports	the finance module	
Tendering process (Request for Quotations; Request for Proposals, etc.)	CEO SCM Officers (process initiator) Head of Supply Chain Management CEO	Request for quotations Request for Proposals Quotation evaluation tender evaluation tender award Notification of ward	Quarterly analytical reports: • Listing of quotations per suppliers/Category • Listing of awards per supplier/category • Report on tender evaluations • etc.	Integration with the annual procurement plan in the SCM module and budget in the finance module	A 2-level sequential approval workflow is expected. The CEO shall approve final changes in this process
LPO/LSO processing	SCM Officers (process initiator) Head of Supply Chain Management Head of Finance and Accounts CEO	Raising of LPO/LSO to successful tenderers Approval of LPO/LSO	Quarterly analytical reports: • Listing of LPOs issues per supplier/category of suppliers • Listing of called LPOs • Listing of LPOs per service/Item category • Listing of unprocessed LPOs • Etc.	Note: LPOs be linked to a supplier account	A 3-level sequential approval workflow is expected. The CEO shall approve final changes in this process
Directory for purchase-related contracts	Legal Officers (process initiator) Head of Legal Services	Upload of signed contracts and SLAs (Pdf) Indexing of contracts/SLAs with searchable keywords Upload of signed contracts and SLAs	Quarterly analytical reports: • Listing of current contracts • Listing of the expired contract • Listing of contracts per supplier • Listing of contracts per category of service, etc.	Note: Each signed contract will be linked to a supplier account	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by the Head of Legal Services
Inventory management	SCM Officers (process initiator) Head of Supply Chain Management	Inventory setups (items, regional office stores, etc.) Receipt of store inventory Store requisition (employee self-service) Issue of store inventory (FIFO) Undertaking inventory adjustments Storing of inventory levels (e.g. reorder levels).	Quarterly analytical reports: • Listing inventory balance (FIFO) • Inventory issued per department • Listing of items below re-order levels • Stock adjustment reports • Etc.	Integration with the annual procurement plan in the SCM module and budget in the finance module	A 2-level sequential approval workflow is expected. Final changes in this process shall be approved by Head of Head of Supply Chain Management.

Module/Process	Users	Expected Functionality (in Summary)	Expected Reports (in Summary)	Internal and External Integration	Workflow Controls
System Administr	ration Processes				
User management	Departmental Heads (process initiator) ICT Officers Head of ICT	User details (addition, update, deletion, archive, etc.)	User activity reports – objects created, changed, deleted, etc.	None	Final changes in this process shall be approved by the Head of ICT
Access control and privilege management	Departmental Heads (process initiator) ICT Officers Head of ICT	Access control matrix	Access logs reports (success & failure)	None	Final changes in this process shall be approved by the Head of ICT
Monitoring of system performance	ICT Officers Head of ICT	Performance parameters/indicators	Data analytics on the parameters of the system	None	None
Database tuning and patching	ICT Officers	Set performance parameters	Database performance analytics	None	None
Backups and recovery management	ICT Officers	Backup schedule (daily, Weekly, Monthly)	Backup completion/status reports	None	None

4.3 Internal and External Integrations that Support APIs

Integrations are expected as demonstrated in the two tables in sections 4.1 and 4.2 under each process or service. It is expected that there will be integration between the proposed ERP system and the TVET MIS. Externally, the two systems will be integrated with various payment gateways to facilitate payment of services applied. Additionally, the TVET MIS will be integrated with systems owned by other government agencies which have a role in the TVET sub-sector e.g. eCitizen, HELB, KUCCUPs, Kenya National Examination Council (KNEC), TVET-CDACC, etc. Thus, the proposed systems should support the Application Programming Interface (API) environment and if possible, come with an API management platform.

4.4 Supply, Configuration, Testing & Commissioning of Required Hardware and Accessories - two physical servers, operating systems, utility software (e.g. SSL certificates, etc.)

The proposed infrastructure setup will require two physical servers, with each physical server having two virtualized servers for the two systems – ERP system and TVET MIS. One physical server will be located in Nairobi and used as the primary/production server to host the two virtual servers for the ERP and TVET MIS systems. The other physical server will be configured as a secondary server with fail-over clusters to create high availability and redundancy in the setup. The secondary server will be located offsite. The required operating systems, and utility software (secure remote connection tool, SSL certificate/encryptions, etc.) needed to set up the proposed infrastructure or manage the servers shall be provided by the successful tenderer.

4.5 Licenses required for the proposed systems, servers, operating systems, databases, utility software, etc.

Tenderers are required to list the licenses that will be required for the effective implementation of the ERP system, TVET MIS, two servers, any accessories, utility software, etc. The table below provides guiding information to help tenderers identify the most suitable licenses. Open-source licenses (or tools) are preferred but not mandatory as long as systems quality and system security are guaranteed. The listed licenses should ensure full compliance with the original manufacturer's terms and conditions.

Table 3: Expected licenses

No.	Systems	Guiding information (functional users, clients, system accounts, etc.)		
1.	License for ERP system	Finance module: 4 functional users		
		Supply Chain Management module: 4 functional users		
		Human Resource Management module: 4 functional users		
		Employee Portal -Self-service for employees: 80 end-user accounts		
		Supplier Portal - Self-service for suppliers: approx. 100 end-user accounts		
2.	License for secured remote	Estimated number of concurrent sessions: 15 connections		
	connection tool to ERP system			
3.	Web-Based TVET MIS	The final source code and database schema diagrams will be owned by the		
		TVET Authority so licensing is not expected for this deliverable		
		Estimated client transactions/applications/inquiries/logins per day: 300		
		SSL certificate (SHA- 256)		
4.	License for operating systems	The most appropriate operating system for the proposed systems is desired		
5.	License for database software	A relational database is preferred but not mandatory		
6.	Two physical servers	Two physical servers. One physical server to act as primary/production with		
		two virtualized servers for ERP and TVET MIS; and another physical server to		
		act as a secondary server configured with fail-over clusters to facilitate high		
		availability and redundancy. The two servers will be installed with appropriate		
		operating systems that support the proposed systems.		
7.	Other licenses	Describe any other licenses which may be required but not indicated here		

4.6 Enforcement of data security, data privacy, and redundancy in the design and configuration of the proposed systems

The proposed systems should embrace standard IT security measures to protect the systems. This includes security methods like access controls and authorization; 2-factor user authentication; approval workflow; encryption of data on storage; role delegation; encryption of data on transit; log/event capture, log auditing and monitoring; vulnerability notification; system failover and redundancy; backups and recovery; etc. Privacy by design principle will guide the design of the proposed systems to enhance data protection throughout the system workflows.

4.7 Data Cleanup, Data Conversion and Data Migration from Legacy Systems

Data residing in the current legacy systems will be extracted, cleaned up, converted to the desired format and migrated to the proposed systems. The current legacy ERP system uses the Microsoft SQL database while TVET MIS uses the MySQL database. The approximate number of records for each master data entity will be provided later at the RFP stage.

4.8 End-User Training

End-user training will be provided to approximately 80 employees of the Authority. These employees are spread across departments and therefore each department will require specialized

training related to its functional processes in the systems. Face-to-face training is desired but a blended mode of training where some components of training are done physically while others are done online will be accommodated. Mostly, the training will be done in Nairobi, but there may be instances where the training will need to be undertaken outside Nairobi.

4.9 Technical Training and Knowledge Transfer to ICT staff

Technical training will be given to ICT staff who are four (4) in number. The training will cover user management, diagnostic of problems, resolution of common errors, database tuning and maintenance, redesigning of reports, redesign of input forms, changes to system workflow, etc. The technical training for ICT staff will be done in Nairobi, but there are instances where there will be a need to have the training undertaken outside Nairobi. Tenderers will facilitate or advise the relevant online knowledge-based community (community of practice) for the proposed systems for ICT staff to join for purposes of knowledge sharing with peers using the systems and continuous learning.

4.10 Detailed System Documentation e.g. system design documents, user manuals, database schema, etc.

The proposed systems should be thoroughly documented and documentation provided in hardcopies and softcopies. The system design document will be done, an updated user manual will be provided and the database schema documented. A list of common errors and their resolutions will also be shared.

4.11 System Warranty for at Least One year

The Authority expects a warranty period of not less than one year after successfully going live.

4.12 Service Level Agreement (SLA) Commencing after the Warranty Period

A service level agreement will be negotiated after the warranty period expires. Tenderers are expected to provide a draft sample of the SLAs during the request for proposal stage.

5.0 Mandatory Requirements

The Tenderers shall submit with their application, the following additional documents.

Table 4: Mandatory Requirements

No.	Description of the documents
1.	Certificate of registration or incorporation copies of which must be attached.
2.	Copy of current relevant trade licenses
3.	Kenya Revenue Authority (KRA) pin certificate
4.	Valid Kenya Revenue Authority (KRA) tax compliant certificate
5.	Attach company profile indicating qualification of key personnel. Attach copies of CV and their certificates.
6.	Audited financial statements for the last three financial years
7.	A signed statement that the Tenderer is not debarred from participating in public procurement or debarred
	from practice.
8.	Authorization letter from the original manufacturer where the tenderer is not the original manufacturer

9.	Valid accreditation certificate from the ICT Au	uthority (Systems and Applications category)
	, and accreating of the continue from the fell At	amont, (0,500ms and 1 ppinearons category)

6.0 Technical Evaluation

Tenderers' responses should include the following items, which shall form the basis of technical evaluation.

Table 5: Items to be considered in technical evaluation

No.	Items to be evaluated		Max. Score
1.	Demonstration of the ability to meet	TVET MIS functionality/capability	10
	the requirements of the deliverables.	ERP System functionality/capability	10
	Refer to sections 4.1 to 4.12.	Internal & External Integrations	10
		Delivery of hardware and accessories	3
		Licenses required for the deliverables	3
		Data security, data privacy and redundancy	10
		Data conversion and data migration	5
		End-user training;	
		Technical training and knowledge transfer to ICT staff	5 5
		System documentation	3
		System warranty period of not less	2
		than 1 year;	
		Service Level Agreement	2
2.	Experience and success stories in a		
	implemented a system with a similar so	15	
	should have used the systems for at		
2	reference letters). 5 marks for each ver		
3.	Proposed systems design diagrams for the ERP & TVET MIS Professional experience of the staff/consultants to be seconded to the project.		5
4.	At least two of the proposed staff/co knowledge of business processes in a sector.	5	
5.	Project implementation approach/me maximum timeline is eight (8) months	5	
6.	Project governance structure: Leadership, staffing levels, activity/task tracking, activity/task reporting, quality assurance, risk management, etc.		2
		Total Score	100

Note:

The pass mark for the technical evaluation is 70%

Dr. Kipkirui Langat, PhD, FIETK DIRECTOR GENERAL/CEO