



Project Name: SECOND KENYA DEVOLUTION SUPPORT PROGRAM (KDSP II)

Credit No : IDA-7447-KE

Project ID No : P180935

TERMS OF REFERENCE

FOR

THE SECOND KENYA DEVOLUTION SUPPORT PROGRAM (KDSP II) – FIRM TO DEVELOP AND IMPLEMENT ELECTRONIC DOCUMENT MANAGEMENT SYSTEM TO HELP REDUCE THE AVERAGE NO OF DAYS TAKEN BY NT, OCOB, AND CBK TO PROCESS COUNTY EXCHEQUER REQUISITIONS ONCE SUBMITTED

REFERENCE NUMBER: 438468-C3-CQ3

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Client: State Department for Devolution P.O. Box 30004 - 00100 Nairobi.

Attention: Program Coordinator KDSP II

6th Floor, Teleposta Tower, Kenyatta Avenue, Nairobi, Kenya

E-mail: secondkdsp@gmail.com

a. BACKGROUND

The Government of Kenya has received an International Development Association (IDA) Credit in the amount of EUR140.7 million (US\$150 million equivalent) from the World Bank for implementing the Second Kenya Devolution Support Program (KDSP II) (Credit Number IDA-7447-KE) over a four-year period, starting December 7th, 2023. KDSP II is supporting a sub-set of reforms envisaged under the Government's Devolution Sector Plan.

The Program, whose development objective (DO) is to “strengthen county performance in the financing, management, coordination, and accountability for resources”, supports a series of key interventions (at the input and output levels) that contribute to intermediate outcomes and, in turn, contribute to outcomes. To achieve the DO, the Program is expected to significantly improve outcomes in the participating counties under three key result areas (KRAs) outlined below:

- **KRA 1: Sustainable Financing and Expenditure Management.** This KRA supports efforts towards enhancing financing to, and expenditure management by counties. In this KRA, the national-level activities, supported through investment project financing (IPF) entail the development of frameworks and guidelines for county revenue mobilization, policy to support financing for service delivery units, and structures and tools to support counties' institutionalization of shared project management functions. The expected outcomes will include an improved revenue mobilization agenda (for example, increased revenue collection, enhanced accuracy of fiscal forecasting, and expansion of revenue base), timely communication on releases of conditional grants, automation of the county exchequer requests, and implementation of pending bills action plans. The relevant disbursement linked indicators (DLIs) under this KRA are on (i) the average number of days it takes for the National Treasury, Office of the Controller of Budget, and the Central Bank of Kenya to process a county exchequer requisition once submitted; (ii) participating counties that have increased their own source revenue by at least 5 percent annually, over and above the rate of inflation; and (iii) participating counties that have prepared and are implementing action plans to reduce their stock of pending bills and maintain it at minimal levels.
- **KRA 2: Intergovernmental Coordination, Institutional Performance, and Human Resource Management.** This KRA supports national and county government initiatives towards strengthening intergovernmental coordination, institutional performance, and Human Resource Management (HRM). The national-level activities, financed through the IPF, will support the development of policy and administrative procedures for the operationalization of intergovernmental, intercity, and inter-municipality forums. The IPF will also support the development of guidelines, including county HR and skills audits, model organization structures for customization by counties, and performance management. DLIs under this KRA will target counties implementing recommendations of HR, skills, and payroll audits, aligning county staffing with departmental functions in select sectors, and improving the credibility of the payroll. The relevant DLIs under this KRA are on (i) participating counties that have integrated their HR records, authorized staff establishment and payroll, and uploaded cleaned payrolls in the human resource management information system; and (ii) participating counties that are enhancing accountability for results through an integrated performance management framework.

- **KRA 3: Oversight, Participation, and Accountability.** KRA 3 will support improvements in oversight, participation, and accountability. The IPF component will support the development of guidelines on project stocktaking, community-led project management committees, and climate change risk screening and preparedness (including assessment of the climate resilience of existing infrastructure assets). It will also support the rollout of the county (Public Investment Management (PIM) framework. The expected outcomes include the establishment of project management committees, county compliance with the PIM framework, and developing and operationalizing a county investment dashboard with a citizen feedback interface (which is used to improve public investments). Additionally, it is expected that county assemblies will establish a fiscal bureau to strengthen the role of the legislatures in budget scrutiny and oversight. The relevant DLI under this KRA is on Participating counties that have established public investment management dashboards with citizen feedback mechanisms.

b. INTRODUCTION

The Controller of Budget is mandated to promote prudent and efficient financial management of public funds and equitable release of available resources and to improve transparency and accountability in the budget implementation process. This mandate includes overseeing the execution of budgets for both National and County Governments by authorizing withdrawals from public funds and reporting to Parliament on the progress of budget implementation.

Specifically, the Controller of Budget (COB) is mandated to authorize withdrawals of public funds from the Equalization Fund (Article 204), the Consolidated Fund (Article 206), and the County Revenue Funds (Article 207) as outlined in the Constitution of Kenya, 2010.

As required by Article 228(5) of the Constitution and Section 109 (6) of the Public Finance Management Act (2012), the COB must first confirm that such withdrawals comply with legal provisions. Additionally, the COB ensures the timely approval of withdrawals from public funds. Further to ensure approval for the withdrawal from Public Funds is made in conformity with the laws above, (Office of the Controller of Budget) OCoB demands submission of the following planning and budget documents from counties at the beginning of the Financial Year (FY) namely; County Integrated Development Plan (CIDP), Annual Development Plan (ADP), County Budget Review and Outlook Paper (CBROP), Debt Management Strategy Paper, County Fiscal Strategy Paper (CFSP), Programme Based Budget, Vote on Account (where applicable) and Appropriation Act, a Governor Warrant, an Annual Cash Flow, Pending bills among other forms, Statements from Central Bank and other commercial Banks among others. These documents are submitted manually, a process that has introduced significant challenges, making it difficult to efficiently manage and track approvals. In some cases, county staff are required to deliver the documents in person, further increasing travel expenses.

The OCoB strategic plan for 2023-2027, **Key Result Area 1, themed Efficient Exchequer Approval Process, identified automation** of the exchequer approval process as one of the strategies in which the development of a system to automate exchequer approval of withdrawals from Public Funds for the County Government is a key activity.

The Government of Kenya is cognizant of the need to reduce the Average no. of days taken by the National Treasury (TNT), OCoB, and Central Bank of Kenya (CBK) to process county exchequer requisitions once submitted. To address this, the OCoB must explore innovative

approaches to streamline the current manual processes by adopting automation for more efficient operations. Reducing the number of days taken to process county exchequer requisitions will support the OCOB in fulfilling the requirements of **DLI1 under KRA 1: "Sustainable Financing and Expenditure Management"**.

To support the requisition of funds from the County Revenue Fund (CRF) and enable the OCoB to perform its other duties more efficiently and effectively, it has become essential to leverage technology. Automating the county exchequer requisition process and integrating it with a Document management system (DMS) will improve efficiency, enhance organization, and contribute to creating a paperless office environment. This transformation is expected to yield cost savings on paper and office space for file storage and reduce travel expenses for county treasury staff. Additionally, it will facilitate the digitization of existing manual records in the OCoB's custody, ensuring their safety and availability for future reference. Specifically, this initiative will bring the following benefits: -

- Establish an automated centralized repository for exchequer requisition documents to ensure easy access, version control, and security.
- Streamlining and accelerating requisition and approval processes through workflow automation.
- Promoting compliance and auditability by adhering to regulatory requirements with proper documentation and comprehensive audit trails.
- Improved transparency and efficiency in requisition and approval processes through integration with other Public Financial Management (PFM) systems.
- Reduced costs by replacing manual processes with automated workflows and centralized document management.
- Seamless integrated document management processes with IFMIS and other PFM systems, enabling accurate, up-to-date information for informed decision-making.
- Automated reporting and dashboards

Therefore, the OCoB seeks to hire a consulting firm through SDD to develop and implement an electronic document management system that integrates with the automated County's exchequer requisition process within the IFMIS system.

c. OBJECTIVE OF THE ASSIGNMENT

To design, develop, and implement an Electronic Document Management System (EDMS) with messaging and collaborative tools that improve Exchequer processing by providing a platform for digital processing of documents from each of the 47 County Governments to OCoB.

The EDMS shall be integrated with other government public finance management systems, such as IFMIS and HRIS.

d. SCOPE OF WORK

The State Department for Devolution (SDD) will engage a consultancy firm, which will report daily to the Head of ICT OCOB. The consulting firm shall design, develop, and implement an Electronic Document Management System (EDMS) solution for the OCoB. The firm will be

responsible for understanding user requirements and developing the system to meet their needs. The Consulting Firm shall fundamentally rethink and redesign core business processes to achieve significant improvements in performance and efficiency. Additionally, the firm will provide the necessary cloud server infrastructure, including hardware, software, and applicable licenses, to deploy and operationalize the EDMS using a Platform as a Service model. This must comply with the Kenya Data Protection Act, 2019, and requisite approvals for Government Cloud Service Providers. The firm will document the system's key processes and technical details and develop a comprehensive work plan that covers development, testing, implementation, training, monitoring, and ongoing maintenance support.

The activities under this assignment will include:

a) Project Management

- i. The Consultant is expected to provide a detailed project charter to support the delivery of the key components
- ii. Develop a detailed work plan, including milestones, interdependencies, and a step-by-step guide, including a strategy for data migration and change management, and roll out of MDAs and counties

b) Requirement Analysis

- i. Examine the current document-handling (As-Is Business processes).
 - ii. Identify, define, analyse, and redesign the main business processes
- iii. Develop and document the To-Be business Processes
- iv. The Firm will conduct workshops with key stakeholders to gather requirements, namely OCOB staff in the counties and at Bima House, County staff, and other key stakeholders
- v. Define the scope and objectives of the EDMS implementation.
- vi. Document technical, functional, and integration requirements for the EDMS
- vii. Engage with stakeholders managing other PFM systems to identify and scope key integration touch points. E.g. IFMIS etc

c) System Design

- i. Develop a detailed functional, technical, and Integration design architecture, including database design, user interface, workflows, and integration points.

d) Development and Integration

- i. Develop the EDMS system based on the design specifications.
- ii. Integrate IFMIS, HRIS-Ke, Pension Management system and other relevant PFM systems

e) Testing and Validation

- i. Perform system testing to validate functionality, performance, and security.
- ii. Conduct User Acceptance Testing (UAT) with key stakeholders.
- iii. Address identified issues and refine the system to fully meet the user requirements.

f) Training and Deployment

- i. Super user and end user training for relevant staff in the counties and the Office of the Controller of Budget shall be conducted by the Consultancy firm. The firm shall provide technical support to the users and carry out the necessary maintenance of the system. The firm will also provide advanced technical training for the OCoB ICT staff.
- ii. Develop training materials and reference literature
- iii. The consultant firm is expected to develop materials for user profile key skills (UPKs) and deploy them on the OCOB website.
- iv. Deploy the system training in a phased manner to ensure a smooth transition.

g) System Implementation:

- i. Deploy the EDMS in a live environment: The system is deployed and made operational, including installation, configuration, and training of users.
- ii. Deploy the OCOB-EDMS system in a phased manner to ensure a smooth transition.

h) Support and Maintenance

- i. Provide post-deployment support for one year, including bug fixes and system optimization, and a cloud hosting solution of the EDMS for one year. This will be broken down as follows:
 - ii. 12 months post-implementation support (handholding)- Warranty support
 - iii. Annual Maintenance and Support
 - iv. Update the system with new features and security patches during and after implementation.
 - v. Provide an open-source innovative helpdesk- technical support solution for the EDMS
 - vi. Provide a knowledge transfer e-learning app solution to OCOB staff.
- i) Project Sign-off; Completion report and full handover.

e. DELIVERABLES

The firm will provide the following outputs guided by the above scope:

- a) Inception Report detailing the requirement analysis, project plan, work plan, and methodology.
- b) Detailed needs assessment and functional and non-functional requirements specification document.
- c) System design documentation, including architecture and workflows.
- d) Fully functional OCoB EDMS with implemented features.
- e) UAT report with resolved issues.
- f) Training sessions and comprehensive training materials.
- g) Final project report and system documentation

- h) Cloud hosting solution of the EDMS in the Country in the first 1-year post-commissioning and handover to oCOB.
- i) Supply and configure two heavy-duty digitization scanners
- j) Scanning and document management solution that allows seamless integration with the scanners already in use by oCOB
- k) Change management strategy
- l) Monitoring and Evaluation plan: Support and Maintenance plan

f. DURATION OF THE ASSIGNMENT

The development is expected to be completed within one year from the date of contract award. Nine (9) months (development and deployment to OCOB, counties), three months (complete roll out to MDAs and commissioning). The indicative timeline for the major milestones is indicated in Table 4: milestones table with deliverables.

- The project will be carried out and supervised at the OCoB
- The consulting firm shall provide in the financial proposal the total price for all the activities.
- For each activity, the Bidding Firm shall list all costs associated with the assignment

During the contract period for the assignment, the consultant shall maintain its original financial proposal, including the proposed rates, costs for each cycle, and the total price. The key experts required for each cycle in terms of expertise/field and numbers are provided and shall be maintained for the entire duration of the assignment

The assessment of the consultant's performance will depend on factors including, but not limited to, meeting the timelines specified in the contract, submission of accurate reports, and meeting the contractual obligations stipulated in the signed contract. The assessment process is expected to be non-discriminatory, transparent, reliable, and feasible, against which the consultant's performance will be measured.

g. QUALIFICATIONS OF THE CONSULTING FIRM

Specific Qualifications for the Consulting Firm.

- 1. Core business and years in business:** The firm shall be registered/incorporated with their core business in the field of System Development and implementation of EDMS systems for a period of a minimum of ten years. The Firm must possess a system development accreditation certification for the solution proposed and ICT Authority accreditation for Systems and Applications, among others. The Firm must demonstrate the requisite technical and managerial capacity in the submitted company profile.

- 2. Relevant experience:** The firm shall demonstrate having successfully executed and completed at least five projects of a similar nature, complexity and in a similar operating environment in the public sector in the last ten years. Details of similar assignments-Name and address of the client, scope, value, and period should be provided, and the submitted Proposal should include an enumeration (Contract or LPO) of these similar past assignments.
- 3. CERTIFICATIONS:** The firm must possess appropriate certifications and accreditation for cloud hosting in line with data protection Act requirements. If the vendor offers an off-the-shelf product, they must hold certifications for both selling and implementing the proposed solution.
- 4. Description of Approach, Methodology, and Work Plan:** A description of the approach, methodology, and work plan in responding to the terms of reference for performing the assignment. Include a detailed description of the Technical Approach and Methodology, Work Plan, Organization, and Staffing. Provide a Write-up on the Overall Architecture and Modules of the solution.
- 5.** Demonstrate experience in public financial management systems (Proficiency in public sector planning, budgeting, accounting, and procurement processes, including business process re-engineering within the public sector)
- 6.** Experience in the development and implementation of public financial management frameworks (Understanding and mapping of business processes aligned with legal frameworks, facilitating effective digitization of Public Financial Management (PFM) processes to enhance data quality)

Key experts will not be evaluated at the shortlisting stage

7. Team composition and qualification and experience requirements for the key experts

Provide organization structure, team composition, and Curriculum vitae and certificates of the Key personnel.

Qualifications and experience requirements for the key experts

No.	Position	Resources	Responsibility	Qualification
1.	Team Leader	One (1)	Manage the project lifecycle from initiation to completion, coordinating timelines, resources, and stakeholder engagement while ensuring adherence	<ul style="list-style-type: none"> • Bachelor's Degree in Business administration, Information Technology / Computer Science / any related Field. • Certification in one or more of the following areas: Project Management (PRINCE2 or PMP), Agile methodologies (SAFe Agilist, SCRUM),

			to project scope and quality standards.	<p>Service Management (ITIL), or Business Analysis (CBAP, CPP).`</p> <ul style="list-style-type: none"> • Five (5) Years of Experience in managing IT Project Management, with at least 3 Projects. • Knowledge of Public Finance management essential
2.	Solution Architect	One (1)	System technical, database design, and technical lead.	<ul style="list-style-type: none"> • Bachelor's Degree in Information Technology/ Computer Science or other related field • Five (5) Years of Experience in Application / Software development • Experience in enterprise architecture frameworks such as TOGAF, Zachman, or FEAF • Strong understanding of architectural domains, including business, application, data, technology, and security architecture. • Understanding of project and program management principles (e.g., Agile, Waterfall, PRINCE2)
3.	Database Administrator	One (1)	Design and implement the database structure and develop database maintenance plan	<p>Certification in SQL/ NoSQL databases (MySQL, Oracle, SQL Server, PostgreSQL, MongoDB)</p>
4.	Integration Specialist	One (1)	<p>a) Ensure seamless integration with third-party systems (ERP, CRM, legacy systems).</p> <p>b) Develop and maintain APIs and middleware.</p>	<ul style="list-style-type: none"> • A bachelor's Degree in IT or related • 3–5 years of experience in systems integration, software development, or IT infrastructure. • Experience with integration technologies like REST APIs, SOAP, and XML.
5.	UX/UI Designer	One (1)	Graphic design of user-friendly and visually appealing	<ul style="list-style-type: none"> • A Bachelor's degree in IT or related

			interfaces of the application.	<ul style="list-style-type: none"> • 2–5+ years of experience in UI/UX design or a related role
6.	Business Analyst	One (1)	bridge technical and business requirements	<ul style="list-style-type: none"> • A Bachelor’s Degree in IT or related • Business Analysis Training (CBAP, PMI-PBA, CCBA, or Agile-related certifications (e.g., SAFe Agilist, Certified ScrumMaster) • At least 3 years’ work experience in IT systems. • 2 years of relevant work experience with specific experience in: <ul style="list-style-type: none"> ○ IT projects ○ Dashboard Implementation • `Emerging Technologies (e.g., AI, Machine Learning)
7.	Full Stack Software developer	Three (3)	Development of both the front-end and back-end of the application.	<ul style="list-style-type: none"> • Bachelor’s degree in Computer Science, Software Engineering, Information Technology, or a related field. • 5 + years' Experience in server-side languages and frameworks such as Node.js, Python (Django/Flask), Java (Spring Boot), Ruby on Rails, or PHP • Experience with relational databases (e.g., MySQL, PostgreSQL, SQL Server) • Experience with API development (RESTful and/or GraphQL). • Experience with Agile or Scrum development methodologies.

Estimated time inputs for key experts.

To ensure system delivery on time, indicate the commitment for the person-month inputs for all key experts during development and implementation.

Table 3: Estimated Time Inputs for Key Experts

S/No	Key and Support Staff	No.	Time input; during development and implementation and (staff- months)	
1	Team Leader	1	12	All experts are expected to be available during the one-year post implementation Hand-holding /Warranty period.
2	Solutions Architect	1	12	
3	Database Administrator	1	12	
4	Integration Specialist	1	6	
5	UX/UI Designer	1	12	
6	Business Analyst	1	12	
7	Full Stack Software developer	3	12	

h. Capacity building/training/transfer of technology program

The Consulting Firm is to provide a Training Plan and Methodology

- The Consulting Firm must provide a Change management strategy
- Development of training materials and user manuals
- Conducting training sessions for end-users for OCoB Staff in various departments and 235 staff from the 47 counties (two from the County Assembly and three from the County Executive) training as listed below
- Provide OCOB-EDMS with innovative technical support solutions via the help desk and carry out the necessary maintenance of the EDMS system.

Table 5: Training schedule

No	Team	Number	
1	OCOB ICT system administrators	4	
2	Exchequer Approvers 1st & 2nd levels	10	
3	County Budget Coordinators	47	
4	Fiscal Analysts -County, exchequer	15	
5	OCOB Registry staff & Library, Admin staff	12	
6	County Staff (5 from each county)	235	
	Total	323	

- Training facilities will be organized by SDD and OCoB

i. ANNEXES TO THIS TERMS OF REFERENCE:

- Functional and non-functional Requirements of the EDMS solution
- Technical System Requirements

j. RESPONSIBILITIES AND OBLIGATIONS OF THE CLIENT

The role of the client will be to provide the following to enable the Consulting Firm to deliver on the objective of the project

1. Appoint an OCOB EDMS Implementation Committee that will work closely with the consulting firm to ensure the right requirements are captured and the design and delivery are on time.
2. Hold a stakeholder's user requirements gathering consultative meeting between Chief Officers of Finance, CECM Finance, Clerks of County Assemblies, and the Controller of Budget on the COB Circular on requirements for exchequer Withdrawals from County Revenue Funds
3. The OCOB will provide the required contacts to the consultant firm to conduct workshops with key stakeholders to gather system and user requirements, namely OCOB staff in the counties and at Bima House, County Treasury staff, and other stakeholders.
4. OCOB to organize with SDD for the conference facilities needed for the Consultant to conduct user requirements gathering for the EDMS
5. Organize a Stakeholders' workshop to enable the Consulting Firm to validate the documented user requirements to support the automation of a system for digitally processing documents from the county governments to OCoB.
6. Hold a stakeholder engagement workshop (Public participation and stakeholder engagement (COB, NT-IFMIS, Exchequer Team, CRA, OAG, COG, PSASB, and Counties) to enable the Consulting Firm to validate the designed EDMS solution (Counties and stakeholders)
7. Organise required stakeholders for the Consulting firm to hold a User Acceptance Testing (UAT) workshop (s) on the designed and developed OCoB EDMS
8. Organize for the Sensitization and User Training of users from the county assembly and executive by the ToTs Post-go-live support for the OCoB EDMS at the Counties through county visits twice a year: monitoring, reporting, and Evaluations.
9. Organize for needed meetings during and after system implementation before sign-off.

k. RESPONSIBILITIES OF THE CONSULTANT FIRM

- The consulting firm shall be responsible for conducting all tasks and responsibilities as outlined in the work plan and ensuring that all deliverables are provided at each milestone. The Consulting Firm is expected to exceed the expectations outlined herein by bringing the best and latest industry-innovative ideas and delivering the solution in the shortest time possible.
- The consulting firm will be expected to cover all costs related to remuneration, transport, accommodation, insurance, and travel expenses for its Team of experts during conferences and workshops associated with the assignment. SDD will be responsible for providing the conference facilities and facilitation for the MDAs participants.
- The Consultant shall not engage and shall cause its Experts as well as its Sub-consultants not to engage, either directly or indirectly, in any business or professional activities that would conflict with the activities assigned to them under this engagement.
- The Consultant will be responsible for quality and timely delivery of the assignment.
- The consultant will also exercise due care and ensure the confidentiality of Government Project data. The OCOB operates on a tight budgeting schedule with constitutional and legal timelines dictating the preparation of various process documents and outputs. Therefore, the successful Firm MUST strictly observe project timelines. In-time delivery will

allow time to adequately test, train, roll out, and support processes and system functionalities, especially because of the large number of users involved.

- Except with the prior written consent of the OCOB, the Consultant and the Experts shall not at any time communicate to any person or entity any confidential information acquired in the course of the engagement, nor shall the Consultant and the Experts make public the recommendations formulated in the course of, or because of, the Services.
- Except as the OCOB may otherwise agree in writing, no changes shall be made in the Key Experts engaged in this assignment after the start.
- The consultancy firm shall be responsible for the provision of all the necessary resources to carry out the services, such as international travel, project transportation for visits in counties, subsistence allowances, accommodation, information technology, means for communications, reporting materials, insurance, and any other required resources
- Unless otherwise indicated, all reports and relevant data and information such as maps, diagrams, plans, databases, other documents and software, supporting records or material compiled or prepared by the Consultant for the OCOB in the course of the Services shall be confidential and become and remain the absolute property of the OCOB. The Consultant shall, not later than upon termination or expiration of this Contract, deliver all such documents to the OCOB, together with a detailed inventory thereof. In certain circumstances, the Consultant may retain a copy of documents, data, and/or software but shall not use them for purposes unrelated to this Contract without prior written approval of the OCOB.
- The Consultant shall perform the Services and carry out the Services with all due diligence, efficiency, and economy, in accordance with generally accepted professional standards and practices, and shall observe sound management practices and employ appropriate technology and safe and effective equipment, machinery, materials, and methods. The Consultant shall always act, in respect of any matter relating to this engagement or to the Services, as a faithful adviser to the OCOB and shall at all times support and safeguard the OCOB's legitimate interests in any dealings with third parties.

I. PAYMENT SCHEDULE

The expected total duration of the assignment will be a period not exceeding 12 months after the award of the contract. Proposed payment schedules, within the budget of USD 120,492.41 for EDMS software implementation, are based on satisfactory performance, which will be negotiated with the successful consultant as presented in the following table:

	Description of Tasks	Deliverable	Timelin e	Total (Kshs- Million)	Remarks
1	Discovery Phase and Planning	Inception Report	3 weeks	15% of Contract Sum	In collaboration with the OCOB and key stakeholders, define and clearly outline the objectives and scope of the

	The consultant, in collaboration with the OCOB team, will identify and map key stakeholders and process owners.	Stakeholder analysis Report		assignment. Ensure a shared understanding and consensus on the overall goals, emphasizing precise articulation of the desired outcomes. Identify specific areas within existing processes, specifically on the EDMS must be deployed Components <ul style="list-style-type: none"> • Planning and scheduling • Risk assessment and management planning
2	Requirements gathering and analysis	Detailed Needs assessment and functional and non-functional Systems Requirements document	3 weeks	<ul style="list-style-type: none"> • Engagement workshops to comprehensively map out the AS-IS processes • Organized by the SDD and OCoB: Stakeholder meetings and requirements gathering for OCOB staff, County Budget officers, and relevant County staff • User needs assessment, System specifications, and blueprint development
3	System Design and Prototyping	System design documents including architecture & workflows	6 weeks	<ul style="list-style-type: none"> • Detailed system design, including user interface (UI) and user experience (UX) design • Prototyping key features and workflows • User feedback sessions and design revisions • Automated reporting and dashboards • Finalization of system architecture and design documents • Stakeholder workshop organized by SDD&OCOB for validation.
4	System Development and Customization	Functional OCoB EDMS with implemented features.	6 weeks	<ul style="list-style-type: none"> • Core system development (document management, indexing, retrieval, workflow automation)

					<ul style="list-style-type: none"> • Integration with existing systems (e.g., exchequer requisition systems, email systems, etc.) • Development of security features (access control, encryption, audit trails) • User interface (UI) and backend development • Iterative testing, debugging, and quality assurance
	<p>Subscription for the development of Hardware and Infrastructure</p> <p>Supply of two digitization scanners complete with scanning software</p>	EDMS Server infrastructure Design and setup	1 week		<p>Procurement of Virtualization software and storage disks</p> <p>Configuration of Servers and storage detail for EDMS</p> <ul style="list-style-type: none"> • Software includes operating systems, applications, and problem-management tools. • Digitization Scanner
5	System testing Phase	Approved and validated test cases. Report showing the testing exit criteria has been met	2 weeks	45%	Develop a User Acceptance Testing (UAT) strategy document for all the newly developed components.
	County visit for piloting the system	Pilot and UAT report with resolved issues	3 weeks		<p>Deploy the system to select six counties for piloting</p> <p>User acceptance testing (UAT) and final adjustments</p>
6	Deployment and Implementation	A fully functional EDMS system in place and use	4 weeks		<ul style="list-style-type: none"> • System installation and configuration in the production environment • Data migration from existing systems (if applicable) • User acceptance testing (UAT) and final adjustments • Go-live support and stabilization

7	Training of Trainers, Training of Users, and Documentation (Regional training group)	Training sessions, reports, and comprehensive training materials. Change management strategy	4 weeks		<ul style="list-style-type: none"> • Development of training materials and user manuals • Conducting training sessions for end-users and administrators • Change management workshops to ensure smooth adoption
	System rollout to 47 counties and Helpdesk support set-up	Roll out to all the 47 counties.	4 weeks	25%	Deploy the system to all the counties
8	Scanning into the EDMS at least 1.5M records /documents	EDMS system ready	2 weeks		Documents Migration, Integration, Scanning and uploading exchequer and related documents from 2012/2013-2025/2026.
	OCOB-EDMS system commissioning	EDMS system ready	1 week		OCOB-EDMS week, covering and benefits, and Media unveiling
9	System rollout to 47: daily support, M&E, Hand holding for one year – Warranty period	Support and Maintenance Plan; : Monitoring and Evaluation Plan : Hand-holding reports	12 Months	15%	Final project report and system documentation Support, Feedback loop set-up
10	Project Closure	System handover			Final project report and system documentation
	Total			100%	

m. MANAGEMENT AND ACCOUNTABILITY OF THE ASSIGNMENT

SDD is the client for the consultancy services. In terms of performance and deliverables, the Firm will carry out the assignment under the direction of OCoB and report to the Program Coordinator in the NPCU.

n. CODE OF ETHICS FOR THE CONSULTANT

A code of conduct/ ethics for the Consulting Firm will be signed before undertaking the assignment. The content of the code of ethics will mainly focus on adhering to the procedures, integrity, and anti-corruption issues.

o. CONFIDENTIALITY AND DATA OWNERSHIP

The Consulting Firm shall adhere to the World Bank Data Privacy and Protection regulations and all the relevant confidentiality and data ownership laws and regulations of Kenya throughout the consultancy period and will protect the confidentiality of participating counties at all stages.

All data is confidential and is the property of the Office of the Controller of Budget (OCOB). No data or other information from this consulting services contract will be released to third parties without the written prior approval of OCOB.

OFFICE OF THE CONTROLLER OF BUDGET

ANNEXES TO THIS TERMS OF REFERENCE:

p. Appendix 1: FUNCTIONAL AND NON-FUNCTIONAL REQUIREMENTS OF THE EDM SOLUTION

The functional requirements for the EDMS shall include, but not be limited to, the following:

a) Document Repository

- i. As part of the electronic filing facility, the system shall provide a function to generate the reference numbers for official documents and forms of the OCoB automatically, and also allow access to only authorized users.
- ii. Define the key features needed in the DMS (e.g., document capture, indexing, retrieval, version control, audit trails) and support various file formats including PDF, Word, Excel, tif, jpeg, etc.
- iii. Should support workflow configurations and management. The workflow shall allow the automation of business processes and operations for the county exchequer requisition and approval process at the OCoB
- iv. Should support electronic document versioning in case the electronic document is edited as it moves from one level to another.
- v. Support scanning of records directly into the system in various formats with various scanning technologies.
- vi. Centralized storage for all documents for all the requisite legislative and regulatory framework documents and all budgeting documents.
- vii. Version control of folios of authorized OCoB/National Treasury forms (Form As and Form Bs) and tracking changes and maintaining document history.
- viii. Metadata tagging for easy retrieval and classification of documents.
- ix. Determine and document user roles and access controls Design user-friendly interfaces and workflows.
- x. Identify systems that need to integrate with the DMS and Specify data migration requirements.

b) Automated Workflow

- i. Predefined workflows for requisition submission, review, approval, and disbursement.
- ii. Automated notifications and reminders for pending tasks and deadlines.
- iii. Workflow status tracking and reporting to monitor progress.
- xi. The system must support up to 1,000 concurrent users across all departments without performance degradation.

c) Collaborative tools

- i. Allow multiple users to edit documents simultaneously.
- ii. Provide visual indicators to show who is editing which part of the document in real time.
- iii. Support real-time saving and synchronization of changes made by different users.
- iv. Implement document-locking mechanisms to prevent conflicts when multiple users attempt to edit the same document simultaneously.
- v. Allow users to check out documents for exclusive editing and check them back in upon completion.
- vi. Maintain a version history for all documents, allowing users to view, compare, and revert to previous versions.
- vii. Automatically create new versions upon saving changes.
- viii. Enable users to add comments or notes to specific versions for clarity.

d) Commenting and Annotations:

- i. Allow users to add comments and annotations directly on documents.
- ii. Provide threaded discussions to facilitate conversations around the specific document
- iii. Enable notifications for users when new comments or annotations are added.
- iv. Allow users to assign tasks related to document creation, review, and approval.
- v. Provide task tracking features, including due dates, priorities, and status updates.
- vi. Integrate task notifications to alert users of new assignments and upcoming deadlines.
- vii. Support customizable approval workflows for document reviews and sign-offs.
- viii. Provide options for sequential and parallel approval processes.
- xii. Enable users to track the status of documents within the workflow and receive the number

e) Approval Management

- i. Role-based approval hierarchies to ensure appropriate authorization levels.
- ii. Electronic and digital signatures to facilitate secure and verifiable approvals (legislation)
- xiii. Tracking of approval status and history for each requisition.

f) Integration with Financial Systems

- i. Seamless integration with the cash management module (budgeting to reporting) of the IFMIS to ensure accurate data flow.
- ii. Automatic updating of requisition status in the financial system upon approval.
- xiv. APIs for data exchange between the EDMS and other relevant systems

g) Security and Compliance

- i. Role-based access controls to ensure document security and privacy.
- ii. Access Control: Implement role-based access control (RBAC) to restrict access based on user roles and departmental requirements.
- iii. Data Encryption: Encrypt all sensitive data both at rest and in transit using industry-standard encryption methods.
- iv. Authentication: Use multi-factor authentication (MFA) for all users to enhance security.
- v. Audit trails to record document access, modifications, and approvals. Maintain comprehensive audit logs for all document transactions and user activities.
- vi. Data Integrity: Ensure data consistency and integrity across all transactions and storage.
- vii. Compliance with Data Protection Act 2019 of Kenya.

h) Advanced Search and Retrieval

- i. Powerful search functionality to locate requisition documents quickly.
- ii. Filtering options based on metadata, document type, date, etc.
- iii. Optical Character Recognition (OCR) for searching scanned documents.
- viii. The EDMS should handle at least 1,000 document transactions per minute during peak hours.

i) Reporting and Analytics

- i. Customizable reports on requisition status, workflow efficiency, and user activity.
- ii. Dashboards to visualize key metrics and trends in the requisition and approval processes.
- iii. Export options for sharing reports with stakeholders
- iv. Backup Frequency: Perform daily backups of all critical data and system configurations.

q. Appendix 2: TECHNICAL SYSTEM REQUIREMENTS

The EDM\$ system must be able to:

Table 1: EDM\$ system requirement

S/ N	Requirement	Description
a)	System Architecture for the EDM\$	<ul style="list-style-type: none"> • Client-Server Model: The EDMS should follow a robust client-server architecture that supports scalability and high availability. • Web-Based Interface: A web-based front-end accessible through modern browsers, ensuring cross-platform compatibility. • APIs for Integration: RESTful APIs should be provided to enable seamless integration with the IFMIS. • The system should support encryption of images for enhanced security. • The system should support open standards like Webdav and CMIS. • The system should support high-volume sites (30M documents and above archived). • The system should be platform-independent and support both Linux and Windows for application servers. • The system should be built using server-side Java and J2EE technologies. • The Document Management system should support enterprise-class RDBMS such as MS SQL Server, Oracle, PostgreSQL. and the system should be a multi-tier, web-based system (it has a web-based front-end for users and as well as for system administrative functions). The system supports centralized database, web, and application server with support for clustering. • The system should support a separate Document/Image server for better management of documents and store only metadata information in the database.
b).	<p>Electronic Work Flows (Automation of Business Processes)</p> <p>Document Management Features</p>	<ul style="list-style-type: none"> • The system should have the ability to deploy and rapidly automate a complete process. The system should come with an integrated graphical route builder that facilitates non-technical users like Business Analysts/ Process managers etc. to implement workflow of any complexity with just drag and drop function without any coding/programming effort. A complete flow chart of the process with programmed activities 101 and associated people should be generated using a Process Modeler. • Document Capture: Support for multiple input methods (scanners, emails, mobile devices) with OCR (Optical Character Recognition) capabilities. • Document Indexing: Automatic and manual indexing options to categorize and tag documents for easy retrieval. • Version Control: Maintain versions of documents with history tracking and rollback capabilities and should support versioning of documents with facility to write version comments • Search Functionality: Advanced search options including full-text search, metadata search, and filtering. • Access Control: Role-based access control to manage permissions at the document, folder, or system level. • The System should support the categorization of documents in folders-subfolders just like the Windows interface and there is no limit on the number of folders and levels of subfolders that can be created. • EDMS System should provide facilities to link related documents.

S/ N	Requirement	Description
	Archival of Electronic documents	<ul style="list-style-type: none"> • The EDMS system should provide a search facility in the same interface so users can search the documents to be linked. • The system should allow the locking of documents for editing and importing it back into the system through check-in/Check-out features. • EDMS repository should be format agnostic. and should support, multiple file formats i.e single and multi-page Tiff, Jpeg, single and multi-page pdf, BMP, XML, HTML, Doc, CSV, all Microsoft Office/open office file types, AutoCAD files, MP3, mp4, Avi 8 • The EDMS system should support the configuration of verification processes for different business types. It can handle multi-user environments for processing files related to different business types. While processing a file, all the data and images for each transaction are displayed to the processing users, and the users are allowed to accept, reject, or send the files for review.
c).	Data, Document Capture	<ul style="list-style-type: none"> • The system should have the ability to work with all the TWAIN and ISIS-supported scanners for document capture. • The EDMS system should support the importing of electronic documents, photos, and pictures from digital cameras or mobile phones. The system also has a document quality analyzer feature that automatically cleans and enhances the quality of imported images. • EDMS software solution should include the Rubber band feature for the extraction of data using OCR technology (for structured documents) that allows users to mark a zone on an image at runtime during the scanning stage & map the extracted data with the indexing field. • EDMS system should have capabilities to capture images already stored on computer local hard drives and network folders through the importing feature. When importing all the system features will be applied to the images and this includes image enhancement, auto separation, quality check, and image data extraction by the use of OCR, MICR, and ICR. • The EDMS system should have the ability to look up data and auto-name documents while scanning according to their field values. • The EDMS system should have the ability and features for users to scan/import additional pages into existing documents stored in the repository. The "insert after" and "insert before" functionality is used for this purpose. • The system should have quality control features that allow users to clean and enhance the quality of scanned/imported images. It also allows users to verify the captured information and correct it as required. The system's quality control features include; cropping, the rotation of images, black border removal, deleting of blank pages, noise removal, despeckle and de-skew • The system should have the blank page dropout feature which removes blank pages when scanning. This is always defined in the template creation/management and the scanning profile setup. The interface provides for the configuration of the Blank page removal attributes that define the desired thresholds to determine a blank page. • The system should support the archival of different types and formats of electronic documents. It also organizes records in the repository in a folder-like structure. All records that are related will be organized and archived in one folder. E.g. video recordings, audio recordings, minutes and supporting documents for a particular event can be organized in one folder.

S/ N	Requirement	Description
		<ul style="list-style-type: none"> • The system should allow the importing of pre-scanned electronic documents and directories by dragging and dropping. It also allows and accepts documents from Windows Explorer by browsing the desired source directories. • EDMS should come with a Microsoft Office addon that allows users to directly save office files from the office toolbar into the EDMS and the EDMS system should support connectors for Outlook clients that enable the mapping of email metadata. • Through the exporting and importing features, the system should be able to automatically create tiff images from PDF documents. The template configuration allows users to set the desired output image. This can either be TIFF, PDF or PDF/A. • The EDMS system should support OCR. Template configuration will include the setting of zones on standard forms that will direct the engine to extract data from the predefined zones during document capture. The extracted data will then be mapped to fields and later pushed to the workflow engine for processing • The EDMS system shall support bulk export and import of electronic documents, document folders, annotations, and their metadata and should have the capability to Auto populate indexing fields using Barcodes, Optical Mark Recognition (OMR), Optical Character Reading (OCR), and Magnetic Ink Character Reading (MICR) based extraction • EDMS should have the ability to extract text and data from documents and images and use the information in different ways i.e in the indexing fields, folder naming, document splitting/auto separation, document naming e.t.c. • The EDMS system should have the capability to schedule the uploading of documents to the repository automatically and to reduce the risk of compromising valuable information, the system should have the ability to automatically redact specific patterns on the documents and should be configured to easily import documents from the Microsoft Office suite applications i.e E-mail attachments. • The system should have an Auto separation and classification feature that can be applied to documents within a batch based on inserted blank pages, bar codes, bar code stickers, standard form, and fixed page separator. • The EDMS the system should support collaborative working via sequential or parallel working on scanned/imported documents. It ensures that all the scanned/imported documents move to the next required stage according to the customized workflow. • The EDMS system should provide a production-level scanning tool that can do bulk scanning of different types of documents, automatic distribution, and tracking to various users for indexing
(d) •	Integration with IFMIS	<ul style="list-style-type: none"> • Automated Data Synchronization: Automate the synchronization of financial data between the EDMS and IFMIS Cash Flow Management module to ensure real-time updates. • Workflow Automation: Create automated workflows for processing cash flow-related documents, such as approval of disbursements, reconciliations, and forecasting. • Interlinked Metadata: Ensure that metadata fields in the EDMS (e.g., transaction ID, fiscal period) are directly linked to corresponding fields in the IFMIS Cash Flow module.

S/ N	Requirement	Description
		<ul style="list-style-type: none"> • Audit Trail Integration: Maintain an integrated audit trail that records all actions taken on cash flow documents in both the EDMS and IFMIS.
E).	<p>EDMS Document View</p> <p>The EDMS System should;</p>	<ul style="list-style-type: none"> • Support Applet for viewing Image documents support page-by-page view for multipage documents. • Have an OPALL Viewer feature which like a document viewer provides the functionality of viewing documents and performing image operations such as zooming, rotation, printing, and contrasting. It also ensures superior image quality, flicker-free, panning and dragging. • Support archival & view of PDF/A format documents (open ISO standard for long-term archival of documents). • The Document view of the solution should have the provision to draw a line, insert arrows, etc over the image document and support viewing and rendering of PDF/A documents in an inbuilt viewer. • The system's document viewer should have the provision to highlight or hide certain text by drawing line rectangles and solid rectangles. • Support viewing documents in native/external applications. • Provide facilities for putting text, graphics, and image annotations on scanned document pages. • Support an integrated scanning solution along with ECM which supports image compression, enhancement, and bulk scanning. • Have a preview pane feature that allows users to display documents and their metadata even without opening them. • Support dockable windows and has a wide user-friendly interface allowing users to view images, text, thumbnails, and critical business information in a graphical format, has a template preview pane for users to view the selected templates and also leverage pre-built, portal-friendly controls, such as document lists, tiles, sliders, etc., • Enable the users to change the look and feel of the theme. There should be two parts to this feature. First, an admin user can change the theme for every user. Second, users can also change the theme and folder colors according to their preferences and this setting will take precedence • The system should allow users to customize the appearance of the toolbar icons with specific action icons but it is the admin who configures the toolbar view and assigns rights for users to access specific icons. and, allow users to customize its appearance i.e. changing the font size, customizing the user interface tabs etc.
F).	Annotations	<p>The EDMS system</p> <ul style="list-style-type: none"> • Image applet should support comprehensive annotation features like highlighting, marking text, underlining putting sticky notes on documents, and support for text and image stamps, etc. • should support automatic stamping of annotations with the user name, date, and time of putting annotations. • should provide facilities for securing annotations for selective users and store annotations as separate files and at no time, the original image shall be changed. The system provides facilities for taking printouts with or without annotations. • should have an HTML viewer to process images faster.

S/ N	Requirement	Description
G).	Indexing	<ul style="list-style-type: none"> • The System should provide facilities to index folders, files, and documents on user-defined indexes like department, county, file number, year, etc. • The system should support the identification of numbers in documents. The documents shall be defined in the scanning client while scanning i.e. the name assigned to the current job. • The system should provide the facilities for defining custom templates in the form of .INI by using a GUI Interface. The templates should be used to identify how records need to be separated within a batch and how doctypes need to be separated within a record while scanning a complete batch of documents. • The system's indexing component should provide the facility for defining custom templates in the form of .INI files by using a GUI Interface. • The system's indexing component should provide options for putting text, graphic, and image annotations. It supports annotations such as sticky notes, freehand curves, highlights, redaction, and so on. • The system should automatically detect the color of documents and categorizes them in an elaborate manner using its intelligent document classifier. • The system should support centralized template management. Users can redesign the template by updating required fields, adding appropriate controls, and reassigning existing templates. • The system should support auto-population of index fields using Barcode, Optical Character Reading (OCR), and Magnetic Ink Character Reading (MICR) based extraction. • The system should offer OCR functionality for the automatic extraction of data for indexing the metadata from multiple workstations. Checks and validations can be configured in order to ensure verified data entry from different workstations. • The EDMS systems indexing component should consolidate associating tags with the documents enabling easy searching and retrieval of the documents in the Electronic Document Management System (EDMS). • The system should allow multiple users to participate in each stage of a route for processing scanned documents. The indexing component can be configured to remember and separate indexed and unindexed zones in a document. • The System should support Automatic full-text indexing for Text searches.
H).	Security and Compliance and User Management	<ul style="list-style-type: none"> • Financial Data Encryption: Apply encryption protocols for financial documents to protect sensitive cash flow data in transit and at rest. • Compliance with Financial Regulations: Ensure the EDMS complies with financial regulations relevant to cash flow management, such as SOX or IFRS. • Role-Based Access Control (RBAC): Implement role-based access to restrict document access based on user roles, ensuring that only authorized personnel can view or edit cash flow documents. • Digital Signatures: Support digital signatures for approvals of cash flow-related transactions, ensuring authenticity and non-repudiation. • The system should provide an enhanced security framework in concurrence with the latest top 10 OWASP hence the system is secure against broken access control, cryptographic failures, injection, insecure design, security misconfiguration, vulnerable and outdated components, identification and

S/ N	Requirement	Description
		<p>authentication failures, software and data integrity failures, secure login and monitoring failures, server-side request forgery.</p> <ul style="list-style-type: none"> • The EDMS During the installation and configuration stage of the system, scheduled backups of the system and data should be implemented and a mirror site is created to ensure that a fallback is available in the event that the main site experiences downtime. • The Document management system should support the definition of Users, Groups, and Roles relation in the system and support access permissions on Folders, documents, and object levels. • The system should support multiple levels of access rights (Delete/ Edit/ View/ Print/ Copy or Download) and support application-based rights. • The system should support system privileges like Create/Delete Users, Define indexes, etc, and should support secure login IDs and passwords for each user, and passwords are stored in an encrypted format in the database. • The system should have a facility to define password policy with extensive password validations like passwords must be of a minimum of 8 characters, shall be alphanumeric, lock off the user after three unsuccessful attempts, password expiry, and password history so that passwords are not same as previous passwords, etc. • The system should support as a capability LDAP support for integrating with directory services and support single sign-on. • The system should support Extensive Audit-audit trails document, Folder, and for the highest levels for each action done by a particular user with a user name, date, and time. • When setting up the web API for other systems to access data from the system, one should be required to enter the login details the external application will use. One also should have to configure additional security settings which include allowed/restricted IPs, connection timeout, time slice the connection URL will work, and which fields of data one wishes to encrypt. • The system should support integration with PKI infrastructure as well as biometric solutions for enhanced security. • The system allows admins to assign and allow users to start a business process from the client through all the workflow steps. • The admin should also assign rights for the normal users to view the current steps for a business process and make any required changes
D).	User Experience	<ul style="list-style-type: none"> • User-Friendly Interface: Design the EDMS interface to be intuitive for financial officers, with dashboards that provide quick access to cash flow documents and workflows. • Responsive Design: Ensure the system is accessible from mobile devices, allowing users to manage cash flow documents and approvals on the go. • Customizable Dashboards: Allow users to customize their dashboards to display key cash flow metrics, pending approvals, and document status. • The system should have an easy-to-understand and user friendly interface. The system's UI should take a minimalist approach ensuring that users have all of the frequently used menus and toolbars appropriately placed on each page for easy access. The system should use easily recognizable icons that give a tooltip description of their function when you hover over them. The system should utilize breadcrumbs to ensure users know exactly where they are in

S/ N	Requirement	Description
		<p>the system, and also use a progress tracker to show users what stage they are at when performing an activity.</p> <ul style="list-style-type: none"> • The system should have a dedicated module called Personalize that allows the admin to manage: Color and Accessibility Theme for the system, the landing page presented to a user after they login, the repository view, toolbars, and custom operations without additional software customization. • The system should have a Personalize module that allows users to configure the interface without writing a single line of code by simply checking or unchecking any UI element they wish to enable or disable. The enabling or disabling of UI features is done through checkboxes, dropdown menus, and drag and drop. • The system's Personalize module should have a section called Repository view that enables an admin to select the items to be included in the column list of a repository. This section shall allow the administrator to choose the action buttons that will appear in the system after the user logs in. Some of the buttons that the administrator can include or disable/hide are print, move, copy, delete, share, check-in, check out, etc. • Once the WEB API is configured, the system should generate code that can be embedded in an external application, enabling it to retrieve and display documents directly on its window without using a different window.
J).	Search and Retrieval	<ul style="list-style-type: none"> • The system should have a robust search mechanism that allows one to configure how users can search for documents in the system. The search shall be set up at the folder or document level, and the users can search using the following input parameters: the name of a folder or document, the owner of the document, the type of document, keywords (the system supports full-text search with wildcard and conditional search), document/folder creation date, document/folder modification date, and data classes. • The system should support saving of search queries and search results. • The system should allow the creation of global indexes and keywords that can be associated with documents, so the use of these keywords can provide a quick reference to documents and help to retrieve them quickly and easily. • The system should have a search configuration manager that allows administrators to add custom search configurations and assign configurations to specific users or groups of users. • The system should support boolean operators to do searches via the wildcard search where AND is used between all the search terms and then searched. In this, for each word, a Wild Card search is made and then the results are ANDed. • The system should come with a web-based API that can be used to integrate it with other applications. The API allows one to set search options in terms of: Document name, Document ID, Data Class, Sort Order, Sort File, custom sort, and the folder that will be searched. • The system should allow administrators to create custom searches that can be assigned to specific users or groups. Admins can also specify what can be done with the search results for example, administrators can set whether searched documents can be printed, or downloaded, or whether notes or comments made on documents can be seen.

S/ N	Requirement	Description
		<ul style="list-style-type: none"> • The system should allow administrators to limit/filter search results by creating a list of unauthorized keywords. If a user enters these keywords during a search, results won't be displayed. • The system should offer smart tools to capture content from multiple sources, manage it in a secure centralized repository, and make information accessible across content-centric processes allowing users to search information with advanced and intuitive search capabilities, such as full-text, index-based, folder, and document search, as well as auto suggestions, faceted search hit highlighting, and more
f)	Performance and Scalability	<ul style="list-style-type: none"> • High Performance: Ensure the system can handle large volumes of cash flow documents and transactions without performance degradation. • Scalable Infrastructure: Design the system to scale with the organization's growing needs, particularly as financial operations expand. • Load Balancing: Implement load balancing to manage high transaction volumes and prevent system bottlenecks during peak financial periods.
g)	Support and Maintenance	<ul style="list-style-type: none"> • Support: Provide round-the-clock support to resolve any issues that could affect cash flow document processing. • Regular Updates: Schedule regular updates to keep the system compliant with the latest financial regulations and security protocols. • Training and Documentation: Offer comprehensive training for users and Technical/System administration maintain up-to-date documentation to ensure efficient use of the system.
h)	Reporting and Analytics\ Reports and Audit Trails Features	<ul style="list-style-type: none"> • Custom Reports: Enable the generation of custom reports on cash flow data and historical analysis. • Real-Time Analytics: Provide real-time analytics on cash flow, integrated directly into the EDMS dashboard, to assist with decision-making. • Audit Reports: Generate detailed audit reports that track all document activities related to cash flow management. The system should provide facilities to generate Audit trails on separate actions and between specific dates/times • The system should support Extensive audit trails at user, Folder, and Cabinet levels and Support extensive reporting facility at document, folder, and user levels. • The System should have an audit trail that maintains the history of all transactions performed on the system. • The system should give flexibility to administrators to do selective logging i.e. suspend and resume audit trail generation for a specific system and user activities and should log all the actions done by individual users with user name, date, and time and the administrator is be able to generate detailed audit logs and history of the process instance. • The system should allow users to output/export content and run the reports in several formats i.e. HTML, PDF, XLSX, CSV, and TXT. • The EDMS system should provide authorized access by assigning rights and privileges to access business intelligent reports. Only authorized users can view, email, and download reports
i)	Interoperability Integration and Web Services	<ul style="list-style-type: none"> • Integration with Other Financial Modules: Ensure the EDMS can seamlessly integrate with other IFMIS modules (e.g., cash flow) for comprehensive cash management.

S/ N	Requirement	Description
		<ul style="list-style-type: none"> • Standards Compliance: Use industry-standard data formats (e.g., XML, JSON) to ensure interoperability with other systems. • The system should have extensive integration capabilities, allowing it to integrate with other enterprise applications, tools, repositories, and cloud storage systems through web services, out-of-the-box adapters, web APIs, and custom APIs. The integration follows CMIS (Content Management) • Interoperability Standard; - SOAP/HTTP, and SSO (LDAP, SAML) standards. • The system should provide web services that can facilitate the upload and download of documents via external applications and can also allow external applications to execute workflow related actions. • The system should have out-of-the-box integration adapters for applications. Custom APIs and dll scripts should be written for the solution to fetch data from any 3rd party database to enable automatic updates and automatic retrieval of information. The APIs and dlls should be used to implement features such as auto indexing where a user only enters the unique id of a document and the other indexing field can be auto-populated from an external database. • The system should support integration with Email Servers. • The system should allow the administrator to share folders with either a number of users or groups to enable them to work collaboratively on the documents in the folder. Administrators should also set the types of actions that users/groups should perform on documents contained in folders, i.e., read, create, annotate, modify, delete, print, copy, and view protected data. • The system should be built around a robust industry-standard n-tier J2EE architecture with native XML capabilities, and offer XML-based API for easy integration with client applications developed in Java, C#, .NET and many other languages. • Once an API has been set up via the GUI, the system should automatically generate the API code. The generated API code shall be used as is or it can be modified as needed. The system should also come with a detailed developer manual with step by-step procedures for integrating the APIs and additional sample code. • The system should support a variety of multifunctional devices that can be used to scan documents directly into and print documents from the system. • The system should support the use of several digital signature solutions, such as Acrobat Sign, DocuSign through the available connectors that come with the system. • Custom APIs should be written to keep track of any updates made to metadata at any point of a workflow in the system and the APIs should automatically update the metadata stored in any external database. • The solution should be based on J2EE standards and have Unicode support, and support for open standards such as WebDAV, XML. It also should support LDAP & SSO, CMIS (Content Management Interoperability Standard)O, and SOAP/ HTTP. • Using custom APIs, the system should be integrated with any third-party bulk SMS platform to allow the delivery of SMS notifications for any workflow tasks/activities that may require the use of SMS notifications.
i)	Deployment and Testing	<ul style="list-style-type: none"> • Phased Deployment: Begin with a pilot phase, focusing on the Cash Flow Management module, before full-scale deployment.

S/ N	Requirement	Description
		<ul style="list-style-type: none"> Rigorous Testing: Conduct extensive testing, including user acceptance testing (UAT), to ensure that the EDMS meets all functional and performance requirements before going live.
k)	System Security	<ol style="list-style-type: none"> The System MUST have a robust security administration and authorization profiles that assure system access The system MUST execute authority checks in its security administration and authorization profiles to ensure that only authorized individuals can access the system or perform specific operations. The system MUST be able to provide audit Trail
l)	Administration	<p>Secure, SSH, HTTP and HTTPS for remote access administration</p> <ul style="list-style-type: none"> Fully configurable using Web User Interface (WUI) Virtual Service Configurations can be edited and tuned The system should support a web-based administration module for the complete management of the system. The system's Admin module should support Users/Groups/Role definition and granting Access Rights to them and setting password expiries and The Admin module should provide an easy-to-use interface for Index structure definition that can be used by different users. The Admin module should provide an interface for purging old audit trails and selective logging i.e. select the system or application features for, which the audit trails have to be generated. The Admin module should provide facilities to take complete and incremental backups and is able to integrate with third party backup solutions.
M) •	Backlog Document Scanning: Functional	<ol style="list-style-type: none"> Image Processing: The proposed scanning solution should have the following imaging features: Auto crop, Image rotation, Colour dropout, Speckle removal, Blank page deletion, Duplex camera imaging, Auto-skew, Editing of document data, Page insertion / replacement, Optical resolution of 200 – 300 DPI, Mechanical document detection and de-skew. File Format The proposed scanning solution should support the following file format JPEG (color/gray scale images); TIFF (black and white images); JPEG 2000, Single and multi-page TIFF, JPEG & searchable PDF Resolution The proposed scanning solution should support the following resolution Optical: 200-300 DPI Quality Control Quality control: The proposed quality control system should have the capabilities of Auto rotation, Auto scrolling, flagging documents for rescans, Re-scanning and inserting of pages/images. Edit, search, or delete metadata. Filter batches, automatically que batches for review, Stamp documents that have passed or failed quality control., Auto importing images from a watch folder. Image Manipulation The proposed digitization system should have automatic image manipulation capabilities that can: Improve image quality

S/ N	Requirement	Description
		<p>e.g., through punch hole removal, noise reduction and removal of unwanted lines. Auto deletion, backup and or denotation of blank pages</p> <p>6. Indexing: The proposed scanning system should have capability of reading barcodes from raw documents (hardware barcode reader and Image barcode reader) and OCR for higher recognition ratios. The scanning system shall be able to auto-index at both folder and subfolder (document) levels.</p> <p>7. Throughput: The proposed scanning platform should handle a daily throughput of up to 200,000 documents per day /400,000 images per day (A4 landscape). The proposed scanning system should manage speeds of over 200 pages per minute/400 images per minute (A4 landscape).</p> <p>8. Reporting: The scanning system must generate statistics of a given job to show the following to facilitate accurate billing: - Number of documents scanned, Day scanned, batch number, and cumulative totals of both documents and batches</p> <p>9. Validation: The proposed scanning system must also have the capability to pre-determine batches or documents requiring review; based on a wide range of criteria, including transaction type, document type, random percentage of batches reviewed, nth batch, transaction, or document in a series, and whether it is a flagged document</p> <p>10. Audit Trail: The scanning system should also show the various statuses of documents during the digitization process e.g., Scanning complete, Scanning error, Batch on hold, Quality control in progress/complete</p>

OFFICE OF THE CONTROLLER OF BUDGET