

ANNEX II + III: TECHNICAL SPECIFICATIONS + TECHNICAL OFFER

Contract title: Supply, delivery and installation of IT Hardware and e-learning platform to the Ghana Audit Service (GAS), and IT hardware and web-based internal Audit Management Information System to the Internal Audit Agency (IAA).

Publication reference: EuropeAid/140690/IH/SUP/GH

Annex III - The Contractor's Technical Offer

The tenderers are requested to complete the template on the next pages:

- Column 2 is completed by the contracting authority shows the required specifications (not to be modified by the tenderer),
- Column 3 is to be filled in by the tenderer and must detail what is offered (for example the words ‘compliant’ or ‘yes’ are not sufficient).
- Column 4 allows the tenderer to make comments on its proposed supply and to make eventual references to the documentation

The eventual documentation supplied should clearly indicate (highlight, mark) the models offered and the options included, if any, so that the evaluators can see the exact configuration. Offers that do not permit to identify precisely the models and the specifications may be rejected by the evaluation committee.

The offer must be clear enough to allow the evaluators to make an easy comparison between the requested specifications and the offered specifications.

PROJECT OVERVIEW

Ghana Public Financial Management Support Programme

The Government of Ghana, over the last few years, has undertaken a number of initiatives aimed at strengthening public financial management (PFM). One of the key initiative is the Ghana PFM Support Programme. The overall objective of the Ghana PFM Support Programme is to improve the economic governance and business environment and to maximize the benefits of the Economic Partnership Agreement (EPA) for Ghana in the context of Ghana beyond aid by supporting the building of a more robust oversight function of selected independent Government institutions. The main beneficiaries of this programme are:

- Ghana Audit Service (GAS)
- Internal Audit Agency (IAA)
- Public Procurement Authority (PPA)

A brief on the beneficiary institutions is highlighted below:

Ghana Audit Service (GAS)

The Ghana Audit Service (GAS) receives its mandate from the 1992 Constitution and the Audit Service Act 2000 (Act 584) and is the Supreme Audit Institution (SAI) of Ghana. Accordingly, the Service must meet high ethical and technical standards and procedures laid down by the Service and the International Organization of Supreme Audit Institutions (fINTOSAI). To meet all of its constitutional, statutory and professional audit responsibilities, the management of the Service has identified a need for capacity building to properly respond to the wide range of Public Financial Management (PFM) reforms being implemented by the Government of Ghana. The supply of Information Technology (IT) equipment and implementation a Learning Management System is a critical need for the Service to effectively utilize the Audit Management Software and enhance the capacity of staff.

Internal Audit Agency (IAA)

The Internal Audit Agency (IAA) was established through an Act of the Parliament of Ghana, Act 658, in 2003. It was established as an apex oversight body to coordinate, facilitate and provide quality assurance for internal audit activities within the Ministries, Departments and Agencies (MDAs) and Metropolitan, Municipal and District Assemblies (MMDAs) with the view to enhance efficiency, accountability and transparency in the management of public sector resources.

Details of the requirements for above listed institutions are presented below.

IT Hardware and e-learning platform to the Ghana Audit Service (GAS), and IT hardware and web-based internal Audit Management Information System to the Internal Audit Agency (IAA).

1. Background

This information is provided to the Tenderer in order to guide future state design for sustainable implementation and uptake of the Audit Management Information System (AMIS).

The current maturity of IT at IAA may be considered to be marginally beyond foundational. Currently, IT policy documents do not cover incident management and enterprise support indicating that organizational IT support may not be optimal. Technology management and operation approaches appear to be employed on a case-by-case basis as observed in the rollout of the Team Mate audit application which did not meet the end to end business requirements for the Agency. The Information Communication Technology (ICT) unit at the Agency is responsible for monitoring and maintaining information technology systems and services for IAA operations.

The unit employs a centralised model in the operation of its infrastructure. A total of three (3) people (2 permanent and one temporary) currently support technology at the Agency which is adequate for the organizational head count of 53 people. The Head of the unit is supported by two individuals with general expertise in technology operations covering areas of day to day support and infrastructure maintenance responsibilities. Currently, departments and units at the IAA leverage typical productivity software for day to day activities. More specifically, Microsoft Excel and Word are the only applications utilised for technical operations. The IAA's locally hosted file sharing sever is utilised for the central storage of all reports. The agency has no redundancy planning in place to prevent data loss should the primary infrastructure fail.

Following a BoG recommendation, IAA procured Team Mate, an internal audit application to support the activities of the body. Team Mate was funded by the World Bank till 2012 and licensing for the application has not been renewed since. As such, the organization currently lacks a core Technology Enabler (software platform) to drive its core responsibilities.

Reports from MDAs/ MMDAs are largely submitted in hardcopy. They are subsequently transcribed into spreadsheets for analysis and review. The process is highly manual, repetitive and prone to errors. The current report submission process would have to be reengineered to allow the submission of reports electronically in a standardised format for all agencies. This is required for the introduction of the proposed online web-enabled audit management tool.

2. Objective

The specific objective of this Lot is to implement and roll-out of an end to end (E2E) Audit Management Information System for IAA, and the supply of Information Technology (IT) equipment and implementation a Learning Management System for GAS to effectively utilize the Audit Management Software and enhance the capacity of staff.. The IAA AMIS is expected to have the following capabilities:

- Operationalize an internal audit management and monitoring system that is fully compliant with IAA audit methodologies and business processes.
- Enable IAA management to develop risk-based annual audit plans and monitor the progress of the audit assignments.
- Customizable electronic working papers supporting different types of audit methodologies and quality assurance processes.
- Automated audit follow up process and preparation of audit reports.
- Ability to automate audit workflow, management and execution processes, enabling access to timely and relevant audit information.
- The capture of the audit workflow and controls and monitoring during all stages of the audit process (including mechanisms for capturing ethical declaration by internal auditors, etc.)

- The rollout of the AMIS is expected to have a bearing on coordination roles between the IAA and GAS in the carrying out of their respective mandates.

3. Selected vendor Scope of Work

Key activities in scope include:

- Leveraging business process design and analysis proficiencies to validate requirements.
- Developing functional & technical design specification for reports, integrations and customizations.
- Building reports, data load programs (data migration), integrations and customizations.
- Executing Unit Testing.
- Executing System Testing and Performance Testing.
- Facilitating User Acceptance Test.
- Executing cut-over and requisite data migration cycles
- Providing hyper care support at a minimum.
- Have a Service Level Agreement for software support and maintenance.

Additional Responsibilities:

AMIS Sytem Implementation

Component	Responsibility
Module and systems	Implement all modules required to meet system functionality requirements.
Reports	Deliver all individual custom reports including core systems reports per the Functional Requirements Specification (FRS) specification.
Workflows & Alerts	Standard workflows and alerts are considered as part of the scope and are required to be configured as per applicability.
Integration	Provide integration points with the following third-party applications as part of the applicable scope: <ul style="list-style-type: none"> • Ghana Audit Service AMIS • An upper threshold of APIs to be exposed for consumption will be agreed with IAA.
Customizations	Implement all customizations required to deliver the full FRS are considered in the scope.

Component	Responsibility
Data Migration	<p>Vendor will undertake data conversion related activities for legacy data and the scope of data migration (if applicable) will be as follows:</p> <ul style="list-style-type: none"> • Providing appropriate data collection templates to the client team. In the data collection template, necessary mapping between AMIS and legacy system will be jointly defined by IAA and vendor. • Vendor will only perform data load to target system once IAA provides in the specified format
Go Live and Transition	Vendor shall develop and execute cutover strategy and cut-over plan to future state system.

Training and Support Requirements

Component	Responsibility
Training	Training on the use of the system is required to facilitate effective and continuous utilisation of the E2E AMIS after deployment.
	The implementation vendor will be required to provide training to all identified users on the operation, management and administration of the system.
	Training should be designed to meet the specific goals of improving user and administrator capability, capacity, productivity and performance.
	<p>For system administrators, there is a requirement to impart an understanding of the system architectural components including:</p> <ul style="list-style-type: none"> • Database, data schema and key tables. • Core infrastructure – platform application modules and corresponding hardware. • System configurations established for both hardware and software during the implementation of the system.

Component	Responsibility
Support	<p>Vendor will provide level 2 support for a limited agreed period as described below, once the issue is logged by raising ticket or calling or sending electronic mail. Level 3 support will be provided for a minimum of 1 year.</p> <p>Definitions: Level-0: User attempts to self-resolve by referring to your training documentation or online help or approaching peers. Level-1: User approaches core users or IT Team for resolving the issue. Level-2: Users will raise the issue by logging ticket or mail or on call. Support Team will resolve the issue within the time period depending on SLA and closes the ticket. Level-3: In case of level 2 support team failing to resolve the issue, requests are escalated to a development team either directly responsible for core software updates or able to liaise with OEM to resolve issues.</p> <p>The Hyper-Care support duration will be 4 weeks from the date of go-live and for the functionalities delivered in as per the validated and signed off functional requirement specification.</p>

4. Deliverables

The vendor is required to deliver on the following outcomes listed below at the end of the implementation window:

1. Production-ready full-fledged audit enablement solution which will encompass the entire internal audit lifecycle stages.
2. Test Reports
3. End-user Manuals
4. Training Delivery Report
5. Go-live Readiness Report
6. End-user Laptops, application servers, network devices and infrastructure (if applicable) to be configured and provisioned to “plug and play” with deployed AMIS solution environment.

1. Item No.		2. Specifications Required	4. Specifications offered	5. Notes, remarks, ref to documentation	6. Evaluation committee's notes
001	LAPTOPS for GAS (604 units)	▶ Processor: Intel Core i5, 2.5 GHz processor speed with turbo boost technology, 64-Bit, Generation 9 or higher			
		▶ Operating Systems: Windows 10 Professional 64-Bit factory installed			
		▶ Memory: 16GB RAM,			
		▶ Hard Drive: Internal 1TB, 7200 RPM Sata			
		▶ Display: 14 or 15"			
		▶ Video ports: VGA, HDMI (HDMI with VGA Interface cable acceptable)			
		▶ USB ports: 3xUSB ports (USB 3.0 minimum capability is a plus)			
		▶ Networking: Ethernet 10/100Mbps/1000mBPS Port, Wireless, Bluetooth			
		▶ Microphone and Speakers: Inbuilt with audio ports for external audio devices			
		▶ Webcam in-built			
		▶ Keyboard: US Keyboard, Full size, Full numeric Pad back light keyboard			
		▶ AC Adapter: 3-pronged AC adaptor (UK)			
		▶ Warranty: Minimum three Years, Parts & Service			
		▶ Accessories: Must include Carrying Case			
		▶ Microsoft Office Suite 2016 (64 bit) Pro			
002	LEARNING MANAGEMENT SYSTEM FOR	▶ Software Features and Capabilities			
		○ System should have the ability to support Interactive video learning.			

1. Item No.	2. Specifications Required	4. Specifications	5. Notes, remarks,	6. Evaluation committee's notes
GAS (E-LEARNING)	<ul style="list-style-type: none"> System should be able to produce and support Virtual conferencing and remote conferencing. 			
	<ul style="list-style-type: none"> System must make provision for a course library that can be updated with content on demand. 			
	<ul style="list-style-type: none"> System should have the ability to track system performance and provide alerts for system management. 			
	<ul style="list-style-type: none"> System should be able to produce customizable reports & course analytics. 			
	<ul style="list-style-type: none"> System must support the development and tracking of online tests, quizzes and presentations. 			
	<ul style="list-style-type: none"> System should be able to produce course certificates/badges etc. to users upon completion of training and tests where applicable. 			
	<ul style="list-style-type: none"> Pre-installed general content in the fields of management, finance, administration etc. 			
	<ul style="list-style-type: none"> System Installation to include specialised content to be provided by the purchaser. 			
	<ul style="list-style-type: none"> System should allow for addons and integrations such as webinar. 			
	<ul style="list-style-type: none"> System should be SCORM Compliant. 			
	<ul style="list-style-type: none"> ▶ Hosting Services 			
	<ul style="list-style-type: none"> Option 1 – Cloud-based solution hosted at an agreed hosting site with contracting party with live streaming capabilities with basic configuration for running web applications 			
	<ul style="list-style-type: none"> Option 2 – develop system specifications on server hosted on premise at a designated location of the contracting party. 			
	<ul style="list-style-type: none"> System users: 2,000 minimum 			
	<ul style="list-style-type: none"> ▶ Implementation Team 			

1. Item No.		2. Specifications Required	4. Specifications	5. Notes, remarks,	6. Evaluation committee's notes
		Project Manager to provide oversight and direction for project team during implementation <ul style="list-style-type: none"> Minimum Qualification: Must have 5+ years' experience managing large IT implementations for public sector organization Have an internationally recognized project management certification preferably for IT projects implementation 			
		Solution Architect/Developer to design and develop/configure application <ul style="list-style-type: none"> Must have 8+ years in application development and solution design for web-based applications. Must have at least one relevant developer certification of international repute. 			
		Content Developer to assist with training content development and learning management activities <ul style="list-style-type: none"> Minimum Qualifications: 5+ years' experience in building Online Training Applications in both cloud and on-prem settings, evidenced by past credentials on such implementation 			
		Trainer to provide training and user guides on how to use system <ul style="list-style-type: none"> Minimum Qualifications: At least 5 years' experience in providing learning instructions and capacity building in similar projects within the last 3 years 			
		► Implementation			
		<ul style="list-style-type: none"> Must demonstrate successful implementation of at least two Learning Management System evidenced by completion certificate signed by the beneficial entities. 			

1. Item No.		2. Specifications Required	4. Specifications	5. Notes, remarks,	6. Evaluation committee's notes
		○ One of the 2 implementations must have been for a public sector entity in the last 3 years.			
		○ Demonstrated past implementations must include requirement analysis, application design, software configuration, training, testing and full system roll outs.			
		Tenderer must show evidence of software manufacture's authorization to implement their product, where applicable.			
		○ Tenderer's response must show details of implementation methodology with milestone deliverables. The tenderer will be required to implement the software.			
		○ Provide knowledge transfer and project management approach.			
		○ Tender's response must include a Change Management strategy for transitioning eLearning platform to contracting entity.			
		▶ Support and Maintenance			
		○ Must have technical support team in Ghana for remote and onsite support as needed.			
		○ Tenderer's response must include a proposed maintenance plan for one year following implementation.			
		○ Prior experience providing user incident management for an organization evidenced by an attestation from contracting organization is required.			
		○ Vendor must be able to provide software licenses that is acceptable to contracting party (perpetual license preferred).			
003	Support Services	Hardware and other related equipment			

1. Item No.		2. Specifications Required	4. Specifications	5. Notes, remarks,	6. Evaluation committee's notes
		<p>The tenderer responses should indicate how they would provide the required services (i.e. supply, install, configure, test, train and handover) for all hardware related items listed above. Where necessary e.g. laptops computers, appropriate licenses should be activated for Microsoft Office Suite.</p> <p>Software</p> <p>The tenderer responses should indicate how they would provide the required services for the following activities:</p> <ul style="list-style-type: none"> ○ Supply and install the e-Learning system software. ○ Install and configure e-Learning system. ○ Establish and test onsite and remote connectivity to service provider. ○ Assist in developing online learning content. ○ Test user access to system both on-premise and offsite. ○ Obtain user licenses per agreement with the contracting authority. ○ Develop and obtain sign off for Training Strategy. ○ Provide an end user training plan and training materials for utilizing the LMS covering. ○ Provide training for application Administrators and IT support staff. ○ Run a pilot to test end to end functionality of the eLearning application. ○ Deploy and commission e-learning application. ○ Provide short term post-implementation support onsite. ○ Have a Service Level Agreement for software support and maintenance. 			

1 Item No.	2 Specifications Required	4.Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
004	<p>LAPTOPS FOR IAA AMIS (200 units)</p> <ul style="list-style-type: none"> ▶ Processor: Intel Core i5, 2.5 GHz processor speed with turbo boost technology, 64-Bit, Generation 9 or higher ▶ Operating Systems: Windows 10 Professional 64-Bit factory installed ▶ Memory: 16GB RAM, ▶ Hard Drive: 512 SSD. ▶ Display: 14 or 15" ▶ Video ports: VGA, HDMI (HDMI with VGA Interface cable acceptable) ▶ USB ports: 3xUSB ports (USB 3.0 minimum capability is a plus) ▶ Networking: Ethernet 10/100MBps/1000mBPS Port, Wireless, Bluetooth ▶ Microphone and Speakers: Inbuilt, with audio ports for external audio devices ▶ Webcam in-built ▶ Keyboard: US Keyboard, Full size, Full numeric Pad back light keyboard ▶ AC Adapter: 3-pronged AC adaptor (UK) ▶ Warranty: Minimum three Years, Parts & Service ▶ Accessories: Must include Carrying Case 			

1 Item No.		2 Specifications Required	4.Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
005	HOSTING SERVICES	<p>Option 1 – Cloud-based solution hosted at an agreed hosting site with contracting party. Cloud resources must be capable of running AMIS and sustain non-functional performance requirements for system production environment and backup.</p> <p>Vendor to provide optimal server specifications to support their solution. with live streaming capabilities with basic configuration for running web applications.</p>			
		<p>Option 2 – Develop system specifications on server hosted on premise at a designated location of the contracting party.</p> <p>This option (option 2) must provide turn-key Network infrastructure and Virtual Private Network (VPN) to connect to AMIS production environment.</p> <p>Vendor to provide network and infrastructure specifications to support optimal use of AMIS solution.</p>			

1 Item No.	2 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
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1 Item No.		2 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
006	SOFTWARE	01 – Internal Audit Strategy			
		Ability to define a strategic plan coverage period and its span (1,2,3 or 4 years).			
		Ability to document stakeholder Internal Audit expectations and categorize the expectations by the stakeholder group within a strategic period.			
		Ability to input and capture the broad scope and emphasis of the IAA Internal Audit Strategy for the current period.			
		Ability to input and capture the strategic pillars (annual initiatives) of the overall current Internal Audit Strategic plan.			
		Ability to display and report on overall strategic pillars for the purpose of Internal Audit Agency/Service management review by strategy coverage period.			
		Ability to capture an inventory of Audit focused 'Thrust Areas' across all internal audit engagements.			
		Ability to tag and link each internal audit thrust area to a specific strategic pillar.			
		Ability to maintain a history or archive of Internal Audit Strategic Plans.			
		Ability to build a new strategic plan using previous period's plan as a base template			

1 Item No.	2 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		02 – Audit Planning and Scheduling		
		Ability to set custom audit periods for covered entities based on type/classification of the entity.		
		Ability of the preparer to set up users (contacts) and assign roles at the engagement level pending approval by designated secondary reviewer as part of the standard workflow		
		Ability to capture audit workflow.		
		Ability of the to capture approval hierarchy for all audit engagements		
		Ability of the preparer to document training needs of staff for the year		
		Ability of the preparer to attach information requested including management inputs, IA's strategic plan, risk register of covered entity, SMTDP (Sector Medium Term Development Plan) / strategic plan of covered entity, programme-based budget of covered entity, etc. The information could be in different file formats including Word, Excel, PowerPoint, PDF (portable document format), other image formats such as jpeg. Etc.		
		Ability of the preparer to create the audit entity/thrust areas pending approval by a designated secondary reviewer as part of the standard workflow		

1 Item No.		2 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Ability of the preparer to select and assign risk factors and scores.			
		Ability to populate risk library with risks, controls and controls objectives for the organisation.			
		Ability to set scoring formulas and scoring bands for each organisation.			
		Ability to choose scoring metrics, e.g. impact and likelihood, which best describe an approach to risk determination.			
		Ability of the preparer to prioritise audits based on the risk assessments/ scores.			
		Ability of the preparer to assign/ map resources to the audits.			
		Ability of the preparer to submit annual audit plan for review and approval by designated secondary reviewer as part of the standard workflow			
		Ability of the reviewer(s) to review and approve the annual audit plan. The reviewer(s) should be able to provide comments, if any. However, the reviewer(s) should not be able to edit the plan.			
		Ability of the preparer to submit change request(s) after the approval of the annual audit plan.			
		Ability of the reviewer(s) to review and approve change request(s) to the annual audit plan			

1 Item No.		2 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Ability of the preparer to print the approved annual plan for filing / communication			
		Ability to create plans based on previous plans and templates.			
		02 – Engagement/Assignment Planning			
		Ability for AMIS core risk matrix methodology size to be configured (3x3 vs 5x5 etc)			
		Ability of the preparer to create an assignment / work plan indicating the purpose, plan period, the assignment to be used for and the approver.			
		Ability of the preparer to create an internal audit engagement / assignment / project based on the approved assignment plan			
		Ability of the preparer to add other internal audit staff to the audit engagement using scheduling tools such as Gantt chart, etc			
		Ability of staff added to audit engagements to receive email notifications			
		Ability of the user(s) to concurrently complete independence confirmations			
		Ability to require user(s) to provide comments for each standard item in the independence confirmation(s).			

1 Item No.		2 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Ability of the Head of Internal Audit Unit to review and approve independence confirmations by the internal audit staff			
		Ability of the preparer to upload a copy of the planning memorandum (engagement letter) shared with the client.			
		Ability of the preparer to directly enter or upload minutes and attendance sheet of the kick-off meeting.			
		Ability of the preparer to directly enter or upload minutes and attendance sheet of the entry conference meeting.			
		Ability of the preparer to document IA's understanding of the thrust area under review.			
		Ability of the preparer to attach evidence to support the documentation of the understanding of the thrust area under review.			
		Ability of the preparer to select a reviewer to review the documentation of the thrust area under review..			
		Ability of the reviewer to review the understanding of the thrust area under review and document conclusions.			
		Ability of the preparer to document objectives, risks and controls.			

1 Item No.		2 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Ability to add comments and attach supporting documentation to assessments of risks and controls			
		Ability to require preparer to carry out audit according to quarter work plan			
		Ability of preparer to assign/allocate reviewer to review documentation of objectives, risks and controls.			
		Ability of reviewer to review evidence of documentation of objectives, risks and controls. Reviewer should be able to provide comments but should not be able to edit the original documentation.			
		Ability of the preparer to evaluate existence and effectiveness of controls.			
		Ability of the preparer to document findings /observations from the evaluation of the existence and effectiveness of controls.			
		Ability of the preparer to analyse the findings / observations according to the following parameters: criteria, condition, cause, effect and corrective action.			
		Ability of the preparer to document audit programmes to test controls and substantive testing.			
		Ability of the preparer to select reviewer to review audit programmes.			

1 Item No.		2 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Ability of the reviewer to receive email notification on assigned review task.			
		Ability of the reviewer to review audit programmes and provide comments. The reviewer should not be able to edit the audit programmes.			
		04 – Audit Fieldwork and Execution			
		Ability of the preparer to initiate controls testing.			
		Ability of the preparer to select the population.			
		Ability of the preparer to select the sampling approach (statistical or non-statistical sampling) in cases where not the entire population will be tested.			
		Ability of the preparer to add comments / justification for sampling approach selected.			
		Ability of the preparer to select the sampling method and size in cases where the statistical sampling approach will be used.			
		Ability of preparer to add comments / justification for sampling method and size used.			
		Ability of the preparer to select a reviewer to review population, sampling approach, method, size and justifications.			
		Ability of reviewer to receive email notifications on assigned review tasks.			

1 Item No.		2 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Ability of reviewer to review population, sampling approach, method, size and justifications and provide comments. The reviewer should not be able to edit original documentations.			
		Ability of the preparer to document the findings / results from the controls testing.			
		Ability of the preparer to analyse the findings / observations according to the following parameters: criteria, condition, cause, effect and corrective action.			
		Ability of the preparer to attach evidence to support the findings / results of the controls testing performed			
		Ability of the preparer to select a reviewer to review the findings / results of the controls testing and the supporting evidence			
		Ability of reviewer to receive email notifications on assigned review tasks			
		Ability of reviewer to review findings / results of controls testing and the supporting evidence. The reviewer should be able to provide comments. The reviewer should not be able to edit the findings / results of the controls testing.			
		Ability of the preparer to initiate substantive testing			
		Ability of the preparer to select sampling technique			

1 Item No.		2 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Ability of the preparer to select the sampling size			
		Ability of the preparer to select a reviewer to review sampling technique, size and justifications			
		Ability of reviewer to receive email notifications on assigned review tasks			
		Ability of reviewer to review sampling technique, size and justifications and provide comments. The reviewer should not be able to edit original documentations.			
		Ability of the preparer to document the findings from substantive testing			
		Ability of the preparer to analyse the findings according to the following parameters: criteria, condition, cause, effect and corrective action.			
		Ability of the preparer to attach the evidence to support findings MMDS of the substantive testing performed			
		Ability of the preparer to select a reviewer to review the findings / results of the substantive testing and the supporting evidence			
		Ability of reviewer to receive email notifications on assigned review tasks			

1 Item No.		2 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Ability of reviewer to review findings / results of substantive testing and the supporting evidence. The reviewer should be able to provide comments. The reviewer should not be able to edit the findings / results of the substantive testing.			
		Ability of the preparer to upload minutes and attendance sheet of exit meeting.			
		Ability to allow multiple users to concurrently work on different activities in the same tab/phase/stage and in different tab/phase/stage.			
		Ability of preparer to request initial responses on findings using a findings sheet.			
		05 – Audit Wrap-up and Reporting			
		Ability of the preparer to download or export draft internal audit report templates.			
		Ability of the preparer to attach /upload draft internal audit report after modification of template to reflect the draft findings of the assignment.			
		Ability of the preparer to select a reviewer to review the draft internal audit report.			
		Ability of reviewer to receive email notifications on assigned review tasks.			
		Ability of reviewer to review the draft internal audit report. The reviewer should be able to provide comments to the draft internal audit report.			

1 Item No.		2 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Ability of the preparer to email the draft internal audit report to the contact person for the covered entity for responses.			
		Ability of the preparer to attach finalised internal audit report after reviewing and incorporating management responses to the draft internal audit report.			
		Ability of the preparer to print finalised report for filing and submission to audit committee			
		06 – Audit Follow-Up (Issue Tracking)			
		Ability to track and follow up on findings from creation to closure.			
		Ability to analyse follow-up activity / tracking according to the following parameters: <ul style="list-style-type: none"> ▪ finding ID ▪ criticality/ rating ▪ status of finding ▪ thrust area ▪ agreed action/ remediation plan ▪ person responsible ▪ status of remediation plan implementation ▪ the expected date of closure / remediation 			
		Ability to perform an ageing analysis on outstanding issues.			
		Ability to define classification criteria for findings ranked as high, medium or low.			

1 Item No.		2 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Ability to generate system generated alerts on outstanding issues and notify designated parties for further action.			
		Ability to configure frequency of alert notifications			
		Ability to configure and prioritize alert notifications on the basis of outstanding issue and related finding ranking (high, medium, low).			
		Ability to configure alert notification to coincide with Annual Internal Audit Reporting deadline schedules.			
		Non-Functional Requirements			
		07 – Access Security			
		Users must be authenticated before they can make use of the system.			
		Users shall be forced to change their password the next time they log in if they have not changed it within the length of time established as “password expiration duration.”			
		Users must change the initially assigned login authentication information (password) immediately after the first successful login. The initial password may never be reused.			
		The access permissions for system data may only be changed by the system's data administrator.			

1 Item No.		2 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Passwords shall never be viewable after the point of entry, all passwords should be salted and hashed using an irreversible hashing algorithm.			
		Each unsuccessful attempt by a user to access an item of data shall be recorded in an audit trail.			
		System should capture record of all user actions in an audit trail.			
		Users shall receive notification of profile changes via the preferred communication method of record when profile information is modified.			
		The system shall provide a role-based user access mechanism where an administrator can create and manage users, organisations, user groups, roles, and role permissions.			
		08 - Accessibility			
		The system shall utilise UTF-8-character encoding in all areas.			
		09 - Availability			
		The system shall be available 24/7 with all service level agreements adhered to. Maintenance shall be done during off-peak periods and backups should be provided.			

1 Item No.		2 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		The geographic location of the server shall not impede the availability of the system; hence the connection requirements and firewall restrictions should not impede the server from performing as expected.			
		10- Confidentiality			
		The system shall encrypt all data in transit employing a publicly known asymmetric encryption (public-key) for all data in transit			
		The system shall support encryption of all data in storage.			
		11 - Efficiency			
		The system shall support 5,000 user account provisions.			
		The system shall support 50% of provisioned users concurrently at peak periods with no performance issues.			
		The account update process shall roll back all related updates when any update fails to commit.			
		The system shall be compatible with all major modern browsers (Chrome, Safari, Firefox, IE9).			
		12 - Integrity			

1 Item No.		2 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		The system is to be designed as a robust and dependable operational system which is tolerant to operator errors and which will recover cleanly from power cuts or other disasters.			
		13 - Reliability			
		The system shall be able to operate over reasonably common internet connection speed, the server shall respond to client requests in less than one (1) second.			
		14 - Usability			
		The system must guide users through an interface based on end-user concepts.			
		The system must be easy to learn and does not obstruct the thematic understanding of the users.			
		The system must make it easy to correct mistakes.			
		15 - Flexibility			
		The system shall allow for the modification to adapt to different environments, configurations and user preferences.			
		16 - Maintainability			
		The system shall not be shut down for maintenance more than once in a 24hour period.			
		17 - Modifiability			

1 Item No.		2 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		No piece of text that might be displayed to a user shall reside in source code. That is, every piece of text that a user might see must be modifiable without changing source code			
		A development programmer who has at least one year of experience supporting this software application shall be able to add a new product feature, including source code modifications and testing, with no more than one week of labour.			
		De-facto architectural patterns and design patterns must be used in the construction of the system architecture.			
		The code shall be written professionally with proper indentations and comments. Functions shall be built modularly to enable abstraction of different parts of the system.			
		Function calls shall not be nested more than two levels deep.			
		18 - Scalability			
		The system shall be scalable to support unlimited growth in the number of users and audit entities.			
		The system shall allow several entries to be made at the same time without downgrading performance.			
		19- Installability			

1 Item No.		2 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		It shall be possible for the system's main server software to be installed by a competent system administrator who has no previous knowledge of the system or of the third- party products it uses, but who is familiar with the operating system of the machines on which it is to be installed. The software shall be installed from a popular portable medium			
		Installing an upgrade shall not modify existing configuration values. An exception is made for any values that the new version uses in different ways from the previous version. The motivation for this requirement is to avoid wasting the time of users who have spent considerable time configuring the system to suit themselves			
		The system should be able to run on commodity hardware and non-specialized software environments.			
		20 - Portability			
		The system should be easily transferable to another software environment and hardware.			
		All timestamps recorded by the system shall be in UTC (Universal Time Coordinated) when placed into permanent storage.			
		21 - Reusability			

1 Item No.		2 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Web applications shall be developed to adhere to HyperText Markup Language (HTML) guidelines and standards.			
		All software that runs on a client device shall be written in a prevalent programming language such that the software can be run on a personal computer without having to download a supporting environment.			
		22 - Interface Requirements			
		The system should be able to interface with other popular audit workflow tools or solutions to import and export data.			
		The system should be able to exchange data with other applications and systems using the Extensible Markup Language (XML) encoding.			
		23 – Other Functional Requirement			
		Ability to filter and sort search results at the global and local level.			
		Ability to include images, emails and pdfs into file as audit evidence.			
		Ability to cross-reference work papers in one phase to a work paper in another phase			
		Ability to hyperlink to websites, including files stored outside the database, e.g. ACL			

1 Item No.		2 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Ability to create and link work papers to bookmarks.			
		Ability to integrate with Microsoft Office Suite for document management and calendar management.			
		Ability to produce risk assessment detail report.			
		Ability to produce audit universe heat map report.			
		Ability to produce risk category heat map report.			
		Ability to customize report templates to tailor layouts to custom reporting standards.			
		Ability to search their team for specific skills, credentials, languages, experience or locations to meet the needs of a project.			
		Ability to detect scheduling conflicts so schedulers can easily identify when they are about to create a conflict – and if conflicts exist, easily resolve them			
		Ability to generate reports to demonstrate individual schedules, resource utilization, resource skills, free time, etc.			
		Ability to allow multiple users to concurrently work on different activities in the same tab/phase/stage and in different tab/phase/stage			
		Ability to perform and track audit activities using the system in offline mode, when you're not connected to the internet or WAN, and synch work when you reconnect.			

3 Item No.		4 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
007	IMPLEMENTATION TEAM	Project Manager <ul style="list-style-type: none"> • 10+ years of project management • Led at least one large IT system implementation, preferably for an audit management informaiton system. • Degree in Mangement Information Systems (MIS)/Project Management is preferred. 			
		Solution Architect <ul style="list-style-type: none"> • 8+ years of working experience • Conceptualization, Design, implementation and Delivery Management of large complex IT solutions. • Degree in Computer Science or related field preferred. • Possess strong understanding of open source and leading proprietary solutions as well as web application development techniques. • Have done similar projects using the above-mentioned skills within the last 10 years. 			

3 Item No.		4 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Internal Audit Functional Specialist/Business Analyst <ul style="list-style-type: none"> • 8+ years of working experience. • Possess experience in defining business requirements for business critical systems such as an audit management system. • Experience in running user workshops to gather and confirm requirements for systems configuration and deployment, preferably in the public sector. • Must have good data analysis experience. • CIA or ACCA qualifications are strongly preferred. 			
		Trainer <ul style="list-style-type: none"> • 5+ years of end-user training experience • Should have delivered training on the relevant solution and subject matter area within the last 3 years. 			

5 Item No.		6 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
008	IMPLEMENTATION	Must demonstrate successful implementation of at least two Audit Management Information Systems evidenced by completion certificate signed by the beneficial entities.			
		One of the 2 implementations must have been for a public sector entity in the last 5 years.			
		Demonstrated past implementations must include requirement analysis, application design, software configuration, training, testing and full system roll outs.			
		Vendor must show evidence of software manufacture's authorization to implement their product, where applicable.			

5 Item No.		6 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		<p>Vendor's response must show details of implementation methodology with milestone deliverables. The vendor will be required to implement the software. This will entail the following key activities:</p> <ul style="list-style-type: none"> • Leveraging business process design and analysis proficiencies to validate requirements. • Developing functional & technical design specification for reports, integrations and customizations. • Building reports, data load programs (data migration), integrations and customizations. • Executing Unit Testing. • Executing System Testing and Performance Testing. • Facilitating User Acceptance Test. • Executing cut-over and requisite data migration cycles. • Facilitating go-live activities. 			
		Provide Knowledge transfer and project management approach.			
		Tender's response must include a Change Management strategy for transitioning AMIS platform to contracting entity.			

1 Item No.		2 Specifications Required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
009	SUPPORT AND MAINTENANCE	Must have technical support team in Ghana for remote and onsite support as needed.			
		<p>Vendor's response must include a proposed maintenance plan for one year following implementation. The vendor will be required to:</p> <ul style="list-style-type: none"> • Provide hyper care support at a minimum. • Have a Service Level Agreement for software support and maintenance. 			
		Prior experience providing user support and/or management for an organization evidenced by an attestation from contracting organization is required.			