COUNTRY: KENYA
PROJECT: KENYA DIGITAL ECONOMY ACCELERATION PROJECT (KDEAP)
IMPLEMENTING AGENCY: Information and Communications Technology Authority (ICTA)
PROJECT ID: P170941; Credit Numbers 7289-KE and 7290-KE

TERMS OF REFERENCE FOR:

REQUEST FOR EXPRESSION OF INTEREST FOR

COMPREHENSIVE AUDIT OF THE ONE GOVERNMENT NETWORK

Contract No: KE-ICTA-458646-CS-QCBS

Issue Date: 11th February 2025

Closing Date: 26th February 2025 at 1000Hrs East Africa Time

Client:
The Chief Executive Officer,
ICT Authority
Telposta Towers 12th Floor, Kenyatta Ave
PO Box 27150 - 00100 Nairobi Kenya
Tel: +254 20 2089061/ 2211960 Fax: +254 20 2211960
Email: procurement@ict.go.ke , info@icta.go.ke
Website: www.icta.go.ke

Table of Contents

Table of Contents

1) INTRODUCTION & BACKGROUND

The Government of the Republic of Kenya (GoK) has received financing in the amount equivalent to US$390 Million from the World Bank towards the cost of the first phase of the Kenya Digital Economy Acceleration Project[1] (thereafter Project) and it intends to apply part of the proceeds to payments for goods, works, non-consulting services and consulting services to be procured under this project.

The project includes the following components.

- **Component 1: Digital Infrastructure and Services**. The aim of this component is to increase access to high-speed internet for individuals, industry, and government—the 'foundation of the foundations' of a digital economy and strengthen Kenya's role as regional digital leader, while leveraging investments from the private sector
- **Component 2. Digital Government and Services**. This component will invest in the foundational digital services, platforms, architectures, and policies needed to transform the way the Government communicates and conducts its internal operations.
- **Component 3. Digital Skills and Markets**. This component aims to equip young Kenyans with digital skills and strengthen their abilities to access and compete in domestic and regional markets, to study mechanisms of improving access to affordable devices and to enhance the enabling environment for e-commerce to support Kenya's role as a regional digital hub.
- **Component 4. Project Management**. This component supports project implementation and coordination led by the Project Implementation Unit (PIU) within ICT Authority (ICTA) and capacity building.
- **Component 5: Contingent Emergency Response Components.** This component will be activated in the event of an emergency.

The GoK intends to apply a portion of the proceeds of the Credit to cover activities under Sub-component 1.1 (Extending the Reach of the Backbone Networks), namely, to recruit a firm to conduct a comprehensive audit of the National Optic Fiber Backbone Infrastructure (NOFBI).

The GoK has invested in the NOFBI cable and extending backbone infrastructure across the country over the last 14 years. The purpose of this investment was to provide government institutions with high-capacity, reliable, and secure connectivity to enable them to deliver multiple services including voice, internet, and access to e-Government applications to serve the citizens more efficiently, while availing extra capacity to private operators for commercial purposes. This has enabled Government agencies to deliver multiple services including voice, internet, and access to e-Government applications to serve the citizens more efficiently.

Since its inception, the Ministry of Information Communication and the Digital Economy (MICDE), the State Department of ICT and Digital Economy, and ICTA have been

[1] The Program Information Document for KDEAP, and other documentation, is available at: https://projects.worldbank.org/en/projects-operations/project-detail/P170941.

responsible for the implementation of the NOFBI project that was undertaken in three phases:

- Phase 1 covers 4,300KM;
- Phase 2 spans 2,100KM; and
- Phase 3 expansion covers 2,500 KM.

ICTA is mandated to manage the **One Government Network (OGN) that includes NOFBI and subsequent GoK investments expanding the fiber connectivity across the country.**

2) OBJECTIVES OF THE ASSIGNMENT

In line with its strategic objectives, ICTA seeks to ensure the continued effectiveness & efficiency, security, compliance, management of change and profitability of the OGN through a comprehensive technical and commercial audit, which forms a focus on this assignment. The audit will provide ICTA with actionable insights and recommendations to optimize network performance, enhance maintenance protocols, maximize revenue from commercial activities and enable long term strategic planning. It is expected that the result of the audit, both technical and commercial, will help guide ICTA in its plan to commercialize the network for maximum value utilization of the network to ensure sustainability of the asset.

The objectives of the assignment are to:

(A) Technical audit of the OGN to assess the integrity, efficiency, effectiveness, security and scalability of the OGN infrastructure. This includes a review of network assets, resource utilization, inventory and power utilization. The same audit will also be required to make recommendations for the proper utilization of all the above findings with an implementation plan for the same. Further, the technical audit will evaluate the effectiveness of the OGN's design, implementation and maintenance strategies, compliance with service level agreements (SLAs), and overall reliability of the operations management framework. It will assess ICTA's network operations center (NOC) procedures and other internal processes that impact on the network.

(B) Commercial audit of the OGN to review the revenue generating capacity of OGN, assess the current commercialization model of the network and specifically client onboarding procedures, billing, quality control, client management, collection and accounting procedures, products and services awareness/promotion and brand positioning. It is also intended that the commercial audit will review the existing business model of the network with the objective of recommending an appropriate model for revenue optimization.

3) SCOPE OF SERVICES AND SPECIFIC TASKS OF THE ASSIGNMENT

3.1 Scope of services

The technical audit shall cover all the digital infrastructure network across the country which comprise the following:

#	Links
1.	Government Common Core Network (GCCN)
2.	National Optic Fibre Backbone Infrastructure Phase 1 (NOFBI1)
3.	National Optic Fibre Backbone Infrastructure Phase 2 (NOFBI2)
4.	National Optic Fibre Backbone Infrastructure Phase2E (NOFBI2E)
5.	Last Mile County Connectivity Infrastructure
6.	East Africa Regional Trade and Transport Development Facilitation Project Infrastructure
7.	Internet Gateway Sites (Nairobi & Mombasa)
8.	County Innovation Hubs
9.	Digital Super Highway Project Infrastructure

a) Under the Technical audit the consulting firm is expected to perform the following tasks:

i) <u>Network Infrastructure Assessment</u>:

- Conduct a thorough inventory of all network assets, including routers, switches, firewalls, fiber, wireless equipment, adhering to **ISO/IEC 19770 and ISO 55001.**
- Assess the network infrastructure and provide the description of the current status by major links in line with international approved standards providing optical time-domain reflectometer (OTDR) measurements, as prove of status. Identify network gaps, such as open manholes, issues with cable management, etc., to help understand quality of service (QoS) offered by the different providers, such as implementation and maintenance contractors.
- List all terminations into the various ICTA nodes with recommended action where there may be any un-authorized connections.
- Assess the utilization of the OGN, identifying the actual consumers of services across the country (this includes identification of active fiber cores at each termination point to inform current and planned capacity) and provide an updated infrastructure usage database with detailed capacity uptake by customer/user/service or as may be defined.
- Assess the network resilience, redundancy and roll out plan (including design for future expansion, rehabilitation, and disaster recovery plans) with future fit recommendation.
- **Deliverables:**

    1. **Fiber assignments specifying users/customers provisioned by site**

2. **List of existing equipment, per site, Maintenance status, Software & Hardware End of Support/ End of Life**
3. **Infrastructure redundancy level and types**
4. **Equipment Capacity utilization and possibility of future upgrades**
5. **Outside Plant status – manholes, cables, site usage**
6. **Site Planning – Site Layout drawing, power utilization (available circuit breakers, MCPs, etc), groundings, ladders**
7. **Provide the As-Is network design for the existing network infrastructure.**
8. **Recommendations on improvement of network infrastructure**

ii) <u>Network Performance and Capacity Analysis:</u>

- Analyze the OGN network's performance, focusing on latency, bandwidth utilization, uptime, and overall reliability against industry benchmarks and SLAs in place.
- Review the network design and architecture, including routing protocols, network segmentation, and traffic management for optimum performance.
- Assess current and future resource utilization, including IP addresses, internet bandwidth, transport capacity, dark fiber, duct infrastructure, and data center resources providing utilization and idle capacity available for commercialization.
- Review current network performance and recommend action for optimum performance, assured reliability and excellent customer experience towards preferred network in Kenya and the region.
- Recommend capacity planning models and tools to forecast future needs in view of continuous scalability and undertake capacity verification on existing connections.
- Conduct and document a baseline survey on NOFBI/OGN average network availability.
- **Deliverables**:

1. **Existing QoS level by the existing contractors and SLAs.**
2. **Network performance - Bandwidth utilization, network reliability (existing protocols, network segmentation details, port mapping, IP addressing, routing concept, QoS Schema).**
3. **NOFBI/OGN average network availability.**
4. **Recommendations for optimum performance and reliability.**

iii) **<u>Software and License Assessment</u>**

- Check on the software baseline, validity and life of the same as well as update status.
- Check on the total valid licenses on all equipment against total licenses in use and confirm utilization status of the same.
- Check licensing and software compliance as per OEM requirements and share report on the same.
- Check on status of firmware validity and status, eg end of support, end of life, etc.
- **Deliverables:**

1. **Overview of the current original equipment manufacturer (OEM) Software, Validity, End of Life/Support, existing upgrades**
2. **Software support status**
3. **Overview of license status and capacity**
4. **Recommendations on the existing software and replacement/upgrade of obsolete/old/near end-of-life software**

iv) <u>Change/Incident Management & Operational Procedures:</u>

- Analyze causes for incidents (and downtime), including those that are weather-related, as well as response/repair/rebuild capacity of ICTA (including service continuity plans, emergency communication, etc.).
- Assess existing change management processes and identify gaps in the management of network change requests.
- Evaluate the operational effectiveness of the NOC including the rreview of incident management processes, escalation procedures, and recommendations for optimization based on industry best practice.
- Review ICTA processes that impact O&M, such as NOC Standard Operating Procedures (SOPs), Change Request (CRQ) approval processes and upgrade protocols among others.
- Review the SLA measurement criteria and processes as well as related documentation for execution and make recommendations.
- **Deliverables:**

1. **Document existing Change Management Process.**
2. **Determine the effectiveness of NOC as currently established.**
3. **Provide impact of ICTA's processes on O&M and SLA adherence.**
4. **Provide the existing SLA measurements and applied service credits.**
5. **Recommend optimization of NOC operations and ICTA processes based on the findings.**

v) <u>Environmental and Power Controls:</u>

- **Conduct environmental impacts and risks assessment:**
  - Conduct analysis of the environmental footprint of the existing infrastructure, focusing on carbon emissions from the network (including power, equipment, and deployment). Provide recommendations for reducing energy use, costs, and emissions aligned with international best practices.[2]
  - Examine environmental and other risk factors affecting broadband and data infrastructure. Provide recommendations for risk reduction, such as cooling and fire suppression systems, along other relevant measures

[2] Refer to World Bank, 2024. Green Telecommunications: Policies and Practices for More Sustainable Networks – A Practitioner's Guide. Available at: http://documents.worldbank.org/curated/en/099121824172031430/P17859714fa85200f1ae9a14d7c63fcf649

to enhance infrastructure resilience. Ensure compliance with relevant standards and international best practices.[3]

- **Conduct power systems assessment:**
  - Review current power supply and backup systems (e.g., UPS, generators) and provide recommendations for optimizing power supply. Prioritize the use of solar power whenever feasible.
  - Evaluate power utilization and efficiency in relation to supply. Offer cost mitigation strategies.
  - Make recommendations based on the findings for proposed implementation and optimization of power systems of the OGN.
  - Assess the performance of power and storage solutions in the core sites submitting recommendation for each site. Propose areas of improvement, remedial and mitigation steps.

- **Deliverables:**
  1. **List site power supply equipment and sources with respective operational status.**
  2. **Provide power capacity utilization and back-up per site.**
  3. **Document other related equipment inventory, such as air conditioners, environmental alarms.**
  4. **Recommend optimum site power utilization and improvements.**

vi) Asset Register

- Create a digital inventory system of the network covering active components (routers, switches), passive components (fiber cables), security devices (firewalls, IDS/IPS), power infrastructure, Data Centers and any supporting equipment.
- Using appropriate valuation models, develop a comprehensive asset register for all digital infrastructure assets using the format provided by the National Treasury
- Provide the necessary policy guidance on recognition and recording of assets in the books of account of the ICTA.
  - Assess the asset management and inventory controls for all network components.
  - Verify the accuracy and completeness of maintenance logs, as well as the consistency of the asset register with physical components.
- **Deliverables**:
  1. **Provide Asset Register per site.**
  2. **Provide Recorded vs existing Inventory management.**
  3. **Recommend optimal method for accurate logs and update of the asset register.**
  4. **Recommend policy on recognition and booking of assets in Authority Books of Accounts.**

[3] Refer to World Bank, 2024. Resilient Telecommunications Infrastructure: A Practitioner's Guide. Available at: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099121724111526960/p1785971617dfc0361b79b10ed943988d67

vii) OGN Staffing, Operations and Maintenance Structure

- Assess the current operating structure of the operations of the OGN including staffing, roles, and responsibilities and comment on findings.
- Assess the current structure of customer support, service delivery and report on its effectiveness, efficiency and share outcome on the same alongside recommendations.
- Evaluate effectiveness and efficiency of the operations in meeting user needs.
- **Deliverables**

1. **Provide the ICTA O&M organizational structure**
2. **Determine existing Customer Support tools and their efficiency**
3. **Recommend optimal NOC operations with respect to Organizational chart and SLA adherence.**

viii) Maintenance Strategy and SLA Compliance:

- Review preventive, corrective, and permanent maintenance processes.
- Audit SLA adherence, including response and resolution times for faults and incidents.
- Assess the maintenance contract models and provide cost-effective alternatives for OGN maintenance to ensure sustainability of operations.
- **Deliverables**

1. **Provide existing Maintenance processes and models.**
2. **Determine SLA adherence levels.**
3. **Document existing Spares, Repair and Return Turn-Around-Time (TAT) and Mean Time To Restore (MTTR).**
4. **Recommend optimal Network Maintenance model.**

B) Under the Commercial Audit the consulting firm is expected to perform the following tasks:

(i) Service Provisioning Processes

- Client On-boarding and Contracting: Evaluate processes for onboarding clients, including needs assessment, contracting, and standardization of service agreements.
- Service Provisioning Workflows: Assess the efficiency of workflows for delivering services to clients, including internal coordination and documentation.
- Service Termination and Renewal: Review procedures for contract renewal and termination to ensure proper handling and documentation.
- Review procedures for request for additional services or decommission of some and how effectively it should be undertaken through the downstream systems/stakeholders to ensure accurate reflection of services rendered in a billing cycle.

(ii) Revenue Collection and Financial Controls:

- Revenue Collection: Audit billing processes and invoicing providing recommendation for efficiency, accuracy and accountability
- Financial Controls: Evaluate controls for managing revenue, expenses, and profitability.
- Billing and Pricing Models: Review current billing practices, pricing models, and opportunities for competitive offering and strategies to up sale and grow revenue
- Review credit control measures with recommendation to ensure prompt clearance of accounts payables and receivables and zero bad debts.
- Asset Valuation: Confirm accurate valuation and management of assets used in OGN service delivery with projected current asset value per service/product
- Based on audit findings propose commercial models and go to market approaches that will enhance the competitiveness of the Authority as a service provider and enhanced financial sustainability.
- Accountability matrix to determine who does what based on best practice against what is currently in existence.

(iii) Customer Management and Service Verification:

- Review existing customers /clients with recommendation on how ensure an excellent customer delight index, categorize clients or segment services to target specific markets effectively.
- Service Delivery Verification: review and assess if customers receive contracted services as per agreed terms.
- CRM Practices: Evaluate customer satisfaction measures, complaint handling, and CRM data integrity to support commercialization.
- Customer Retention: Review retention measures put in place and recommend necessary action for improved customer retention rate.

(iv) Commercial Strategy and Market Potential:

- Current Strategy Assessment: Review ICTA's commercial strategy, including service offerings and pricing models, to ensure market alignment.
- Market Demand and Competitiveness: Assess ICTA's position in the market and identify demand for existing and potential services.
- New Revenue Streams: Identify additional opportunities for monetizing underutilized assets and expanding service offerings.

(v) Risk Management

- Risk Register: Assess available risk register and develop a comprehensive risk register for OGN, identifying key risks and categorizing them by impact and likelihood.
- Mitigation Strategies: Propose risk mitigation strategies and a framework for continuous risk monitoring and reporting.

(vi) Commercialization Business Model

- Assess the current business model to identify gaps.

- Provide assessment of all alternative commercialization business models with respective revenue projections (including, but not limited to outsourcing, co-management or partial and full privatization).
- Make recommendations on appropriate commercialization business model for optimization of revenue from the network.

(vii) Product pricing and competitiveness

- Conduct market survey for the various products and services in respective to the digital infrastructure
- Identify market segments which provide a competitive edge to the Authority
- Recommend competitive pricing and services for the products and services

4) DURATION AND LOCATION OF ASSIGNMENT

a) Duration

The consulting services assignment for comprehensive audit of the one government network is expected to have a **duration of 30 calendar weeks** from the commencement date of the contract. This timeline includes the various phases of the project, such as planning, inception report, field work, data collection, analysis, and reporting.

b) Location

The location for the assignment will be coordinated from the premises of the ICT Authority (ICTA) in Nairobi Kenya, specifically at Teleposta Towers 12th floor, as involves field work across all relevant sites relating to this assignment. It is to be noted that the Authority does have eight regions spread across the Country with all the Counties represented in these regions. It therefore suffices to say that the scope of the project location can be summarised to relate to the whole Country of Kenya.

The ICT Authority will seek to provide a conducive environment, documentation and access to necessary infrastructure to facilitate the successful execution of the project.

5) REPORTING REQUIREMENTS AND TIMELINE FOR SUBMISSION OF DELIVERABLES

The consultant will report to the KDEAP project team and will follow the below schedule for key deliverables:

Output	Description of Output	Timeline for submission of output after contract commencement	Number and Format of reports presentation
Inception Report	Detailed plan with approach for carrying out the tasks outlined, including work-plan. The plan will have allocated resources and responsibilities with Audit Methodology and Tools for both technical and commercial scope. Align access requirements and plan for site visits.	3 weeks	3 hard copies and 2 digital copies
Data Collection and Field Assessment Reports	➢ Collect and review all relevant network documentation, including designs, implementation plans, maintenance logs, performance reports, and configuration files. ➢ On-Site Assessments: Perform comprehensive site visits to assess network infrastructure, equipment, power, and O&M practices as stated in the scope of works documenting findings of all the sites. ➢ Undertake infrastructure assessment covering the following: o Fiber assignments specifying users/customers provisioned by site o List of existing equipment, per site, Maintenance status, Software & Hardware End of Support/ End of Life o Infrastructure redundancy level and types o Equipment Capacity utilization and possibility of future upgrades o Outside Plant status –	15 Weeks	3 hard copies and 2 digital copies

Output	Description of Output	Timeline for submission of output after contract commencement	Number and Format of reports presentation
	manholes, cables, site usage ○ Site Planning – Site Layout drawing, power utilization (available circuit breakers, MCPs, etc), groundings, ladders ○ Provide the As-Is Network Design for the existing network infrastructure. ○ Recommendations on improvement of network infrastructure ➢ Undertake OTDR measurements and any other necessary link tests to ascertain the condition for all NOFBI/OGN Links across the country. ➢ Collect data on client onboarding, revenue collection, billing, and financial controls. ➢ Review client contracts, CRM practices, and gather documentation for service verification. ➢ Gather data on market demand, current commercial strategies, and potential areas for additional revenue, revenue collection statistics and areas of improvement,		
Analysis and Assessment Report	➢ Detailed Risk register report with proposed mitigation. ➢ Conduct assessment of network performance, and resource utilization across OGN, including	19 Weeks	3 hard copies and 2 digital copies

Output	Description of Output	Timeline for submission of output after contract commencement	Number and Format of reports presentation
	IP utilization, bandwidth, network reliability , average network availability and hardware efficiency. ➢ Identify network gaps and necessary backbone rehabilitation or additional installation/roll out to improve network resilience and redundancy ➢ Provide Asset Register ➢ Analyze findings related to O&M practices and SLA compliance o Identify areas for improvement in both technical and operational management of the network o Analyze revenue collection processes, financial controls, client management practices, and service verification. o Recommendations for optimum performance and reliability. ➢ Conduct Software and license assessment covering the following: o Overview of the current original equipment manufacturer (OEM) Software, Validity, End of Life/Support, existing upgrades o Software support status o Overview of license status		

Output	Description of Output	Timeline for submission of output after contract commencement	Number and Format of reports presentation
	and capacity ○ Recommendations on the existing software and replacement/upgrade of obsolete/old/near end-of-life software ➢ Undertake change/incident management and operational procedures and provide the following: ○ Existing Change Management Process. ○ Determine the effectiveness of NOC as currently established. ○ Provide impact of ICTA's processes on O&M and SLA adherence. ○ Provide the existing SLA measurements and applied service credits. ➢ Recommend optimization of NOC operations and ICTA processes based on the findings ➢ Evaluate ICTA's competitive positioning, market potential, and opportunities for expanding services ➢ Identify risks associated with revenue collection, client management, and service delivery, and develop mitigation strategies		

Output	Description of Output	Timeline for submission of output after contract commencement	Number and Format of reports presentation
Interim Report	Interim report on preliminary findings and analysis of technical and commercial audit	24 weeks	3 hard copies and a digital copy
Final comprehensive Report	Comprehensive report on technical and commercial audit with recommendations	30 weeks	3 hard copies and a digital copy

The specified copies (1 original copy, 3 hard copies and 1 digital copy) of each of the listed reports shall be sent to the client at the following address:

The Chief Executive Officer,
ICT Authority
Telposta Towers 12th Floor, Kenyatta Ave
PO Box 27150 - 00100 Nairobi Kenya
Tel: +254 20 2089061/ 2211960 Fax: +254 20 2211960
Email: procurement@ict.go.ke , info@icta.go.ke
Website: www.icta.go.ke

Attn: KDEAP Project Coordinator

Upon submission of every report, the consultant is expected to make a presentation of the submitted report to the Client in a scheduled meeting. The acceptance of the report shall be recorded in the minutes of the meeting.

6) PAYMENT SCHEDULE

Output	Time from the date of contract signing	Percentage of Payment
Submission and Acceptance of inception report	3 weeks	20%
Submission and Acceptance of Data	15 Weeks	20%

Collection and Field Assessment Reports		
Submission and Acceptance of Analysis and Evaluation Report	19 weeks	20%
Submission and Acceptance of Draft Final comprehensive Report with Recommendations	24 weeks	
Submission and Acceptance of Final comprehensive audit Report with Recommendations	30 weeks	40%

Upon submission of every report, the consultant is expected to make a presentation of the submitted report to the Client in a scheduled meeting. The acceptance of the report shall be recorded in the minutes of the meeting.

7) FIRMS MINIMUM REQUIREMENTS & EXPERIENCE FOR THE CONSULTANT'S

The minimum requirements for the Consultant's qualifications and experience are as follows:

i. **Core business and years in business:** The firm shall be registered/incorporated as a consulting firm with core business in technical and commercial audits of telecommunications and data networks or related fields for a minimum of six (6) years

ii. **Relevant experience:** The firm shall demonstrate as having successfully executed and completed at least two (2) assignments of similar nature, complexity and in a similar operating environment in the last five (5) years. Details of these assignments, including client names and addresses, scope, value, and duration, should be provided.

iii. **Technical and managerial capability of the firm:** The firm shall demonstrate as having the requisite technical capacity and managerial capacity to undertake the assignment in the submitted company profile. **Key Experts will not be evaluated at the shortlisting stage.**

8) TEAM COMPOSITION, QUALIFICATION AND EXPERIENCE FOR KEY EXPERTS

The consultant shall demonstrate well qualified and experienced experts as required and appropriate for the execution of the assignment. They should possess necessary resources to undertake works of such nature, including equipment and software required. The key experts shall personally carry out (with any assistance of other experts deemed appropriate) the services as described in this TOR.

a) Team Leader.

i. At least Master's degree in a related ICT, Telecommunications and engineering field.
ii. At least 10 years' general experience in telecommunications sector
iii. At least 8 years' experience in similar assignment either international/national
iv. Must have project management expertise in managing similar and complex assignment.

b) Network planning & Design expert:

i. A minimum of a Bachelor's Degree in Electrical/Electronic/Telecom Engineering or a related field.
ii. Must have at least 8 years of work experience in a telecommunication or ICT sector.
iii. Experience of at least five (5) years in Telecommunication transmission and fibre roll out.

c) Power consulting Engineer:

i. A minimum of Bachelor's degree in Electrical Engineering, power systems or related field.
ii. A Minimum of 7 years of general working experience
iii. Demonstrable specific working experience of not less than 5 years in power systems.
iv. Should be registered in the category of electrical and electronics engineering by the EBK as Professional Engineers.

d) Lead Commercial Audit Specialist:

i. At least a Masters' degree in Business Administration, Commerce, Marketing, Economics or related field.
ii. General working experience of not less than 10 years.
iii. Minimum of 5yrs experience in Wholesale, Carrier, Capacity or Enterprise business.
iv. Financial audit certifications eg CISA, CPA, tc

e) Customer Relationship Management (CRM) Specialist:

i. At least a Bachelor's degree in Business Administration, Communication, Marketing, Economics, or a related field.
ii. At least 7 years of general working experience
iii. At least 5 years in customer relationship management, preferably in telecom/ICT.

f) Market Analyst:

i. At least a Bachelor's degree in Engineering/ICT, Telecommunications, Electrical Engineering, Economics, Statistics or a related field
ii. At least 7 years of general working experience

iii. A minimum of 5 years' experience in market analysis of Telecommunication or related field.
iv.

g) Network Operations Centre (NOC) Operations Auditor:

i. A minimum of Bachelor's Degree in Information Technology, Computer Science, Telecommunications or a related field.
ii. A minimum of 7 years of general working experience in ICT, telecommunications or a related field.
iii. At least 5 years of specific experience in NOC operations.
iv. Certified in IT service management (e.g., Information Technology Infrastructure Library (ITIL))

h) Process Auditor:

a. A minimum of Bachelor's degree in Information Technology, Computer Science, Business Information Systems or a related field.
b. A minimum of 7 years general working experience.
c. A minimum of 5 years in ICT process audit and in possession of a valid Business Continuity Management System (BCMS) ISO22301 auditor

9) Estimated time inputs for key experts

The number of key experts and the estimated time input for each key expert for the assignment are presented in Table 4.

Table 4: Estimated Time Inputs for Key Experts

S/No	Key and support Staff	No	Estimated Time Input (staff-weeks)
1)	Team Leader	1	30
2)	Network planning & Design expert	1	30
3)	Power consulting Engineer	1	30
4)	Lead Commercial Audit Specialist	1	30
5)	CRM Specialist	1	30
6)	Market Analyst	1	30
7)	NOC Operations Auditor	1	30
8)	Process Auditor	1	30

Total	**8**	**240**

10) Management and Accountability of the Assignment

The Client for the services will be ICTA. The Client will be represented by the Chief Executive Officer (CEO). The Project Coordinator will be the Consultant' supervisor and shall be responsible for the coordination of activities of the consultant. On a day-to-day work basis, the consultants shall work and report to the Project coordinator.

11) RESPONSIBILITIES OF THE CLIENT

The ICT Authority is committed to providing the necessary services, facilities, and property to facilitate the successful execution of the consultancy assignment. The following specific services, facilities, and property will be made available to the Consultant: all necessary documents, processes, access to sites, designs and implementation plans.

The ICT Authority will also assign professional and support counterpart personnel to collaborate with the Consultant throughout the consultancy assignment. This includes individuals with expertise in network infrastructure, government policy and ICTA standards, ensuring a collaborative and knowledge-sharing environment. The designated personnel will be available to provide insights, coordinate efforts, and address any queries the Consultant may have during the course of the assignment.

12) RESPONSIBILITIES OF THE CONSULTANT

The consultant will undertake a comprehensive OGN audit providing a holistic evaluation of the network's technical status, performance, operational reliability, and commercial viability. The consultant commits to assess the status of ICTA's infrastructure with a view of giving a professional honest report and practical recommendations.

All data and information collected during the audit must be treated confidentially and used exclusively for the consultancy's purpose.

The Consulting firm will be responsible for their office space, computers, logistics/transport, office equipment/stationery and furniture and all operational requirements.

13.**Confidentiality, Propriety Rights of Client in Reports and Records.**

All the reports, data, and information developed, collected, or obtained during the performance of the contract from the client or other Institutions shall belong to the

Client. No use shall be made of them without prior written authorization from the Client.

At the end of the Services, the Consultant shall relinquish all data, manuals, reports and information (including the database, codes, and related documentation) to the Client and shall make no use of them in any other assignment without prior written authority from the Client.