



የኢትዮጵያ ኮሙኒኬሽን ባለሥልጣን
ETHIOPIAN
COMMUNICATIONS AUTHORITY

TERM OF REFERENCE (TOR)

FOR

**Hiring a Consulting Firm to Develop Quality of Service (QoS)
Measurement Methodologies and a Monitoring Framework
for Telecommunications services in Ethiopia**

Table of Contents

1. Introduction.....	1
2. Background	1
3. Objectives of the Assignment.....	2
4. Scope of Services and Tasks	3
5. Deliverables and Expected Outputs.....	6
6. Methodology and Work Plan	7
7. Duration of the Assignment.....	8
8. Location of the Assignment and Work Arrangements	9
9. Client Support and Facilities.....	10
10. Reporting Requirements and Review Mechanism.....	10
11. Stakeholder Engagement, Consultation, and Workshop Facilitation	11
12. Confidentiality and Data Ownership.....	12
13. General and Specific Experience of the Firm	13
14. Required Key Experts and Minimum Qualifications	13
15. Level of Effort (LoE) per Key Expert.....	16
16. Curriculum Vitae (CV) Submission Requirements	16
17. Payment Terms.....	17
18. Technical Evaluation Criteria	18

1. Introduction

The Ethiopian Communications Authority (ECA) is committed to enhancing the regulatory framework governing the telecommunications sector to ensure the delivery of high-quality, reliable, and accessible electronic communications services. In response to the evolving market dynamics and technological advancements, ECA seeks to engage a qualified consulting firm to provide technical expertise in the development of a modern Quality of Service (QoS) measurement methodology and monitoring framework.

This Terms of Reference (ToR) outlines the objectives, scope of work, deliverables, and other key requirements for the assignment. The consultant's support will contribute to strengthening ECA's regulatory capacity, improving service quality oversight, and safeguarding consumer interests in the rapidly transforming telecommunications landscape of Ethiopia.

2. Background

The Ethiopian Communications Authority (ECA), established under the Communications Service Proclamation No. 1148/2019, serves as the regulatory body overseeing Ethiopia's telecommunications sector. ECA's mandate is to promote the development of high-quality, efficient, reliable, and accessible electronic communications services across the country.

With the introduction of new market entrant and the anticipated deployment of advanced technologies such as 5G and the Internet of Things (IoT), Ethiopia's telecommunications landscape is undergoing significant transformation. These developments have underscored the critical need for a robust and modern Quality of Service (QoS) regulatory framework. Reliable QoS monitoring mechanisms are vital not only for protecting consumer rights but also for promoting fair competition and ensuring that operators comply with their licensing obligations. At present, Ethiopia lacks a comprehensive QoS measurement methodology and monitoring framework that is aligned with international best practices and capable of addressing the increasing complexity of the telecom ecosystem. ECA recognizes the necessity of establishing a scalable QoS framework that enables accurate, timely, and consistent assessments of service quality across all operators and technologies. The framework should also include provisions for consumer compensation and the imposition of penalties on operators when service quality consistently falls below the established minimum standards.

To address these needs, ECA plans to engage a consulting firm with proven expertise to develop standardized QoS measurement methodologies and design a comprehensive QoS monitoring framework. The consultant will assist ECA in formulating clear regulatory guidelines, enhancing internal capabilities, and reinforcing the Authority's oversight functions to ensure improved service quality throughout Ethiopia's telecommunications sector.

3. Objectives of the Assignment

The primary objective of this assignment is to support the Ethiopian Communications Authority (ECA) in developing a comprehensive and modern Quality of Service (QoS) regulatory framework for the telecommunications sector. The assignment aims to establish standardized QoS measurement methodologies and design a robust QoS monitoring system that aligns with international best practices, including those recommended by the International Telecommunication Union (ITU), while addressing the emerging complexities of Ethiopia's rapidly evolving telecommunications ecosystem.

Specifically, the objectives are to:

- Develop standardized, technology-neutral methodologies for measuring QoS parameters across various telecommunications services, including voice, SMS, mobile and fixed broadband, and emerging technologies such as 5G and the Internet of Things (IoT).
- Design a comprehensive and scalable QoS monitoring framework encompassing the technical, institutional, and regulatory components necessary for effective service quality assessment and enforcement.
- Provide regulatory tools and templates, including Key Performance Indicator (KPI) definitions, reporting formats, and compliance thresholds, to enable consistent, transparent, and enforceable QoS monitoring.
- Assess the current QoS monitoring practices, tools, and internal capabilities within ECA, and recommend improvements or upgrades to enhance effectiveness and sustainability.
- Establish mechanisms for consumer protection, including compensation schemes for consumers and enforcement measures such as penalties for operators failing to meet defined QoS standards.
- Build the capacity of ECA staff through targeted knowledge transfer, practical training sessions, and the development of operational manuals on QoS measurement and enforcement procedures.
- Facilitate stakeholder engagement and consultations to ensure the developed framework reflects the needs and perspectives of industry players, consumer groups, and other relevant stakeholders.
- Propose standards for minimum time between failures (MTBF) and maximum time for service restoration to enhance network reliability and consumer experience.

The consulting firm is expected to deliver a practical, future-proof framework that will enable ECA to systematically monitor, regulate, and enforce QoS standards across all licensed telecommunications operators, thereby promoting fair competition and protecting consumer interests.

4. Scope of Services and Tasks

The consulting firm shall provide comprehensive technical assistance to the Ethiopian Communications Authority (ECA) to develop a modern, standardized, and enforceable Quality of Service (QoS) regulatory framework. The scope of services includes, but is not limited to, the following key tasks:

4.1. Review and Assessment

- Conduct a comprehensive review of existing QoS regulatory frameworks, policies, and measurement methodologies currently in use within Ethiopia and benchmark them against international best practices, particularly ITU guidelines.
- Assess ECA's current QoS monitoring tools, systems, and institutional capabilities, identifying gaps and areas for improvement.
- Evaluate QoS practices implemented by telecommunications operators in Ethiopia to identify prevailing challenges and compliance issues.
- Review and assess existing QoS and QoE measurement practices to identify gaps and ensure a smooth transition to the improved framework.

4.2. Development of QoS Measurement Methodologies

- Develop standardized and technology-neutral methodologies for measuring QoS and QoE parameters across all major telecommunications services, including voice, SMS, mobile and fixed broadband, and emerging technologies such as 5G and IoT.
- Define and validate a comprehensive set of Key Performance Indicators (KPIs) and Quality of Experience (QoE) indicators, including baseline values, compliance thresholds, and target benchmarks, ensuring alignment with international standards and best practices.
- Propose measurement techniques and data collection protocols, ensuring accuracy, consistency, and objectivity in QoS and QoE assessments, including methodologies to differentiate between short-term service degradations (e.g., congestion) and long-term catastrophic failures (e.g., infrastructure outages).
- Design the Quality of Experience (QoE) survey mechanism, including questionnaire development, sampling methodology, target demographic groups, data collection procedures, and data analysis models.
- Define and distinguish methodologies for operator-reported data collection and independent data collection through regulatory monitoring and consumer experience surveys, ensuring clear protocols for data validation and cross-verification.
- Develop detailed documentation, including standard operating procedures (SOPs), for implementing QoS and QoE measurement methodologies.
- Conduct pilot testing and validation exercises to confirm the effectiveness, reliability, and practicality of the proposed measurement methodologies.

4.3. Design of QoS Monitoring Framework

- Design a scalable, technology-agnostic QoS and QoE monitoring framework, incorporating technical, institutional, and regulatory dimensions.
- Develop regulatory instruments, including QoS and QoE guidelines, reporting formats, compliance mechanisms, and enforcement procedures.
- Establish monitoring mechanisms capable of covering multiple network technologies and service providers, ensuring efficient performance tracking, comparative analysis, and integration of consumer experience data.
- Specify the tools and technologies necessary for comprehensive QoS and QoE monitoring, including drive-test systems, network probes, crowdsourcing platforms, and data analytics tools.
- Define an approach for integrating and cross-validating operator-reported data with independent regulatory measurements and consumer-sourced data to ensure accuracy and prevent discrepancies.
- Provide guidelines for distinguishing and responding to short-term service deteriorations and long-term catastrophic failures, including recommended reporting obligations for operators and escalation protocols.
- Develop a data governance framework to ensure the integrity, security, and confidentiality of all QoS and QoE data collected.
- Define strategies for public reporting and stakeholder communication of QoS and QoE performance results to enhance transparency and consumer trust.

4.4. Consumer Protection and Enforcement Mechanisms

- Propose mechanisms for consumer compensation in cases where service quality consistently falls below minimum acceptable standards, defining clear eligibility thresholds and procedures.
- Recommend enforcement tools such as a penalty and fine framework to ensure compliance with QoS and QoE standards by telecommunications operators
- Define standards for minimum time between failures (MTBF) and maximum time for service restoration (MTTR) to enhance consumer protection and ensure network reliability and service continuity.
- Develop differentiated compliance response mechanisms based on the severity and duration of service degradations, distinguishing between temporary network congestion issues and long-term catastrophic service failures.
- Integrate consumer protection and enforcement mechanisms into the stakeholder consultation process to ensure transparency, accountability, and broad consensus.

4.5. Capacity Building and Knowledge Transfer

- Propose a change management and capacity-building plan to support the effective implementation and long-term sustainability of the QoS and QoE monitoring framework.

- Design and deliver targeted training workshops for regulatory authority staff focused on:
 - QoS and QoE measurement methodologies and international best practices.
 - Data collection techniques, validation procedures, data analytics, and regulatory reporting.
 - Application of QoS and QoE results for regulatory enforcement, compliance monitoring, and consumer protection measures.
 - Implementation of consumer compensation and penalty frameworks based on service quality standards.
 - Organize **experience-sharing sessions**, presenting international case studies, regulatory approaches, success stories, and lessons learned from other countries in QoS and QoE regulation and enforcement.
 - Develop and hand over comprehensive operational manuals, guidelines, user guides, and standard operating procedures (SOPs) to support the sustainable implementation of the QoS and QoE monitoring framework.
 - Facilitate practical, hands-on training sessions using drive-test systems, case studies, simulations, and pilot exercises to ensure staff proficiency in real-world QoS and QoE monitoring and enforcement activities.
 - Establish a structured knowledge transfer plan to ensure the complete handover of developed frameworks, methodologies, technical documentation, and tools by the end of the consultancy period.

4.6. Stakeholder Engagement and Consultation

- Develop a stakeholder engagement and consultation plan to ensure inclusive, transparent, and participatory development of the QoS and QoE measurement methodologies, monitoring framework, and enforcement mechanisms.
- Identify and map key stakeholders, including telecommunications operators, consumer associations, government agencies, and other relevant actors, to be involved in the consultation process.
- Prepare consultation materials, including briefing notes, presentation decks, and background documents, to facilitate informed dialogue and feedback gathering.
- Organize and facilitate stakeholder consultation workshops and bilateral meetings to present proposed QoS and QoE frameworks, compensation mechanisms, and enforcement tools, and to gather stakeholder inputs.
- Document stakeholder feedback, synthesize comments received, and incorporate relevant inputs into the final design of QoS and QoE frameworks, ensuring a balanced and representative outcome.
- Prepare a comprehensive stakeholder consultation report summarizing the consultation process, key feedback received, and how the feedback was addressed in the final deliverables.

4.7. Reporting and Deliverables

- Prepare and submit detailed technical reports, including an inception report, interim progress reports, draft final report, and final report.
- Deliver all developed materials, including regulatory documents, operational manuals, and training materials, in both electronic and hard copy formats.
- Provide presentations to ECA's management and key stakeholders summarizing key findings, recommendations, and the proposed framework.

5. Deliverables and Expected Outputs

The consulting firm shall be responsible for delivering high-quality outputs that meet the requirements set forth by the Ethiopian Communications Authority (ECA). The key deliverables and expected outputs of the assignment include:

5.1. Inception Report

- A comprehensive Inception Report detailing the consultant's understanding of the assignment, proposed methodology, detailed work plan, and timeline.
- Identification of key stakeholders to be engaged during the assignment.
- Submission of the Inception Report within one month of contract commencement for ECA's review and approval.

5.2. Assessment Report

- A diagnostic assessment report reviewing current QoS regulatory frameworks, monitoring practices, tools, and institutional capabilities within Ethiopia.
- Benchmarking analysis comparing Ethiopia's practices with international best practices, particularly those recommended by the ITU and other relevant bodies.
- Identification of regulatory, technical, and institutional gaps, with recommendations for improvements.

5.3. QoS Measurement Methodologies and KPI Framework

- Development of standardized methodologies for measuring QoS parameters across multiple services and technologies.
- Definition of Key Performance Indicators (KPIs), baseline standards, and compliance thresholds.
- Specification of data collection, validation, and analysis protocols to ensure reliability and consistency.

5.4. QoS Monitoring Framework and Regulatory Instruments

- Design of a comprehensive, scalable QoS monitoring framework.
- Development of regulatory guidelines, templates, reporting formats, and compliance/enforcement procedures.
- Recommendations for consumer compensation mechanisms and penalty structures for non-compliance.

- Standards for network reliability, including minimum time between failures (MTBF) and maximum service restoration times.

5.5. Capacity Building and Training Materials

- Development of training modules, operational manuals, and practical toolkits to build ECA's internal capacity in QoS monitoring and enforcement.
- Delivery of targeted training workshops for ECA staff.

5.6. Stakeholder Consultation and Validation Reports

- Organization and facilitation of stakeholder engagement sessions.
- Preparation of a summary report capturing feedback from consultations and integration of stakeholder inputs into the final framework.

5.7. Draft and Final Reports

- Submission of a Draft Final Report incorporating all developed methodologies, frameworks, guidelines, and feedback from ECA and stakeholders.
- Submission of a Final Report, including all finalized documents, manuals, templates, and training materials, following ECA's review and approval of the draft.
- All reports and deliverables must be submitted in both electronic (editable format) and hard copy versions.

6. Methodology and Work Plan

The consulting firm is expected to propose a clear, systematic, and practical methodology for the successful execution of the assignment. The methodology should demonstrate a thorough understanding of the assignment objectives, scope of work, and the regulatory environment of the telecommunications sector in Ethiopia.

At a minimum, the methodology and work plan should cover the following elements:

6.1. Approach and Methodology

- **Assignment Understanding:** A concise explanation of the firm's understanding of the assignment objectives, critical issues to be addressed, and the significance of a modern QoS regulatory framework in the Ethiopian context.
- **Technical Approach:** Detailed description of the technical approach to be employed in developing the QoS measurement methodologies and monitoring framework, including tools, models, and analytical methods.
- **Data Collection and Analysis:** Proposed methods for collecting and analyzing quantitative and qualitative data, including stakeholder consultations, desk reviews, surveys, or field assessments where necessary.
- **Benchmarking:** Methodology for benchmarking Ethiopia's QoS framework against international best practices, with a focus on standards established by the International Telecommunication Union (ITU) and other global bodies.

- **Stakeholder Engagement:** Approach for conducting inclusive and participatory stakeholder consultations to gather relevant feedback and ensure broad ownership of the developed framework.
- **Capacity Building and Knowledge Transfer:**
 - Proposed strategy for building the internal capacity of ECA staff throughout the assignment.
 - Design and delivery of targeted training workshops focused on QoS measurement techniques, data interpretation, regulatory enforcement, and monitoring tools.
 - Development of operational manuals, templates, and practical toolkits to support the sustainable implementation and management of the QoS framework.
 - Emphasis on practical, hands-on training sessions and knowledge transfer mechanisms to ensure ECA staff can independently apply the methodologies and tools post-project.
- **Risk Management:** Identification of potential risks and challenges that may affect the assignment's execution, along with proposed mitigation strategies.

6.2. Work Plan and Timeline

- **Detailed Work Plan:** A comprehensive work plan outlining major activities, key milestones, deliverables, and corresponding timelines.
- **Gantt Chart:** Presentation of the work plan in a Gantt chart format to clearly illustrate the scheduling of tasks and resource allocation throughout the assignment duration.
- **Responsibility Matrix:** A matrix indicating the roles and responsibilities of the consulting team members for each major task and deliverable.
- **Quality Assurance Measures:** Outline of quality control and assurance mechanisms to ensure the deliverables meet the highest standards of accuracy, relevance, and professionalism.

The proposed methodology and work plan will be reviewed and approved by ECA prior to the commencement of substantive activities. The consulting firm is expected to maintain flexibility to adjust the work plan in response to emerging needs or feedback received during the course of the assignment.

7. Duration of the Assignment

The total duration of the assignment is expected to be **nine (9) months** from the date of contract signing.

The timeline should allow for sufficient time to complete all activities, including the review and assessment phase, development of QoS measurement methodologies, design

of the monitoring framework, capacity-building activities, stakeholder consultations, and finalization of all deliverables.

The assignment is expected to be structured as follows:

- **Inception Phase:** 1 month — submission and approval of the Inception Report.
- **Review and Assessment Phase:** 2 months — conducting baseline studies, gap assessments, and international benchmarking.
- **Development Phase:** 3 months — drafting the QoS measurement methodologies, monitoring framework, and regulatory instruments.
- **Capacity Building and Stakeholder Consultation Phase:** 2 months — delivering training workshops, preparing operational manuals, and facilitating stakeholder engagement sessions.
- **Reporting and Finalization Phase:** 1 month — submitting draft and final reports, incorporating feedback, and finalizing all deliverables.

8. Location of the Assignment and Work Arrangements

The assignment will be primarily carried out in **Addis Ababa, Ethiopia**, at the Ethiopian Communications Authority's (ECA) headquarters. The consulting firm will be expected to work closely with ECA's relevant departments and designated focal persons throughout the duration of the assignment.

Key work arrangement details include:

- **On-Site Presence:** The consulting firm's key experts are expected to maintain a significant presence on-site in Addis Ababa during critical phases of the assignment, such as stakeholder consultations, workshops, validation meetings, and presentation of key deliverables.
- **Remote Work:** Certain activities, such as desk reviews, data analysis, and report drafting, may be conducted remotely, subject to prior approval by ECA.
- **Stakeholder Engagement:** The consulting firm will be responsible for organizing and facilitating stakeholder engagement sessions, which are expected to be held in-person in Addis Ababa. Where necessary and appropriate, virtual or hybrid formats may be considered to ensure broader participation.
- **Office Facilities:** ECA will provide access to meeting rooms, internet connection, and administrative support during on-site activities. However, the consulting firm is expected to be self-sufficient in terms of laptops, software, and other necessary tools for carrying out the assignment.
- **Travel and Accommodation:** All travel and accommodation arrangements and associated costs shall be the responsibility of the consulting firm and should be factored into the financial proposal.

The consulting firm is expected to maintain close communication with ECA's project team through regular meetings (virtual or in-person) to ensure smooth coordination, progress tracking, and timely resolution of any issues that may arise during the assignment.

9. Client Support and Facilities

The Ethiopian Communications Authority (ECA) will provide the following support and facilities to the consulting firm to facilitate the smooth execution of the assignment:

- **Access to Relevant Documents:** ECA will provide the consulting firm with access to all relevant regulatory documents, reports, and data necessary for the execution of the assignment, subject to applicable confidentiality restrictions.
- **Liaison and Coordination:** ECA will assign a dedicated project focal point to liaise with the consulting team, coordinate meetings, and facilitate interactions with key stakeholders.
- **Office Space and Meeting Facilities:** ECA will make available office space for meetings, consultations, and workshops as required, equipped with basic amenities including internet access and printing facilities.
- **Stakeholder Engagement Support:** ECA will assist in identifying and inviting key stakeholders to consultation workshops and validation meetings.
- **Feedback and Review:** ECA will provide timely feedback on all deliverables submitted by the consulting firm to ensure that the outputs meet the Authority's expectations and regulatory requirements.
- **Logistical Assistance for Workshops:** For workshops and stakeholder engagement sessions organized in Addis Ababa, ECA will assist with logistical arrangements such as venue identification and participant coordination, although the consulting firm shall remain responsible for overall planning and execution.

10. Reporting Requirements and Review Mechanism

The consulting firm shall submit all reports and deliverables specified under Section 5 (Deliverables and Expected Outputs) in accordance with the approved work plan and timeline.

ECA will review each deliverable and provide feedback within [two (2) weeks] of submission. The consulting firm shall address all comments and resubmit the revised deliverables within [one (1) week] after receiving feedback.

- **Monthly Progress Reports:** In addition to the key deliverables, the consulting firm shall submit brief monthly progress reports summarizing activities undertaken, challenges encountered, and work planned for the next period.

- **Review Meetings:** Monthly review meetings will be conducted (virtually or in-person) between ECA and the consulting team to monitor progress and resolve any emerging issues.
- **Approval Mechanism:** All final deliverables will be subject to approval by ECA's designated Project Manager or Focal Point.
- **Presentation of Drafts:** Prior to final submission, draft versions of major deliverables shall be presented to ECA through workshops or technical meetings for preliminary feedback.

11. Stakeholder Engagement, Consultation, and Workshop Facilitation

Effective stakeholder engagement is critical to the successful development and implementation of the Quality of Service (QoS) regulatory framework. The consulting firm is expected to design and implement a structured stakeholder engagement and consultation plan to ensure that the perspectives of all key players in the telecommunications ecosystem are adequately captured and incorporated.

11.1. Stakeholder Identification and Mapping

- Identify and map all relevant stakeholders, including but not limited to telecommunications operators, consumer advocacy groups, government agencies, industry associations, and other key players.
- Prioritize stakeholders based on their influence, interest, and relevance to the QoS regulatory framework.

11.2. Consultation Strategy

- Develop a stakeholder consultation strategy that ensures inclusivity, transparency, and meaningful participation.
- Utilize a mix of consultation methods, including interviews, focus group discussions, workshops, and surveys, to collect qualitative and quantitative inputs.
- Ensure that the consultations are structured to gather actionable feedback on QoS parameters, measurement methodologies, regulatory enforcement, and consumer protection mechanisms.

11.3. Organization and Facilitation of Workshops

- Organize and facilitate three (3) stakeholder workshops at key stages of the assignment:
 - **Initial Consultation Workshop:** To present the assignment objectives and gather initial inputs.
 - **Validation Workshop:** To present the draft QoS measurement methodologies and monitoring framework for stakeholder review and feedback.
 - **Final Dissemination Workshop:** To present the finalized framework and explain the implementation roadmap.

- Prepare workshop agendas, discussion materials, and summary reports capturing key feedback and recommendations.
- Ensure that all workshops are interactive, well-documented, and accessible to a diverse range of stakeholders.

11.4. Integration of Stakeholder Feedback

- Systematically document all stakeholder inputs received during the consultations.
- Clearly demonstrate how stakeholder feedback has been considered and incorporated into the development of the QoS framework and related regulatory instruments.
- Address any conflicts or divergent views in a balanced and transparent manner.

12. Confidentiality and Data Ownership

The consulting firm shall observe strict confidentiality regarding all information and data made available to them or obtained in connection with the execution of this assignment.

12.1. Confidentiality Obligations

- The consulting firm and all its personnel shall not, without the prior written consent of the Ethiopian Communications Authority (ECA), disclose to any third party any information, data, documents, reports, or other materials provided by ECA or generated in the course of the assignment.
- All discussions, deliberations, and materials exchanged between ECA and the consulting firm shall be treated as confidential and shall not be disclosed or used for purposes unrelated to this assignment.
- The obligation of confidentiality shall remain in effect both during the course of the assignment and after its completion, unless and until such information becomes publicly available through no fault of the consulting firm.

12.2. Data Ownership

- All documents, data, reports, methodologies, training materials, frameworks, and other outputs produced under this assignment shall become the sole property of ECA upon delivery and acceptance.
- The consulting firm shall have no ownership rights or claims over any data, information, or materials provided by ECA or developed as a result of the assignment.
- The consulting firm shall not use or reproduce any project-related material for purposes outside the scope of this assignment without the explicit prior written approval of ECA.
- Upon completion of the assignment, the consulting firm shall return all confidential documents and data to ECA and securely delete or destroy any electronic copies, unless otherwise instructed in writing by ECA.

13. General and Specific Experience of the Firm

The consulting firm must demonstrate substantial and proven experience relevant to the scope and objectives of this assignment. The firm's qualifications will be evaluated based on both general and specific experience criteria.

13.1. General Experience

- A minimum of **ten (10) years** of experience providing consultancy services in the telecommunications sector, with a focus on regulatory frameworks, policy development, or sectoral assessments.
- Proven track record of delivering high-quality assignments for regulatory authorities, government agencies, international organizations, or telecommunications operators.
- Demonstrated ability to undertake large, complex consultancy projects in developing country contexts, preferably in Africa or similar emerging markets.
- Experience managing multi-disciplinary teams and coordinating with diverse stakeholders including regulators, service providers, and consumer groups.

13.2. Specific Experience

- Substantial experience in developing Quality of Service (QoS) measurement methodologies, monitoring frameworks, and regulatory instruments for the telecommunications sector.
- Successful completion of at least **three (3)** assignments in the past **five (5) years** related to:
 - Design or implementation of QoS frameworks aligned with international standards such as those of the International Telecommunication Union (ITU).
 - Development of technical guidelines, KPIs, reporting tools, and enforcement mechanisms for telecom regulators.
 - Conducting training and capacity-building programs for regulatory staff on QoS monitoring, assessment, and regulatory enforcement.
- Experience in stakeholder engagement, facilitation of consultations, and consensus-building in regulatory or policy development processes.
- Familiarity with emerging technologies such as 5G, IoT, and broadband quality standards, and their implications for QoS monitoring.

Firms must submit evidence of their experience, including a list of relevant assignments, descriptions of activities performed, and references or letters of completion where available.

14. Required Key Experts and Minimum Qualifications

The consulting firm shall propose a team of qualified experts with the requisite technical knowledge, skills, and experience to successfully carry out the assignment. The key

experts must be available for the duration of the assignment and shall play leading roles in the execution of the various tasks outlined in the scope of work.

At a minimum, the team should include the following key experts:

14.1. Team Leader / Lead QoS Expert

- **Qualifications:**
 - Master's degree or higher in Telecommunications Engineering, Electrical Engineering, Information and Communications Technology (ICT), or a related field.
- **Experience:**
 - At least **10 years** of professional experience in the telecommunications sector.
 - Proven experience in leading the design and implementation of QoS measurement methodologies and monitoring frameworks.
 - Extensive knowledge of international standards and best practices for QoS, particularly ITU-T Recommendations.
 - Experience working with regulatory authorities, policy makers, or international organizations.
 - Demonstrated leadership and project management skills in managing multi-disciplinary teams.

14.2. QoS Measurement and Data Analysis Specialist

- **Qualifications:**
 - Bachelor's degree or higher in Telecommunications Engineering, Computer Science, Data Analytics, or a related field.
- **Experience:**
 - At least **7 years** of experience in QoS data collection, analysis, and reporting in the telecommunications sector.
 - Practical experience with network performance measurement tools, drive testing, and QoS monitoring systems.
 - Experience developing and interpreting QoS Key Performance Indicators (KPIs).
 - Strong analytical skills and familiarity with statistical software and data visualization tools.

14.3. Regulatory and Policy Specialist

- **Qualifications:**
 - Master's degree or higher in Law, Public Policy, Telecommunications Regulation, or a related discipline.

- **Experience:**
 - At least **8 years** of experience in regulatory frameworks development, telecom policy formulation, or legal advisory services for the telecommunications sector.
 - Familiarity with international best practices in regulatory policy, licensing, consumer protection, and enforcement mechanisms.
 - Experience advising regulators or governments on telecommunications policies, including QoS regulatory instruments.

14.4. Capacity Building and Training Expert

- **Qualifications:**
 - Bachelor’s degree or higher in Education, Training and Development, Telecommunications, or a related field.
- **Experience:**
 - At least **7 years** of experience designing and delivering training programs, workshops, and capacity-building activities in the telecommunications or ICT sector.
 - Demonstrated experience in preparing training manuals, toolkits, and conducting hands-on practical training for regulatory staff.
 - Familiarity with adult learning methodologies and knowledge transfer best practices.

14.5. Stakeholder Engagement and Communication Specialist

- **Qualifications:**
 - Bachelor’s degree or higher in Communications, Public Relations, Sociology, or a related field.
- **Experience:**
 - At least **5 years** of experience in stakeholder engagement, public consultations, and facilitation in regulatory or policy development processes.
 - Experience designing and facilitating participatory workshops, stakeholder mapping, and consensus-building activities.
 - Strong communication, facilitation, and reporting skills.

14.6. General Requirements for All Key Experts:

- Fluency in written and spoken English.
- Strong communication, analytical, and report-writing skills.
- Ability to work effectively in a multidisciplinary and multicultural environment.
- Availability for the entire duration of the assignment.

15. Level of Effort (LoE) per Key Expert

The consulting firm must propose an appropriate Level of Effort (LoE) for each key expert, ensuring sufficient time and resources are allocated to deliver all components of the assignment effectively within the agreed timeline.

The indicative minimum Level of Effort for each key expert is as follows:

Key Expert	Person-Months	Person-Days
Team Leader / Lead QoS Expert	7 Months	140 Days
QoS Measurement and Data Analysis Specialist	6 Months	120 Days
Regulatory and Policy Specialist	4 Months	80 Days
Capacity Building and Training Expert	3 Months	60 Days
Stakeholder Engagement and Communication Specialist	2 Months	40 Days

Note: One (1) Person-Month is equivalent to twenty (20) Person-Days, based on a standard five-day working week.

15.1. Guidance on Level of Effort

- The **Team Leader** will oversee the entire assignment, ensuring project coordination, quality assurance, and delivery of key outputs.
- The **QoS Measurement and Data Analysis Specialist** will develop technical methodologies, performance indicators, and undertake data analysis.
- The **Regulatory and Policy Specialist** will design regulatory guidelines and enforcement mechanisms aligned with international best practices.
- The **Capacity Building and Training Expert** will lead training and knowledge transfer activities to build ECA's internal capabilities.
- The **Stakeholder Engagement and Communication Specialist** will facilitate consultations and ensure broad stakeholder participation.

Note: The consulting firm may propose slight adjustments to the Level of Effort based on their proposed methodology and work plan. However, the total Level of Effort should not fall below the indicative minimum without a strong and well-justified rationale.

16. Curriculum Vitae (CV) Submission Requirements

The consulting firm must submit detailed and signed Curriculum Vitae (CV) for each proposed key expert. The CVs must clearly demonstrate the qualifications, competencies, and relevant experience of the proposed personnel in relation to the requirements of the assignment.

Each CV should contain, at a minimum, the following information:

16.1. Personal Information

- Full name
- Nationality
- Contact information (email address and telephone number)

16.2. Educational Qualifications

- Degree(s) obtained, name of institutions, and year of completion
- Certifications or relevant professional training courses

16.3. Professional Experience

- Summary of relevant work experience, highlighting positions held, organizations, duration of employment (start and end dates), and detailed description of roles and responsibilities.
- Specific experience related to:
 - Development of QoS measurement methodologies and frameworks
 - Regulatory and policy advisory services in the telecommunications sector
 - Capacity building and training delivery
 - Stakeholder engagement and workshop facilitation
- List of at least three (3) relevant assignments undertaken in the past [five (5)] years, including a description of the assignment, client name, duration, and key contributions.

16.4. Languages

- Proficiency in English (and any other languages if relevant)

16.5. References

- Names and contact information of at least two (2) professional references who can verify the candidate's qualifications and experience.

16.6. Declaration and Signature

- A signed declaration by the expert certifying the accuracy of the information provided and confirming availability for the entire duration of the assignment.

Additional Requirements

- All CVs must be submitted in English.
- CVs must not exceed four (4) pages per expert.
- Scanned copies of academic and professional certificates should be attached as annexes.
- CVs that do not clearly demonstrate the required qualifications and experience or lack a signed declaration may result in disqualification of the expert.

17. Payment Terms

The consulting firm's payment will be made based on the successful delivery and acceptance of the agreed deliverables, as specified in the assignment scope and work

plan. Payments will be processed upon submission of invoices supported by the required deliverables and acceptance by the Ethiopian Communications Authority (ECA).

The indicative payment schedule is as follows:

Milestone / Deliverable	Payment Percentage
Submission and approval of Inception Report	10%
Submission and approval of Assessment Report	15%
Submission and approval of QoS Methodologies and Monitoring Framework Report	25%
Completion of Stakeholder Consultations and Submission of Stakeholder Consultation Report	15%
Delivery of Capacity Building Workshops and Training Materials	15%
Submission and approval of Draft Final Report	10%
Submission and approval of Final Report and all Deliverables	10%

Note: All payments are subject to ECA’s approval of the corresponding deliverables. No advance payment shall be made.

Additional Payment Conditions

- The consulting firm must submit invoices in English, specifying the deliverable completed and the corresponding payment milestone.
- Payments will be made within [**thirty (30) calendar days**] of invoice submission and acceptance of deliverables.
- All deliverables must meet the quality standards defined by ECA. If deliverables are deemed unsatisfactory, ECA reserves the right to withhold payment until deficiencies are corrected.
- All payments will be made in [**specify currency, e.g., Ethiopian Birr (ETB) or United States Dollars (USD)**], subject to applicable government regulations.

18. Technical Evaluation Criteria

Proposals will be evaluated based on the criteria and sub-criteria outlined below. The evaluation will assess the quality, relevance, and responsiveness of each proposal to the Terms of Reference (ToR).

Focus will be placed on the adequacy of the proposed methodology and work plan, the qualifications and experience of key experts, the firm’s relevant experience, and the proposed approach to knowledge transfer and capacity building.

Bidders must provide clear and verifiable evidence, including reference letters, completion certificates, and client contacts, to support their experience claims. Incomplete or unsupported submissions may result in lower scores.

The evaluation criteria and weights are as follows:

#	Evaluation Criteria	Sub-Criteria	Weight (% of Technical Score)
1	Adequacy of Methodology and Work Plan	a) Clarity and relevance of the consultant’s understanding of the assignment objectives and scope	10%
		b) Appropriateness, feasibility, and innovativeness of the proposed methodology for achieving the expected results	10%
		c) Coherence, realism, and completeness of the proposed work plan, timeline, and deliverables	10%
	Subtotal – Methodology and Work Plan		30%
2	Qualifications and Relevant Experience of Key Experts	a) Team Leader / Lead QoS Expert: Leadership in managing similar projects, technical expertise, and stakeholder coordination experience	12%
		b) QoS Measurement and Data Analysis Specialist: Experience with drive tests, OSS tools, network performance analysis, and KPI development	8%
		c) Regulatory and Policy Specialist: Experience in telecom policy development, regulatory frameworks, and institutional advisory	8%
		d) Capacity Building and Training Expert: Experience in training design, delivery, and capacity-building program facilitation	6%
		e) Stakeholder Engagement and Communication Specialist: Experience in stakeholder consultation, workshop facilitation, and communication strategies	6%
	Subtotal – Key Experts		40%

3	Relevant Experience of the Firm	a) Evidence of successful completion of at least three (3) similar assignments in the past five (5) years in developing QoS/QoE frameworks, methodologies, and KPIs for telecom regulators (supported by reference letters, completion certificates, or equivalent documentation)	15%
		b) Experience working within similar regional, institutional, or regulatory environments	5%
	Subtotal – Firm Experience		20%
4	Transfer of Knowledge and Capacity Building	c) Quality and clarity of the proposed knowledge transfer and institutional capacity-building approach	10%
		d) Relevance and practicality of the proposed training tools, manuals, and post-project support strategies	5%
	Subtotal – Knowledge Transfer and Capacity Building		15%
TOTAL SCORE		100%	

Note: A minimum technical score of **70 points** out of 100 is required for a firm to qualify for financial evaluation. Only proposals meeting or exceeding this threshold will be considered for the next stage of assessment.