

**MINISTRY OF COMMUNICATIONS, TECHNOLOGY AND INNOVATIONS**



**REPUBLIC OF SIERRA LEONE**

**SIERRA LEONE DIGITAL TRANSFORMATION PROJECT  
IDA- E01130-SL**

**Terms of Reference for the Recruitment of a Consulting Firm to undertake a comprehensive market, tariff and cost study to develop Significant Market Power (SMP) legislation, and clear interconnection regulations in Sierra Leone**

**SL-MOFED-367838-CS-QCBS**

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## Terms of Reference

### **Recruitment of a Consulting Firm to undertake a comprehensive market, tariff and cost study to develop Significant Market Power (SMP) legislation, and clear interconnection regulations in Sierra Leone**

#### **I. Introduction**

The Government of Sierra Leone (GoSL) has committed to transforming its economy based on a more inclusive and human-centric digital growth and development approach. The Ministry of Communications, Technology and Innovation (MCTI) is the line Ministry chiefly in charge of driving the Government's digital transformation strategic vision and promoting ICT sector policy. A high-level vision for the digital economy is articulated in the new National Digital Development Policy (NDDP), which was approved by the Cabinet in December 2021 setting the GoSL's vision to transform Sierra Leone into an inclusive digital economy and society and to leverage digital technology to support the GoSL to deliver on its national development plan effectively and efficiently. The Sierra Leone Digital Transformation Project (SLDTP) aims to expand access to broadband internet, increase digital skills and improve government capacity to deliver public services digitally. The project will support the development of a strong enabling environment for the nation's digital transformation and digital development agenda as articulated in the National Digital Development Strategy.

#### **II. Project Description**

The Sierra Leone Digital Transformation Project (SLDTP) is a five-year International Development Association (IDA)-funded project supported with a US\$50 million grant. The project's main implementing agency is the Ministry of Information and Communications (MIC). The proposed Project Development Objective (PDO) is to expand access to broadband internet, enhance digital skills and improve government capacity to deliver public services digitally.

The SLDTP proposes four integrated and mutually reinforcing components, with a fifth component dedicated to contingent response to future emergencies (*Contingent Emergency Response Component, CERC*).

- Component 1 – Expanding Digital Access and Increasing Resilience of the Digital Environment;
- Component 2 – Digital Skills Development and Innovation
- Component 3 - Laying Key Foundations for Digital Government Services and Systems
- Component 4 – Project Management and Implementation Support; and
- Component 5 - Contingency Emergency Response Component (CERC).

The proposed activities integrated into Components 1, 2, and 3 are designed to support the Government in building resilient and inclusive policies by strengthening its legal and regulatory frameworks, scaling up the citizen-centric digital public service delivery through a “Whole-of-Government” approach by enhancing cooperation and collaboration in the implementation of these strategies. The Project is being implemented by

a Project Coordination Unit (PCU) in the MCTI. The project beneficiaries will be all people in Sierra Leone, including individuals, businesses, and government. At a macro level, the project will support improving the enabling foundations of the digital economy; improving digital skills, digital access, and adoption; setting key enablers for digital government service delivery and systems; and mainstreaming digital solutions through institutional realignment and strengthening, and a more inclusive and human-centric digital growth and development strategies. The Government is also proceeding with an institutional reform in the existing regulatory authority, replacing the National Telecommunication Commission (NATCOM) with the National Communication Authority (NCA) that will assume a broader regulatory mandate for converging broader topics in digital space to ensure inclusive digital growth based on market competition.

Sierra Leone is currently experienced an exciting development in the Telecommunication and ICT sector as demonstrated by an increase in the number of Mobile Network Operators, Fixed lines, Internet Service Providers (ISPs), the volume of broadband data, and the number of Radio and TV broadcasters. There has been a significant step forward in the drive to achieve the objectives of the ICT pillar in the New Direction Manifesto. The privatization of the Cable Landing Station and the terrestrial Fiber backhaul comprising of the national fibre project and the ECOWAN has led to increase availability of high speed internet across the country. as Sierra Leone's ICT/Telecom sector undergoes rapid development, special policy measures and initiatives are needed to create the necessary enabling legal, regulatory and institutional environment to facilitate its development. The National Regulatory Authority (NatCA) was established by the National Communications Act 2022 replacing the Telecommunications Act 2006 (as amended). The mandate of the Authority is to license and regulate the electronic communications operators and other related matters. Additional responsibilities include the promotion of fair competition among operators for the benefit of end-users of telecommunications services and products.

The lack of a market analysis and assessment of market power has over the years led to Mobile Network Operators individually claiming to be the dominant player in terms of market share and best services and complained of undercharging for ICT services. The regulatory body has no technical evidence to affirm such claims. On the other hand, the National Communications Authority (NatCA) questions the undercharging of spectrum and numbering resources to operators. To promote open and fair competition in the telecommunications sector there is the need to develop an effective interconnection regime, avoidance of predatory pricing, price squeeze, excessive pricing practices and price dumping, among others. Since the establishment of the Regulatory regime in 2007, there has never been any studies conducted to set tariffs for interconnection and other telecommunications services, and to also determine the costs to deliver services to end-users by network operators and service providers in Sierra Leone. Understandably, the prescription of tariffs for telecommunications services and products by the Regulatory Authority has not been scientific in nature, rather this is achieved through negotiations, which are normally based on subjectivity.

In order to address these challenges, NatCA is seeking to hire a consulting firm to carry out a **comprehensive market, tariff and cost study** for all Mobile Network Operators (MNOs), Internet Infrastructure and Bandwidth Providers, Internet Service Providers (ISPs), and Mobile Money Operators thereby identifying operators with Significant Market Power (SMP), and at same time providing a comprehensive guide for cost-based Regulations to the Authority for next five (5) years and develop Significant Market Power (SMP) legislation, and clear interconnection regulations in Sierra Leone. The study will set out a proposal for the development of regulations for SMP and interconnection to promote fair market competitions. It will also provide interconnection rates for both mobile and fixed line services and products, as well as formulate a pricing mechanism for other telecommunications services and products including mobile and broadband Internet services, SMS and mobile money transactions in Sierra Leone. The study will focus on capacity tariffs levied by the sole wholesale provider of international bandwidth for voice and broadband services and products to ensure that the rates are efficiently priced. The study will take into account the provisions of the applicable laws, which details the categories of operators entitled to get licenses and consider new business models and services including Mobile Virtual Network Operators (MVNOs), extended networks, international roaming, active infrastructure sharing, and wholesale services.

### **III. Objectives**

The overall objective of the assignment shall be to develop proposals for future glide path tariff regimes to enhance competition among telecommunications operators in Sierra Leone, based on a costing model for telecommunications services and products and a benchmarking study of different tariffs among similar economies and countries in Africa.

The specific objectives of the assignment include but not limited to:

- i. Conduct a proper market Analysis for all Mobile Network Operators (MNOs), Internet Infrastructure and Bandwidth Providers, Internet Service Providers (ISPs), and Mobile Money Operators, thereby identifying operators with Significant Market Power (SMP), with a view to develop appropriate legislation applicable to SMP and interconnection in Sierra Leone.
- ii. Develop an Optimal Cost of Capital Methodology Framework for the telecommunications industry in Sierra Leone;
- iii. develop a cost model and pricing framework for NatCA for all wholesale and retail products and services including but not limited Mobile Money Transactions, On-net and Off-net mobile voice calls and use of Data;
- iv. conduct a benchmarking study of cost models and tariffs regulations used elsewhere in Africa, particularly in the ECOWAS sub-region, and other countries comparable to Sierra Leone;
- v. consistent with the findings from the market analysis, the benchmarking study, run the proposed/approved costing model for NatCA and make proposals for all wholesale and retail products and services (glide path) for five (5) years. Products and services will include but not limited to Mobile and fixed termination rate (voice/Sms), mobile and fixed line retail services, mobile and broadband data services, as well as SMS and mobile money transactions; and

- vi. train and transfer skills to NatCA staff on the developed cost modelling and the proposed price regulation frameworks.
- vii. Base on the SMP findings develop appropriate Regulations applicable to SMPs and Interconnections.

#### **IV. Scope of Assignment**

The scope of the assignment, in line with the overall and specific objectives, will cover in details, among other things, the following:

- i. Conduct a comprehensive analysis of the telecommunications and Internet service market in Sierra Leone, including:
  - a. market size, growth potential, trends, and competitive landscape,
  - b. assessment of the current demand for Internet services in Sierra Leone, including the size and growth of the Internet user base, the current penetration rates of Internet services, and the key trends and drivers shaping the demand for Internet services.
  - c. Identification of the key competitors in the market, including an analysis of their strengths and weaknesses, market share, and pricing strategies.
  - d. Determine the cost structure of providing services in the sector, including capital and operational expenditures, and identify areas for cost optimization.
  - e. Benchmarking: Benchmark the cost structure and pricing strategies of MNOs and ISPs in Sierra Leone against regional and international peers.
  - f. Developing a set of actionable recommendations for MoCTI, NatCA, MNOs and ISPs to improve the cost efficiency and pricing strategies.
- ii. Develop appropriate legislation applicable to SMP and interconnection to promote fair market competition in Sierra Leone.
- iii. analyze the existing market for telecommunications services and the pricing structure of all services and products in Sierra Leone, and recommend an appropriate and applicable pricing methodology (Cost-Based Pricing, Competition Based Pricing, Value-Based Pricing/ Demand-Based);
- iv. assess and calculate the Weighted Average Cost of Capital (WACC) for the telecommunications sector. The WACC is considered as one of the determining parameters used for calculating charges that permit a reasonable rate of return to investors;
- v. carry out a detailed literature review on different costing interconnection models and their methodologies, and recommend a suitable model for Sierra Leone;
- vi. develop cost models appropriate for Sierra Leone including at least the following parameters:
  - a. calculation of network capacity requirements
  - b. network design parameters
  - c. network dimension scheme and coverage
  - d. direct licenses and regulatory fees
  - e. depreciation period of equipment

- f. network cost estimates including historic capital costs, current capital and operating costs, operations and maintenance costs, depreciation costs, etc.
  - g. non-network cost estimate including research and development, future planning and development
  - h. cost break down for individual services as defined in the methodology document
- vii. the cost models that will be developed should be user friendly to allow for sensitivity analysis so that NatCA can examine the impact of changes within a reasonable range for the under-mentioned parameters:
  - a. demand forecasts
  - b. market share assumptions
  - c. equipment prices
  - d. network quality of service
  - e. WACC values
  - f. useful asset lives
  - g. update and extension of the model
- viii. conduct a benchmarking study of average and best practice on cost models used and tariffs regulation elsewhere in Africa, with special focus on the ECOWAS countries and other similar economies, while taking note of other regulatory rulings concerning glide paths;
- ix. evaluate current tariffs for wholesale services charged by the sole fiber optic cable essential facility (submarine and terrestrial fiber optic cables) to other market players;
- x. evaluate the linkages between wholesale interconnect tariffs and retail prices, and assess the extent to which past interconnect tariff reductions have been passed on to consumers;
- xi. use the cost model and benchmarking study to estimate the cost of providing interconnection services for mobile and fixed line services, mobile and broadband Internet services, SMS and mobile money transactions in Sierra Leone;
- xii. analyze the results of cost models and benchmarking to make appropriate recommendations on the level and structure of wholesale and retail tariffs, as well surcharges for consideration by the Authority;
- xiii. organize stakeholder's consultation workshop in collaboration with the Ministry of Information and Communications, NatCA and Service Providers to present and validate the findings and recommendations for further development and implementation of the cost models for the telecommunications market;
- xiv. produce a user guide/manual for the cost model files developed, setting out a step-by-step guide to these files, including an overview of the main model flows, where to locate any input data and modeling results, and how to undertake the sensitivity analysis. For knowledge transfer, the consulting firm should propose the training plan to be conducted in Sierra Leone; and
- xv. prepare and present the final report of the study containing a summary of the entire assignment, results and recommendations including a package of all data, materials and documents produced.

## I. Reporting, Time Schedules, and Payment Schedule

The consulting firm is expected to complete the assignment in **100 man-days** after the commencement of the Contract. The assignment shall commence seven (7) calendar days after the Contract is signed. All deliverables generated from this assignment shall be the sole property of NatCA. The Consultant is expected to provide the following deliverables against the prescribed timelines detailed in the table below. The following percentages of the total Contract amount shall be disbursed upon receipt and approval of the deliverables outlined in the table below.

No.	Deliverable	Timeline	Indicative payment schedule
1	Inception Report	15 calendar days after commencement of the Contract	First payment of 10%
2	Data Collection Tool and on-site initial mission (meetings with main stakeholders)	30 calendar days after commencement of the Contract	
3	Costing model software installed on an agreed NatCA hosting platform with applicable user manual and standard operation procedure	60 calendar days after commencement of the Contract	Second payment of Twenty-Five percent (20%)
4	Benchmarking Analysis Report	60 calendar days after commencement of the Contract	
5	A Stakeholder Consultation Workshop and Report	70 calendar days after commencement of the Contract	Third payment of Thirty percent (30%)
6	Capacity Building	70 calendar days after commencement of the Contract	
7	Data Collection Tool for market monitoring, updates and extension of the model	80 calendar days after commencement of the Contract	
8	Draft Report including Draft SMP and Interconnection Regulations base on market analysis	90 calendar days after commencement of the Contract	
9	Final Report and final Regulations for SMP and Interconnections	100 calendar days after commencement of the Contract	Final Payment of 40%

The Consultant will regularly report to the Director General of NATCA, or staff designated by the Director General, on all aspects of the agreed activities and also report to the SLDTP Project Coordinator.

## II. Qualification and Experience of Consultant

The consultancy firm should have good knowledge of key sector players, market trends, and emerging technologies, experience in conducting market research related to Mobile Networks and Internet Service

Providers With technical skills to collect and analyse data related to such study. must have demonstrated expertise in the economic/financial analysis of Mobile Networks and ISP business, particularly in conducting market research, demand forecasting, revenue modelling, and cost analysis with relevant experience working in similar market especially in Africa, Preferably the ECOWAS region.

The successful consulting firm shall be required to undertake the assignment as a multi- disciplinary team of at least four (5) personnel, preferably comprising a Lead Consultant, two (2) Key Experts and a Local Consultant. The consulting firm shall demonstrate ample in the telecommunications sector, especially in regulatory administrations for over 10 years, of which the firm would have successfully completed five (5) assignment of similar nature, preferably in economies in sub-Saharan Africa, with at least three (3) similar assignments completed for an organization in West Africa. Having key experts from the ECOWAS sub-region on the team would be an added advantage. The team members shall possess the following qualifications, skills and experience:

<b>Key Position</b>	<b>Qualifications</b>	<b>Experience</b>
(1) Team Leader, or equivalent	Minimum of Master’s degree in Electrical and Electronic Engineering, Computer Science, Telecommunications Engineering, Information and Communications Technology (ICT), Business/Public Administration, Economics, Development Studies, Commerce, Science/Technology, Regulatory Administration or other relevant fields from a recognized institution;	<ul style="list-style-type: none"> <li>• Minimum of 10 years experience in similar assignments in the telecommunications industry for, 5 years of which shall be working as team leader in similar projects.</li> <li>○ proven interconnection and tariff regulations experience recognized by at least one (1) Regulatory Authority;</li> <li>○ experience in similar assignment in at least three (3) developing country in Africa; and</li> <li>○ fully conversant and knowledgeable in the development of telecommunications cost models, familiar with convergence of technologies and modern next-generation access technologies and have good communication, written, presenting and graphical skills.</li> </ul>
Two Key Technical Experts	minimum of Master’s degree in Electrical and Electronic Engineering, Telecommunications, Information	<ul style="list-style-type: none"> <li>○ experience in the telecommunications industry for</li> </ul>



including a software developer	Communications Technology (ICT), Economics, Business/Public Administration, Development Studies, Commerce, Science/Technology, Regulatory Administration, Finance or other relevant fields from a recognized institution;	<p>not less than 7 years working on similar projects;</p> <ul style="list-style-type: none"> <li>○ have technical skills and competencies in the telecommunications industry, particularly relating to tariffs and interconnection;</li> <li>○ demonstrable forecasting skills and benchmarking in socio-economic and technologies, economics and finance, as well as aptitude to create trend analysis;</li> <li>○ conversant with mobile and fiber optic cable network elements, operations and the development of telecommunications businesses;</li> <li>○ experience in a related assignment in at least two (2) country with similar economy; and</li> <li>○ must have good communication, written, presenting and graphical skills.</li> </ul>
(2) Data/Policy Analysts / Consultants or equivalent	Bachelor's degree in business administration, Economics, Development Studies, Commerce, Data Science/Technology, or other relevant fields	<ul style="list-style-type: none"> <li>● Min. 3 years experience in Data/Policy analysis especially in the telecommunications industry in the sub-region</li> <li>● Experience with big Data analytic will be an added advantage</li> <li>● proven practical display of technical ability in tariff regulations and guidelines;</li> <li>● demonstrate forecasting skills and benchmarking of technological services, socio-economic and finance trend analysis;</li> <li>● has proven knowledge in research relating to tax regimes including duty waivers;</li> <li>● must have engaged in at least one (1) related assignment in a similar institution within Sierra Leone; and</li> </ul>

		<ul style="list-style-type: none"> <li>• possess good communication, written, presenting and graphical skills.</li> </ul>
(1) Local Consultants or equivalent	A higher degree in Electrical and Electronic Engineering, Telecommunications, Economics, Finance or Business Administration from a recognized institution	<ul style="list-style-type: none"> <li>• knowledgeable in regulatory framework regime for not less than 3 years working in similar assignment;</li> <li>• Familiar with National regulatory regime and the ICT/Telecom sector workings</li> </ul>

### III. Facilities Data and Information to Be Provided by Client

The National Regulatory Authority (NatCA) shall provide office space with for the successful consulting firm to facilitate the smooth implementation of the assignment. The following shall be provided to the Consultant by the Employer:

- i. facilitate the provision of access to relevant documents and data available which may be supportive to the Consultant, and
- ii. prepare a letter introducing the consulting firm to operators in the telecommunications sector and other relevant institutions, wherever required in performing the assignment.

The firm shall provide all the administrative, technical professional and support staff needed to carry out the assignment efficiently. The Consultants shall also be responsible for providing all other necessary facilities and logistical support for its staff/teams, including accommodation, vehicles/transportation, office equipment, field survey and investigation equipment, laboratory testing, communications, utilities, office supplies and other miscellaneous requirements wherever applicable to render their services. The firm shall nominate and make available a contact person for regular meetings with the Project Coordination Unit and NatCA teams.

### IV. Working Language

The working language for the consultancy service shall be English.

### V. Conflict of Interest

The successful consulting firm shall declare any conflict of interest, especially if any or all of the consultants is/are currently carrying out consultancy work for other stakeholders including licensed operators or service providers in the telecommunications sector in Sierra Leone.

## **VI. Confidentiality of Information**

The firm shall protect the confidentiality of the data or information received to conduct this assignment, and shall sign a confidentiality agreement with NatCA. No data, information, or deliverables from this assignment will be released to third parties without a written approval of NatCA. The Consultant shall surrender all data and other materials to the Regulatory Authority, and shall not retain any information or materials after closure of the assignment.