

TERMS OF REFERENCE
FOR
Individual Consultant on Lump Sum Basis
TO DESIGN ACTIVE PART OF THE LOG-IN GEORGIA PROJECT BROADBAND NETWORK

Background

The Government of Georgia signed a Loan Agreement for financing the implementation of Log-in Georgia Project (“Project”) with the World Bank (WB). The proposed Project development objective is to increase access to affordable broadband internet, and to promote its use by individuals and enterprises, in targeted rural settlements.

The Project Consists of the following key components:

- Component 1: Increasing access to broadband – this Component will help expand access to broadband internet in rural settlements across Georgia and improve the enabling environment for digital development.
 - Subcomponent 1.1: Supporting the Open Net Program – the Open Net Program will develop a national infrastructure to offer open access, wholesale, broadband telecommunications services.
 - Subcomponent 1.2: Improving the enabling environment for digital infrastructure – this subcomponent will support activities to improve the enabling environment for digital infrastructure development in Georgia. This will support the development of legal, policy, and regulatory instruments, and design of investment attraction measures included in the national broadband development strategy (adopted in 2020).
- Component 2: Promoting the use of broadband-enabled digital services – this Component will support the development of Georgia’s digital economy through a strengthened enabling environment, promoting digital use-cases of broadband, and addressing barriers to the participation of individuals in the digital economy.
 - Subcomponent 2.1: Enabling environment for digital economy development – this subcomponent will support activities to improve the enabling environment for digital economy development in Georgia.
 - Subcomponent 2.2: Promoting use-cases – the subcomponent will promote specific use-cases of improved broadband connectivity in targeted rural settlements.
 - Subcomponent 2.3: Increasing digital inclusion – this subcomponent will finance targeted interventions to boost the use of the internet and digital services by women, social minorities, and persons with disabilities in targeted settlements.
- Component 3: Project implementation support – this component will support the management and implementation of the Project and associated activities.

The Project will be implemented over a five-year period by the Open Net NNLE as the implementing entity, with the oversight of the Ministry of Economy & Sustainable Development (MOESD) of the Government

of Georgia (GoG). Open Net NNLE will be the Project Implementing Entity (PIE) to support the implementation of the Project.

Objective and Purpose of the Assignment

1. Identification of appropriate technical solutions for IP/MPLS and DWDM network, cooling, power, NMS, other related components (hereinafter active part) of the network to achieve the required project objectives while ensuring cost-efficiency;
2. Identification of implementation approach for deployment;

Tasks and Responsibilities

The consultant shall report to the Director, Open Net NNLE and shall work with other individuals and organizations as identified by the Director to fulfil the terms of reference.

The work done by the consultant should include:

Phase One: Traffic assessment

- 1.1 The consultant shall conduct traffic assessment, based on the socio-demographic characterisation and approved National Broadband Development Strategy (NBDS) in Georgia, which shall be used to estimate infrastructure requirements to provide broadband services for the period of time from 2020 to 2025. To achieve this, the consultant shall use:
 - a. the demand analyses prepared by Detecon International GmbH in 2015-2016 and 2016-2017 as provided, by the Open Net;
 - b. data (take-up coefficient), provided by ComCom;
 - c. bandwidth growth forecast of consumer broadband services (backhaul and backbone connections) for next 10 years;
 - d. the list of the settlements, and
 - e. other official available statistical data including that of National statistics agency of Georgia "Geostat".
- 1.2 The consultant shall support the Open Net in the process of validating its prepared traffic assessment formally and officially with electronic communications service providers, based on their inputs related to the type, technical and service parameters and volume of the services to be requested from Open Net, to ensure the offtake of capacity provisioned by the National Broadband Network (NBN) in the covered settlements.

Phase Two: Review, Design and modelling of the active parts of the network

- 2.1 The consultant shall design and model the Active network (core and distribution) based on the traffic assessment conducted during the Phase One as well as the services, that should be provided;
- 2.2 The consultant shall support Open Net in presenting the design officially and formally with all interested parties. The consultant should answer any questions that may arise, conduct discussions, if necessary, adjust the network to meet the interests and feedback of all parties.

2.3 The design of active part of the network should estimate the quantities and types of necessary active equipment and its technical parameters required to provide services as per results of the traffic Assessment and the services that should be delivered.

2.4 Based on the design and modelling of the network, the consultant shall deliver full network topology (physical and logical) (for the whole Georgia and for the individual region separately) and a comprehensive Technical specification/Technical requirements document for Active Infrastructure rollout.

2.5 The Consultant shall make references to the security/cybersecurity and energy efficiency requirements for the different project component according to the sector best practices and standards for such infrastructures, for these to be incorporated in the future tender documentation.

2.6 Based on the study undertaken, the consultant is expected to provide a comprehensive report on estimated costs for Active Network Infrastructure rollout and operations for the whole Georgia and per individual region separately.

2.7 Technical specifications/requirements documents for Active networks post – deployment period, including, but not limited to warranty and support service requirements.

Deliverables:

1. Traffic Assessment report (Phase1)
2. Active network topologies (physical and logical)
3. Engineering report as per 2.3 and 2.4 (Phase 2) evaluating
 - a. technological requirements,
 - b. providing an analysis of network architecture,
4. Report on estimated costing on active network as per 2.6 (phase 2)

All deliverables must be submitted in English. All documents shall be submitted in hard copies and electronic (pdf or similar) format. All correspondence to the Employer shall be in English.

The consultants shall present deliverables within 60 days after signing of the contract.

Milestones

Duration of the Contract will be 60 days. The contract could be extended according to the business needs.

The table below summarizes the anticipated key milestones of the assignment. The indicated timeline allows for review time.

Milestone	Submission Date	Language
Phase 1	Within 20 days after commencement of services	English
Phase 2	Within 60 days after commencement of services	

Required Qualification

Education:

Master's degree in one of the following fields:

- Telecommunications,
- Electrical and electronics engineering,
- Computers and information technology
- Mathematics
- Physics

Or valid certificate in one of the following fields: CCIE or JNCIE;

Work experience & skills:

- Experience of similar type of assignments or consultancies (with regards to deliverables of the consultancy)
- At least 10 (ten) years' experience in the electronic communications sector in providing services in network design and/or network operations;
- A good knowledge of technology development and costing;
- Awareness of cybersecurity and resilience aspects of telecommunications networks;
- Ability to work collaboratively in a team and deliver outputs on time; and
- Excellent speaking and writing skills in English.

Facilities and Services to be provided by Open Net

Open Net shall provide:

- Office area and facilities, office equipment and communication necessary to carry out the services;
- All necessary information and documents required for completion of tasks;