Terms of Reference

Study on Implementing an Alternative Fiber Cable for Enhanced Digital Connectivity

1. Introduction

The Government of Sri Lanka (GoSL) recognized the critical role that Information and Communication Technology (ICT) can play in fostering social integration, peace, growth, and poverty reduction. The Government intends to use ICT to improve the reach and responsiveness of public services, reduce transaction costs to business, make government more transparent and accountable, and address the urgent needs of low income communities and isolated regions.

The key elements and objectives of the ICT program articulated by the government are to (i) develop the necessary capacity to lead and implement an ambitious ICT program; (ii) rapidly develop the required digital infrastructure across the country to effectively serve all citizens; (iii) create an enabling environment for the knowledge economy; (iv) develop specialized ICT skills and broad ICT literacy at all levels of education; (v) deliver faster, more efficient, and more transparent government services to all citizens and businesses; (vi) use ICT as a lever for social development; and (vii) create jobs through a dynamic and competitive ICT sector and through diffusion of ICT across the nation.

To achieve this broad vision, GoSL has implemented National ICT Road-Map since 2003. Aligned with the national policy of 'Digitization of Economy', developing of digital infrastructure has been identified as a key enabler, and ICT Agency of Sri Lanka (ICTA) has initiated several initiatives in this direction.

2. Background

Digital economy plays a major role in economic development aspects in modern world. Furthermore, the digital economy contributes up to **eight percent (8%)** of the Gross Domestic Product (GDP) of the G-20 major economies, powering growth and creating jobs[1]. Without reliable and affordable access to the Internet, the objective of migrating to the digital economy will be

1 European Commission, available at: http://ec.europa.eu/growth/sectors/digital-economy/importance/index_en.htm

prolonged. On-line business, knowledge transfer, government on-line services, E-participation, access to emerging technologies are some of the important components of innovation driven economies which can access through Internet. Aligned with this, the Government of Sri Lanka (GoSL) has also identified the role that "Digitization of Economy" can play for economic development aspects.

Furthermore ICTA has identified that accessibility of Internet is a major factor inter alia to foster the digitization of economy. As a lower middle income country, affordability of Internet is highly impact on the boost of accessibility and penetration around the Island. Since the apex ICT institution of the Government, ICTA has launched number of projects in order to provide faster and reliable access to the Internet such as Google Loon Project and Free Wi-Fi initiative.

Implementing an alternative fiber cable for enhanced digital connectivity is another major plan of ICTA in order to boost accessibility and penetration of Internet around the Island. With this approach, it is expected to serve the emerging Internet demand of the country, increase the penetration level of the Internet, increase the affordability among Internet users and provide reliable connectivity to the users (government, businesses and citizens). This initiative will also serve as the second or redundant connectivity to the existing South East Asia - Middle East - Western Europe (SEA-ME-WE) connectivity. The impact on development of telecommunication and digital infrastructure in Sri Lanka fostering the policy of digitization of the economy will also be expected from this project. The Government Data Center Project which will require reliable and high bandwidth when it starts operations also will facilitate from this initiative. Finally this endeavor will have positive impact on Sri Lanka to jump from lower middle income economy to the next level of upper middle income economy.

However, implementing a major project of this nature is a complex and critical task, and it requires highly professional approach to ensure successful and smooth implementation. Therefore, ICTA believes that the best approach is to carry out a comprehensive study and it is intended to hire a consultancy firm to carry out the proposed study.

3. Concise Statement of Objectives of the Assessment

To carry out a comprehensive study on implementing an alternative fiber cable in the areas of feasibility, risks and benefits, technical, financial, implementation, operation and governance and provide a comprehensive study report with findings and necessary recommendations.

4. Scope of Work

The consultancy firm is expected to cover the following areas (but not limited to);

a) Feasibility of Implementation

- Current Internet penetration in the country and the demand.
- Stakeholder consultation.
- Evaluation of existing capacities.
- Identification of shorter cable routes.
- Status of existing submarine cables with respect to utilization, redundancy, expandability, security and reliability.
- Status of existing fiber cables and dark fiber cables.
- Status of submarine cable map in the world and region.
- Need for the alternative cable with regard to the speed, reliability and cost.
- Impact on citizens, government and businesses.
- Feasibility of laying alternative fiber-optic cable .

b) Technical Aspects

- Latest technological trends in fiber-optic cables.
- Detailed specifications and configurations of the solution.
- Specifications and capacities of existing dark fiber cables.
- Comparative analysis between connectivity options and recommendations for the optimal solution.
- Assessment on possible landing station(s).
- Required service levels.

c) Cost and Financial Aspects

- Total project implementation cost for different possible options.

- Analysis on different models of implementation.
- Cost-Benefits analysis, Return on Investment, and potential contribution to the GDP.
- Short-term and long-term contribution towards the economy of the country.
- Possible impact on broadband market, prices via a competitive environment.

d) Implementation and Time-line

- Optimal implementation methodology with identified phases.
- Engagement models aligned with financial aspects.
- Project durations.
- Risk analysis and risk mitigation strategies.

e) Commercial Aspects

- Strategies to be adopted in the local market.
- Recommendations to acquire competitive advantage.

f) Operational and Governance Aspects

- Operational models to be adopted.
- Ownership models.
- Governance mechanisms.
- Monitoring, reporting and maintenance.
- Human resources requirements.

g) Administrative and Regulatory Aspects

- Work closely with related stakeholders (ICTA, Ministry of Telecommunication and Digital Infrastructure, Telecommunication Regulatory Commission (TRC), Foreign authorities, Academia).
- Recommendations on necessary approval processes.
- Regulatory changes.

h) Environmental and Social Impact

- Assessment on the environmental and social impact (onshore and offshore).
- Impact on environment (physical and by improved Internet penetration).

4.1 General Requirements

a) Non-Disclosure Agreement (NDA) to be signed.
b) Adherence to the latest revisions of the e-Government Policy of Sri Lanka.

c) Participating for the meetings/discussions of project governance committees such as Project Steering Committee (PSC), Project Management Committee (PMC) and Project Review Committee (PRC) as and when required.

5. Deliverables and Time-line

The consultancy firm is required to submit the following list of deliverables which must be written in English;

No	Deliverables	Duration
1	Work plan	ED + 1 week
2	Initial draft report	ED + 4 weeks
3	Second draft report	ED + 7 weeks
4	Final comprehensive report	ED + 10 weeks

ED – Contract Effective Date

6. Qualifications of the KEY CONSULTANTS

Preferred Qualifications;

Key Professional Staff	Academic	Experience in the Proposed Role	Experience in working with similar projects
Project Manager	B.Sc. or equivalent, preferable with post-graduate qualifications	5 years	3 projects
Financial Analyst	Post-graduate qualifications and CFA or any other appropriate professional certifications	5 years	2 projects
Network Architect (Optical)	B. Sc., or equivalent with appropriate professional certifications	5 years	2 projects
Network Engineer, Optical (Submarine)	B. Sc., or equivalent with appropriate professional certifications	4 years	2 projects
Business Analyst	B. Sc. and relevant business certifications	4 years	2 projects
Legal Expert	LL.M. (preferably in International Law) or equivalent	4 years	2 projects

7. Review Committees and Procedures

The consultancy firm is required to work closely with the review committee(s) as appointed/ decided by ICTA.

All versions of deliverables will be reviewed and the acceptance is given once the deliverables meet the acceptance criteria.