MINISTRY OF PUBLIC WORKS AND TRANSPORT
DEPARTMENT OF ROADS

Ref. No. _35090_ / DOR

Date: 07 December 2023

REQUEST FOR EXPRESS OF INTEREST

NATIONAL IT CONSULTANT FOR DEPLOYMENT AND OPERATIONALIZATION OF CRASH DATABASE SYSTEM TO SUPPORT ROAD SAFETY
(PP Ref. No. ICS-058, Project ID No. P176088; IDA Credit No. 7102-LA)

The Ministry of Public Works and Transport (MPWT); Ministry of Agriculture and Forestry (MAF); Ministry of Industry and Commerce (MOIC); Ministry of Public Security (MOPS); Ministry of Planning and Investment (MPI), Ministry of Health (MOH) and Ministry of Finance (MOF) of Lao PDR had received financial support from the World Bank's (WB) International Development Association (IDA) to implement the Southeast Asia Regional Economic Corridor and Connectivity (SEARECC) with a project duration of six (6) years starting from middle of year 2022, The SEARECC Project consists of five (5) components as follow: (1) Lao PDR and Regional Connectivity Enhancement, (2) Logistics Services Development and Vorder-Crossing Management, (3) Strengthening Institutional Capacity and Regulatory Framework in Agriculture, Transport, and Investment Planning, (4) Project Management and (5) Contingency Emergency Response.

The SEARECC Project is seeking a full-time National It Consultant will support the Department of Traffic Police (DOTP), MOPS and Department of Transport (DOT), MPWT in the development (i.e., upgrading, customization and migration), implementation and scaling-up the Lao DRIVER Program to assist the MPWT and the Ministry of Public Security (MOPS) in the following activities: (a). to support the DOTP and DOT in the development, deployment, and implementation of Lao PDR web-based crash database collection and analysis; (2). o conduct trainings and workshops to build capacity of local traffic police on crash data collection and analysis; and (3) to work closely with other International Organizations and consultant's and represent MPWT at meetings as required.

The services of National It Consultant is initially required for a period of 24 months starting January 2024 on a full-time basis working at DOTP (MOPS) and DOT (MPWT), with possibility of extension depending on the Project needs and availability of funds. The National It Consultant will be based in Vientiane, Lao PDR. Contract extensions shall be subject to annual performance evaluation. There will be a probation period of 6 months at the beginning of the assignment. The full ToR for the assignment can be found at the following website www.mpwt.gov.la or can be sent to candidates upon written request to the e-mail address below.

The SEARECC Project Procurement Committee now invites eligible individual consultants to indicate their interest in providing the Services. Interested Consultant should provide information (CV, Expression of Interest, other supporting information, if any) demonstrating that s/he has the required qualifications and relevant experience to perform the Services. In order to qualify for this position, the candidates shall meet the following experience and competence requirements:

- A Master's degree, in Data Science, Software Development / Management, or other disciplines relevant to the assignment.
- Minimum 5 years of professional experience as a software / database developer and especially with

relational database systems; such experience under projects financed by Governments in developing countries or by IFIs is an advantage.

- Proficient in a Linux environment, including shell scripting, including knowledge of infrastructure tools such as Vagrant, Ansible and Docker.
- Web development experience, specifically Python/Django and JavaScript/Angular, including knowledge of HTML/CSS.
- Experience with a relative database system.
- Excellent language skills, and able to communicate in both English and Lao languages, both written and spoken.

Preferred Competences:
- Experience with PstgreSQL, Redis, Nginx, Gunicorn, Celery
- GIS experience, preferably using Windshaft
- Knowledge of Statistics and data compilation and analysis
- Knowledge of the following additional technologies is also beneficial: NFS, QAuth2, Javascript package/build tools (Grunt and Bower), Monit, ufw

The attention of interested consultants is drawn to Section III, paragraphs, 3.14, 3.16, and 3.17 of the World Bank's "Procurement Regulations for IPF Borrowers" 4th edition of November 2020 ("Procurement Regulations"), setting forth the World Bank's policy on conflict of interest. A Consultant will be selected in accordance with the Competitive Selection of Individual Consultants method set out in the Procurement Regulations.

Expressions of interest must be delivered in a written form to the address below (in person, or by mail, or by fax, or by e-mail) by 25 December 2023, 16:00 o'clock Lao time (submissions via email are also acceptable). Only shortlisted candidates will be contacted.

Department Planning and Finance, Ministry of Public Works and Transport
Lanexang Avenue, Phonxai Village, Saysettha District, Vientiane Capital, Lao PDR.

Attention: Ms. Vanh Dilaphanh
               Director General of Department of Planning and Finance (DPF - MPWT)
               Email: proc.dpf.mpwt@gmail.com with Cc: k_litta@yahoo.com, dilaphanhnana@yahoo.com, bounta_ov@yahoo.com, bottaphanith@yahoo.com and phouthavishet@yahoo.com.

Yours sincerely,

Mr. Litta Khattiya
Director General, Department of Roads (DOR - MPWT)
Head of SEARECC's Project Procurement Committee

TERMS OF REFERENCE (TOR)
National IT Consultant for Deployment and Operationalization of Crash Database System to Support Road Safety, PP Reference No. ICS-058

1. Background

The Government of Lao PDR is committed to address the issue of road safety: its vision in the draft National Road Safety Strategy is to eliminate fatalities and serious injuries on Lao roads. A 2030 target has been set for 50% reduction in fatalities and serious injuries.

To support this goal, The World Bank and the Government of Laos is preparing The Southeast Asia Regional Economic Corridor and Connectivity (SEARECC), This project is designed to address gaps in safety, operation, and management of this important international route through (i) the improvement of NR2, border crossing facilities (with Thailand and Vietnam), and improvement of the local roads[1] connecting to the NR2 corridor with climate resilient and road safety standards to ensure the efficiency and sustainability of the infrastructure, (ii) through logistics services development and cross border management, and (iii) by strengthening institutional capacity[2] and regulatory framework in agriculture, transport, and investment planning.

In addition, on 2 November 2022, the Lao PDR Government approved the National Road Safety Strategy and Action Plan. The implementation of the Road Safety Action Plan will require collaboration between different stakeholders including local authorities such as the National Road Safety Committee (NRSC), Provincial Road Safety Committee (PRSC) and District Road Safety Committee (DRSC), and international organizations and consultants.

This assignment aims at improving road crash data collection and analysis. The Lao government, working with the World Bank, developed and deployed a web-based and open-source system for geo-spatially recording and analyzing road crashes --the Data for Road Incident Visualization, Evaluation, and Reporting (DRIVER) system in 2018-2020. DRIVER is a crash database system that includes an array of functions that can be customized to the context and needs of a given country. These functionalities include:
- A web and mobile-device interface for recording and viewing road incidents;
- Standardized data fields and entries to support analyses of historical crash data;
- Robust tabular and map-based filtering and search functions;
- Advanced API and data export and sharing features;
- Blackspot, economic cost, and crash prediction analytical tools;
- Intervention tracking functionality;
- Integration with the International Road Assessment Program (iRAP) star ratings;
- Integration with Mapillary, a platform for crowd-sourced street-level photos; and
- A public-facing website.

Most critically, DRIVER is an open-source, which means the code of DRIVER can be accessed on the internet

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[1] Sub-Component 1.2: Local Road climate resilient improvement and maintenance (US$20 million IDA; US$2.5 million GoL). This sub-component supports the improvement and maintenance of climate resilience and safety of selected local roads in Phongsaly, Oudomxay, Luang Namtha, Xayabouly, and Luangprabang. The performance-based contract (PBC) approach will be used for maintenance. The Department of Road (DOR) and the provincial Department of Public Works and Transport (DPWT) will be the lead implementing agency for this sub-component.

[2] Sub-Component 3.2.b: Supporting the implementation of road safety action plan will focus on four areas: (i) road safety engineering, such as conducting road safety audits and safe system assessments; (ii) road safety data, services, and management, which support activities to maintain the road safety database; (iii) road safety campaigning and enforcement; and (iv) post-crash response capacity improvement.

at GitHub. MPWT and the Ministry of Public Security (MOPS) have received substantial training through the DRIVER Pilot Program on how to use DRIVER from 2018-2021.

The team is looking for an individual It Specialist to support the Department of Traffic Police (DOTP), MOPS and the Department of Transport (DOT), MPWT in the upgrading, customization and migration of the DRIVER to MPWT, scaling-up the Lao DRIVER Program, providing the respective training and overall IT support.

This Terms of reference comprises three tasks:
Task 1: Deployment & Testing
Task 2: Implementation, Training, and Scale-up
Task 3: Institutional and Technical Support

2. **Objective of the Assignment**

The objectives of the assignment are:
- To support the DOTP-MOPS and DOT-MPWT in the migration and implementation of Lao PDR web-based crash database collection and analysis;
- To conduct trainings and workshops to build capacity of local traffic police on crash data collection and analysis;
- To work closely with involved agencies and consultants and provide overall technical support to MPWT, and in particular to MPWT-PMU for trouble shooting of the digitalized project management systems.

3. **Scope of Work:**

For Task 1, the individual consultant shall update the web-based national crash database system and mobile Apps that have been developed and migrated to MPWT server/hosted at LANET with upgraded code/system provided. The consultant shall also develop customized functions and analytical tools for Lao PDR and facilitate integration of relevant database systems with the SAFER System[3], PROMM, RMS, Vehicle Registration and Driving License Systems (VRDSL) and any other national database system. The consultant shall review and update accurate Lao translation to ALL fields, and headings on DRIVER website and Mobile Apps. The consultant shall update the existing user manual into Lao language, incorporating the upgrading elements.

For Task 2, the consultant shall prepare/propose an implementation, training and scaling up, make any updates necessary to the tool, deliver the training of users and scale up the tool to Project Provinces, and the nation-wide level where possible.

It is expected that the consultant will:
- Prepare downloadable training materials to support the implementation of the platform. This shall include a customized manual for data encoders and analysts, a user and administrative manual which includes the process for collecting and managing data, and technical manual for IT professionals and local developers who can implement future enhancements to the platform, troubleshoot bugs, and manage the servers (the manual exists in English, and it has to be translated in Lao and adjusted to Lao users' needs);
- Distribute the manuals and conduct hands-on training for relevant ministries and stakeholders;
- Lead the implementation by ensuring that users are well-trained, queries and issues are resolved, and the quality of data collection and implementation is monitored;

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[3] Stopping the Accident Fatality rise by EMS development and Road safety (SAFER) Project. JICA Partnership Program, with Mittpahab Hospital, MoH and University of Tsukuba, with MOU signed in May 12th 2021. The project aims to strengthen the capacity building of EMS and contribute on stopping the fatality rise; collect & analyze data on post-crash response. Support Dispatch Center and use 1195 only for emergency call

- Provide an evaluation of the whole program after the mid-term implementation, and make any necessary updates to the tool based on feedback from the Government; and

For Task 3, the consultant:
(a) Will assist the National Road Safety Committee (NRSC) Secretariats, relevant departments, as well as relevant consultants in the institutional arrangement for DRIVER implementation, dissemination and scale-up process. Conduct the initial training and assist the stakeholders in using the system through an online or hot-line facility. The consultant shall address any queries or issues regarding the platform such as troubleshooting of bugs and providing road safety-related technical support on data and database systems as the need arises.
(b) Will provide technical and operational support to MPWT relevant project components for their day-to-day operational needs, especially using the Microsoft project, the SAGE 300, updating project documents on MPWT websites, social media messaging, and in general products/documents that need to go online, any other online products launching and announcement, and archiving.
(c) Will provide trouble shooting support to PMU on the digitized project management system.

4. Output Reporting Requirements:

The Consultant will report to the Project PMU and the Director General of the Department of Transport, Ministry of Public Works and Transport (MPWT).

1) Development and Deployment

The consultant shall update the national crash database for Lao PDR following the government and World Bank guidance. As the instance is updated, the consultant shall periodically send completed features for review and approval by the government.

2) Implementation Plan, Training Manuals, and Scale up

a) The consultant shall prepare an implementation plan and must present this to the MOPS and MPWT for approval. The government will provide comments on the plan within two weeks from the date of submission.

b) The consultant shall prepare the training manuals and conduct hands-on training for relevant stakeholders. The consultant must be available to provide additional training throughout the program.

c) At the mid-term of the SEARECC project, the consultant must provide an evaluation report. The evaluation report must include recommendations on the nationwide scale-up of the platform which would include detailed next steps. The government will provide comments on the report within two weeks from the date of submission.

d) The consultant will make any changes to the system as requested by the government based on feedback and results of the actual implementation.

e) The consultant will provide technical support to the PMU whenever requested for the smooth operation of its software.

5. Duty Station and Duration of the Assignment

Supervision Arrangements: The consultant will work under the overall supervision of the Director General of the Department of Transport, Ministry of Public Works and Transport, with day-to-day supervision from the designated representative from Land Traffic Division, Department of Transport, Ministry of Public Works and Transport and Division of Crash Investigation, Department of Traffic Police, Ministry of Public Security.

The consultant shall hold regular meetings with the client to discuss progress on the implementation of the work and the further actions required.

The consultant is required to provide his own laptop computer and any other specialized equipment as required. A desk may be provided at DoT if requested, and subject to availability.

Term of Engagement: This is a full-time contract for 2 years. The assignment is anticipated to commence in the first quarter of 2024 and most of the person-days to be spent during 2024 for the migration and operationalization of the DRIVER at MPWT, as well as for the preparation of the training materials and the delivery of the training courses, while the following year will be related basically to refreshment training and system operations support whenever required.

Technical support to PMU units will be provided on a daily basis as per their needs and system(s) requirements.
The contract shall be subject to yearly price adjustment based on the currency depreciation as per Lao CPI and to yearly performance assessment. There will be a probation period of 6 months at the beginning of the assignment.

6. <u>Consultant Selection Criteria</u>

The consultant shall have:
- A Master's degree, in Data Science, Software Development / Management, or other disciplines relevant to the assignment.
- Minimum 5 years of professional experience as a software / database developer and especially with relational database systems; such experience under projects financed by Governments in developing countries or by IFIs is an advantage.
- Proficient in a Linux environment, including shell scripting, including knowledge of infrastructure tools such as Vagrant, Ansible and Docker.
- Web development experience, specifically Python/Django and JavaScript/Angular, including knowledge of HTML/CSS.
- Experience with a relative database system.
- Excellent language skills, and able to communicate in both English and Lao languages, both written and spoken.

Preferred Competences:

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