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MINISTRY OF ECONOMY AND DEVELOPMENT
"Developing the Economic Cooperation Zone"
Project /L3936-MON

TERMS OF REFERENCE

MULTI-FZS MONITORING TOOLS FOR INTEGRATED BORDER MANAGEMENT
ZUFZGO / MINISTRY OF ECONOMY AND DEVELOPMENT

Abbreviations

ADB	– Asian Development Bank
APP(DCS)	– Advanced Passenger Processing (Departure Control System)
ALPR	– Automatic License Plate Reader
BCP	– Border Crossing Point
BPCRS	– Border Protection Registration & Control System (Ex-BOREX)
C	– Construction
CAIS	– Customs Automated Information System
CGAM	– Customs General Administration of Mongolia (or MCGA)
CBEZ	– Zamyn-Uud – Erenhot Cross Border Economic Zone
DB	– Database
DC	– Direct Contracting
DECZP	– Developing the Economic Cooperation Zone Project
DLI	– Disbursement-Linked Indicator
DMC	– Developing Member Country
EA	– Executing Agency
FZ	– Free Zone
FEZ	– Free Economic Zone
GASI	– General Agency of Specialized Inspection
GABP	– General Authority of Border Protection
GOM	– Government of Mongolia
GRM	– Grievance Redress Mechanism
IA	– Implementing agency
IBM	– Integrated Border Management
ICT	– Information Communication and Technology
IMS	– Inspection Management System (GASI)
IOT	– Internet of Things
ISF	– Integrated System Foreigner
ISM	– Immigration System of Mongolia (GABP and MIA)
IT	– Information Technology
MED	– Ministry of Economy and Development
M&E	– Monitoring & Evaluation
MCITA	– Mongolia Communications and Information Technology Authority
MIA	– Mongolian Immigration Agency

MIS	–	Management Information System
MJHA	–	Ministry of Justice and Home Affairs
MOF	–	Ministry of Finance
MOFA	–	Ministry of Foreign Affairs
NPA	–	National Policy Agency
ODPM	–	Deputy Prime Minister of Mongolia
PAP	–	Program Action Plan
PIU	–	Project Implementing Unit
POE	–	Port of Entry
POS	–	Point of Sales
PRC	–	People's Republic of China
TOT	–	Training of Trainers
TA IBM	–	Team Assistance IBM
UB	–	Ulaanbaatar
UI	–	User Interface
ZF	–	Zamyn-Uud free zone port
ZULC	–	Zamyn-Uud Logistics Center
ZUFC	–	Zamyn-Uud free zone
ZUFZGO	–	Zamyn-Uud free zone Governor's office

1. BACKGROUND

The development of free zones is an identified national priority for Mongolia and aligned with the Sustainable Development Vision 2030. Greater economic diversification is envisaged through increased manufacturing activities in free zones, investment promotion and enhanced trade profile. It is necessary to untap economic potential of Mongolia's existing Zamyn-Uud Free Zone (ZUFZ) and its strategic position along corridor 4 under the Central Asia Regional Economic Cooperation (CAREC) program. CAREC corridors link the region's key economic hubs and connect landlocked CAREC countries such as Mongolia with markets in Asia, Europe and rest of the world.

Zamyn-Uud is one of the key and busiest international border crossing points in Mongolia, at the junction of transport networks and offers the fastest route for sea access via Tianjin seaport. Zamyn-Uud has a territory of 48.6 thousand hectares, of which 70% comprise state special purpose land. The Zamyn-Uud free zone was established in 2003 and its Master Plan was approved in 2011.

In June 2020, the Asian Development Bank (ADB) approved the L3936-MON: Developing the Economic Cooperation Zone Project (51410-001) for Mongolia. The Government of Mongolia (GOM) and Asian Development Bank (ADB) signed the loan agreement on 2 July 2020 to implement the project. The project will serve as a catalyst for diversifying Mongolia's economy, integrating it into regional and global value chains, and increasing employment opportunities for the country's people. The project will generate economic and employment activities in Zamyn-Uud through (i) construction and operation of infrastructure and facilities in the free zone, (ii) promotion of sustainable operations and management of the free zone, and (iii) establishment of a port of entry system within the free zone.

The Executing agency (EA) is the Ministry of Economy and Development (MED) of Mongolia and the Implementing agencies (IA) are the Ministry of Construction and Urban Development and the Zamyn-Uud free zone Governor's office (ZUFZGO), responsible of the ADB-financed project.

An Integrated Border Management (IBM) aims at simultaneously enhancing trade facilitation, high level of traceability, including to mitigate transboundary health risks, and ensuring a high level of border security for:

- (i) Passengers;
- (ii) Vehicles; and
- (iii) Goods.

A nation-wide IBM calls for cooperation and coordination between all actors involved in border management at the national and international level. By improving communication, information exchange and mutual assistance between border authorities, the state border can be managed more effectively and efficiently:

- (i) At land BCPs (Border Crossing Point), seaports and international airports;
- (ii) At regional or central headquarters;
- (iii) FZs (Free Zone);
- (iv) Along the border line: land border (green border), rivers, lakes and maritime border (blue borders); and
- (v) In the vicinity of the borders (border zone);

The IBM concept consists of a modular structure broken down into three IBM pillars:

- (i) Intra-service cooperation: within a service or ministry;
- (ii) Inter-agency cooperation: between different ministries or border management agencies; and
- (iii) International cooperation: with other countries and international organizations.

2. LOCATION

Ulaanbaatar, Mongolia.

3. PURPOSE AND SCOPE OF WORK

The strategic intent of this activity is to support the development of a web-based multi-FZ dashboard to monitor the activities of individuals, goods and vehicles within a FZ as part of the implementation of a nation-wide Integrated Border Management (IBM) framework. The end-users will be the FZ administrations and MED.

All the activities and data are initially captured from the Customs Automated Information System (CAIS) managed by the Customs General Administration of Mongolia (CGAM). CGAM will provide the data exchange function (API). The multi-FZ monitoring dashboard will be connected real-time to CAIS, and is expected to be operational at first for the Zamyn-Uud Free Zone managed by the Zamyn-Uud Free Zone Governor's (ZUFZGO).

The Inter-agency data exchange and their APIs should be processed via the state information exchange network KHUR and/or other governmental framework such as the Foreign Trade Single Electronic Window (FTSEW - Project ADB / RIBS).

The multi-FZ dashboard will be developed once CGAM will confirm its IBM upgrade and the API available.

The conceptual design for the multi-FZ monitoring dashboard has been produced with its inventory of features. Some technical specifications will need to be assessed in more details by the IT Firm, CGAM, and the IBM stakeholders before and during the development. Such cases are inherent to development of an information system. The IT firm would add more value to the deliverables by incorporating suggestions and recommendations, which will address performance, sustainability, security, scalability, and manageability.

The combination of the Agile methodology for the development with a multi-layer budgeting should ensure to cover the initial specifications and some uncertainty for some features and some additional features, new changes and/or additional requests (Beta Version to Version 1).

The source code will belong to ZUFZGO and developed based on open-source technologies. The multi-FZ dashboard will provide a set of dashboards with its data (list and details) with view only no data update from end-users (or no data entry).

1-year of Cloud hosting services is to be included once the version 1 is validated.

3.1 Deliverables

4 main components and deliverables:

- (i) **Detailed Design:** Prior to development, the IT firm will conduct a needs assessment and produce a detailed design with nominated CGAM staff.
- (ii) **Beta Version:** The IT firm will develop, test and implement the IBM module extension. Technical documentation and user manual(s) will be provided supported by some trial sessions with users from Beta Version to Version 1; and
- (iii) **Upgrade to Version 1:** Upgrade from Beta Version to Version 1. In overall, processes will be subject to revisions and corrections from the beneficiaries and the national IT firm during the detailed design and the development phase in order to adjust the IBM module extension to the procedures and practices of ZUFZGO, CGAM and MED.
- (iv) **Project Documentation:** Project and technical documentation, user manual(s) in English and Mongolian.
- (v) **System development documentation:** system development documents such as API documentation, infrastructure diagram, code comment, detailed instructions for operating the system in a fixed and server environment (README.md), hand over technology version information (tech stack version information) used.

It is anticipated that the services will commence by August 2024 and shall be completed within a period of 6 months.

3.2 Rules, procedures and standards

An IT consulting needs to be recruited in consultation with ZUFZGO, MED and its donors coordinated by a PIU (Project Implementing Unit):

- (i) Request for Quotations (RFQ) method;
- (ii) The IT firm should not associate with other firms in the form of a joint venture or a sub-consultancy agreement to enhance their qualifications;
- (iii) Detailed scope of work (Conceptual design) with its list of technical requirements and template of financial proposal will be provided to the IT firm candidates in due course;
- (iv) English will be the official language for procurement (except document such as the company registration), communication, documentation and reporting. The IT Firm will be responsible for translation of documents when required;
- (v) The selected IT firm will be responsible for timely delivering quality outputs in accordance with Terms of Reference (TOR). The selected national IT firm will work closely under the supervision of nominated staff and the PIU during the project to ensure consistency and understanding of the expected functions; and
- (vi) ZUFZGO and PIU will be engaged in all phases of the project and review regularly performance of the IT and its deliverables.

4. QUALIFICATIONS AND TASKS OF THE IT FIRM AND KEY EXPERTS

4.1 General requirements:

The firm should:

- (i) Be legally based in Ulaanbaatar, Mongolia;
- (ii) Be registered and specialized in delivering software development services for at least the past 3 years;
- (iii) Proven experience in developing, web-based systems:
 - a. Web-based system development and integration;
 - b. Inter-agency data exchange (for example APIs);
- (iv) Have conducted successfully at least two management information systems projects with a minimum budget of USD 20,000; and
- (v) Available personnel qualified in all designated fields of required expertise.

4.2 Team composition, qualification requirements, and tasks for key experts

- (i) The IT firm shall form and propose a team capable of carrying out the tasks set out in the Terms of Reference and
- (ii) The IT firm will prepare its technical and financial proposals and other relevant documents in accordance with global best practices, Mongolia standards, ADB requirements and internationally recognized best climate change adaptation, mitigation and resilience standards.

The IT firm will be contracted to provide a team with minimum the experts as below:

Table 1: Summary of key experts and Inputs

№	Position	Positions	Required person-months				Total person-months
			Component I	Component II	Component III	Component IV	
	Key Expert (national)						
K -1	TL - Team Leader & Senior Web Developer (Professional Engineer)	1	0.5	1.5	0.5	0.5	3.0
K -2	SD - Senior Web Developer (Professional Engineer)	1	0.0	2.5	0.5	0.0	3.0
	Sub-total of Key Experts	2	0.5	4.0	1.0	0.5	6
	Non-key staff (national)						
	Sub-total of NK staff	0					0
	Total	2	0.5	4.0	1.0	0.5	6

TL= Team leader, BA = Business Analyst, SD = Senior System Developer, SA = Senior Android Developer, CBT = Capacity Building / Trainer, ST = System Tester & Quality Assurance, K = Key expert, NK = Non-key staff.

The IT firm can also add a list of NK experts as necessary.

4.3 Detailed Qualifications

Table 2 provides detailed qualifications and activities/tasks to be performed by the IT firm team's personnel.

Table 2 : Detailed personnel qualification requirements, activities / tasks

No.	Position	Person. Months	Requirements	Activities / tasks
Key Experts (national)				
K-1	TL - Team Leader & Senior Web Developer	6	<ul style="list-style-type: none"> (i) Master of Computers Science, majoring in IT (ii) More than 5 years of professional experience in IT (iii) More than 5 years of professional experience in managing and developing web information systems and APIs; (iv) At least 3 years of experience studying or working in an English-speaking environment. Excellent communication (written and oral) skills in English will be considered an asset. 	<p>Specific tasks and responsibilities will include, but are not limited to the following:</p> <ul style="list-style-type: none"> (i) Represent the IT firm; (ii) Responsible for organizing, implementing, supervising, and verifying consultancy works, and reporting to the PIU and the Client. The team leader shall lead the consulting team and work closely with the Client and the PIU; (iii) Conduct the system assessment with the client and other IBM stakeholders; (iv) Develop the Detailed Design; (v) Supporting and test the system; (vi) Support trial sessions; (vii) Prepare and review work plans, schedules, reports including inception report, monthly reports, commissioning period (if applies), and final reports and review other reports the Client and PIU, and obtain approvals from the Client, as needed; (viii) Lead the project team in making appropriate assessment of information, data and forecasting demands of users, facilities, services and equipment in respect of designing needs; (ix) Coordinate the works of the team and be responsible for the quality of the consulting services and deliverables provided under the Contract (Beta Version, trial sessions, Version 1, etc.); (x) Ensure that the team undertakes the activities in a timely and integrated manner.
K-2	SD - Senior Web Developer	6	<ul style="list-style-type: none"> (i) Bachelor of Science, majoring in IT (ii) More than 5 years of professional experience in IT field and developing online information systems and APIs; (iii) Experiences in inter-system data exchange / API 	<p>Specific tasks and responsibilities will include, but are not limited to the following:</p> <ul style="list-style-type: none"> (i) Work under the overall guidance of the TL; (ii) Develop and test the system; (iii) Work closely with rest of the team, the Client, and PIU, and assist in preparing and submitting reports; (iv) Support trial sessions.

5. REPORTING REQUIREMENTS AND EXPECTED DELIVERABLES

5.1 Format, Frequency, and Contents of Reports

Drawings and reports prepared and submitted by the IT Firm shall be to the standard size of A0, A1, A2, A3, A4 as appropriate, and one-half size reductions as may be required by the Client and PIU. The scale of all drawings is to be determined by the consent of the executing agency, implementing agencies and the IT Firm prior to the commencement of each project phase according to the approved TOR. The IT Firm shall develop a Detailed Design, cost estimate and BoQ in accordance with the terms of reference approved by the EA and the IA. All drawings information should be clear and legible. The IT Firm shall submit the final Detailed Design in soft copy in the format approved and reviewed by the Client and PIU. State expertise approved final Detailed Design shall be submitted in hardcopies (two original and three copies) and in soft copies on CD/USB disk in English and Mongolian version to the Client and PIU.

Table 3 summarizes reporting requirements. Note that in all cases, format and contents shall be consistent with the requirements of both the PIU and ADB.

Table 3: Reporting Requirements

No	Deliverable	Month of Delivery	Summary of Contents	No. of Copies
1.	Inception Report	2 Weeks	Mobilization, detailed work plan, confirm reporting and communication protocols, review project documentation (Conceptual Design), identify emerging issues.	All documents and drawings in 3 copies in Mongolian, 2 copies in English, 1 copy in electronic form both in Mongolian and English
2.	Detailed Design Submission	M+1	Conduct the needs assessment. Identify emerging issues, recent developments, and challenges; and draft conclusion for necessary actions. Detailed Design proposal and submission.	
3.	Development Beta Version	M+2	Report Delivery Beta Version: Project and technical documentation, training materials, Work plan trial sessions	
4.	Upgrade Beta Version to Version 1	M+2	Report Delivery Version 1 (update report Beta Version): Project and technical documentation, training materials, Work plan additional trainings and/or trial sessions.	
5.	Final Report & Project documentation	M+1	Project and technical documentation, training materials, and recommendations for necessary actions.	

5.3 REVIEWS AND APPROVALS

Scheduled reviews are required at the end of each deliverable of the project. The IT Firm shall respond in writing to the comments of the Client and implementing agencies or any of the review agencies. The IT Firm shall consult with these agencies, as necessary, to resolve any problems or concerns which may surface during the review. The IT Firm shall have their own internal review system prior to executing agency and implementing agency's approval. The IT firm shall become familiar with local holidays and customs so that in setting submittal schedules, the project and executing agency and implementing agencies can take full advantage of the time periods scheduled for reviews and approvals.

6. CLIENT'S INPUTS AND COUNTERPART PERSONNEL

6.1 The following Project Implementation Unit (PIU) staff for the ADB-funded Project and Client staff will work closely with the IT firm:

- (i) Nominated staff by the Client;
- (ii) Procurement Specialist of PIU; and
- (iii) Monitoring and Evaluation Specialist of PIU.

6.2 The PIU will be responsible for overseeing the implementation of the contract. A kick-off meeting will be held after the commencement of IT Firm's work. Decisions on each case will be made by the Client through the Project Implementation Unit.

6.3 The Client and PIU shall provide the IT Firm with the following support:

- (i) Review and approval of the deliverables;
- (ii) Conduct timely trial sessions, trainings and pilot project(s);
- (iii) Assistance with gaining access to all required officials, agencies and other documentation as may be requested; and
- (iv) Arranging meetings with government agencies.