



MINISTRY OF INDUSTRY, SCIENCE, TECHNOLOGY & INNOVATION
GENERAL DEPARTMENT OF SCIENCE, TECHNOLOGY & INNOVATION

Terms of Reference

Project Title: SMEs Technology Adoption for Resiliency and Competitive Market

Assignment	Agro-Tech Hub System Development
Supervisor and department	Project Director
Location	120203, 45 Preah Norodom Boulevard, Sangkat Phsar Thmey III, Khan Daun Penh, Phnom Penh, Cambodia
Duration	08 November, 2023 to 15 March, 2024
Reporting to	The individual/team/company will be working under the overall supervision of the Project Director and under the direct supervision of the Project Coordinators
Assignment type	Individual, Team or Registered Company

I. Project Background

Cambodia has set the country's visions to become an upper-middle-income country by 2030 and a high-income country by 2050, and these visions can only be achieved if new technology is leveraged to increase industrial value-added, diversify exports, and strengthen small and medium-sized enterprises (SMEs), especially those affected by the COVID-19 pandemic. Technology has become one of the most important tools that are used to support the competitiveness of SMEs. Different from large scale businesses, SMEs have insufficient funds which restrict them from investing in technology. Although many SMEs are involved in creative business, owners have not been able to understand the importance of the use of technology and how beneficial technology can be to increase productivity. Since technological tools and skills are the only elements that SMEs can use to thrive during the pandemic, SMEs cannot adapt themselves to and survive in the situation. Therefore, the overall objective of the project is to establish an effective system and platform as a foundation to support SMEs in the country for adopting technology to be more resilient and competitive. The project is made through the establishment of an analytical study, soft infrastructure development, as well as operational and management components. The main outputs of the project will be 1) technology platforms developed, 2) business intelligence system (BIS) developed for supporting SMEs, and 3) technology adoption piloted in selected SMEs.

The General Department of Science, Technology & Innovation of the Ministry of Industry, Science, Technology & Innovation is the implementing agency of the project with the financial support from the government of Japan under the ACMECS development fund. At the higher level, this project will contribute to the implementation of various national

strategic policy frameworks, including the National Policy on Science, Technology & Innovation 2020-2030 and Cambodia's Science, Technology & Innovation Roadmap 2030.

II. Objectives and Scope of Work

The main objectives of the consultancy are to:

- To develop Agro-Tech Hub platform according to the features and functionalities which was defined by the system consultant
- To deploy the developed project and training to end-user
- To maintenance the system and support
- To produce detail documentation of the system development, deployment and user manual

III. Consultancy Tasks

The specific tasks undertaken by the Consultant are divided into the following three areas:

Task 1 – Review the system features and functionalities of Agro-Tech Hub (ATH) and MISTI infrastructure

- a. Review the features and functionalities document of agro-tech hub platform which was produced by the system consultant in the previous scope of work including:
 - Use case review (use case diagram)
 - Business process modeling (flow diagram)
 - System process (sequence diagram)
 - Functionalities
 - Data design (entity-relationship diagram)
- b. Discuss with MISTI technical team about the system features of **ATH** to be corresponding with the system architecture of MISTI

Task 2 – System development

- a. Produce the development timeline with details of modules and features from start to end project
- b. Develop the Agro-Tech Hub platform according to the requirements of **ATH** and within the development timeline

Task 3 – System deployment and training

- a. Produce the activities plan with timeline of system deployment and training to MISTI user and end-user
- b. Train the MISTI user and end-user
- c. Produce technical document of system development, deployment and user-manual as following:
 - i. API document
 - ii. System set up document of both back-end and front-end
 - iii. User manual on how to view, create, update and delete the content of each and every developed module in the back-end

- iv. User manual on how to set up any type of account in the front-end
- v. Document on how all of the developed features and functionalities work in the front-end according to end-user point of views

Task 4 – System maintenance and support

- a. Provide maintenance service of the deployed platforms
- b. Support the MISTI user and end-user in terms of feedback, bugs, errors and the usage of the system.

IV. Deliverables/Specific Outputs Expected

The deliverables under this assignment will be determined by the Project technical teams based on the above scope of work. They include technical reports, development system meeting minutes, technical comments/review reports, and other reports.

Tasks	Deliverables/Outputs	Deadline
01	Development timeline with details of modules and features	12-November-2023
02	System modules and features development based on the proposed scope and timeline	23- February -2024
03	Activities plan with timeline of system deployment and training to MISTI user and end-user	16-February-2024
04	Technical document of system development, deployment and user-manual including: <ul style="list-style-type: none"> • API documents • System set up documents • User manual for back-end and front-end • Document of each and every features work in the front-end 	23-February-2024

V. Special Terms and Conditions / Specific Criteria

Required Qualifications and Experience:

- At least Master’s Degree in computer science, ICT, or any related fields from known higher institutions
- A minimum of one year of consultation work experience with organizations and government agencies
- At least three years of relevant work experience with software development (experiences with Node.js, MySQL, Vue.js & Nuxt.js will be put priority), advanced database architectural designs, rest API designs, system security designs, distributed system designs, docker containers and private cloud servers

- Expertise with software project management, code versioning technologies, DevOps automation tools, software unit testing and monitoring mechanism
- Ability to write clean, readable, maintainable and reusable code using best practices and standards
- Experience in integrating with OAuth2 authentication mechanism, online payment gateway, CamDX Security Server & CamDigiKey
- Fluency in English and Khmer
- Excellent communication, writing, and analytical skills.

VI. How to apply

Interested candidates can send an express of interest letter and a current resume to [acmecs.kh-jp@misti.gov.kh/](mailto:acmecs.kh-jp@misti.gov.kh) pak.polina@misti.gov.kh no later than 06 November 2023. Contact number: **(+855) 69 922 132**

Note:

1. Digital platforms: are the systems and interfaces that form a commercial network or market, facilitating business-to-business (B2B), business-to-customer (B2C), or even customer-to-customer (C2C) transactions.
2. Technology platforms: refer to the online website/system in which government, academia and private sector engage to explore, discuss and adopt any kinds of skills, resources, and equipment with regard to any kinds of technologies.
3. **Only shortlist candidates will be contacted.**