

## Appendix 5.2

### [Visual IoT Network for Environment Protection and Disaster Prevention] [Field Experiment for Commissioning of Visual IoT System in Vientiane] Report Form

#### I. Proposer:

Name:	Dr.Phoummixay Siharath
Position:	Climate Change Unit Head
Institution:	National University of Laos

#### II. Objective:

This field experiment aims to commission the Visual IoT system as shown by the diagram in Figure 1 which will be installed at targeted locations in Sangthong district, Vientiane capital, Lao PDR and to perform the final checking of the whole system. The activity is crucial to this project's objective since the effectiveness of the proposed system depends upon the readiness and reliability of the installed system in the real environment.

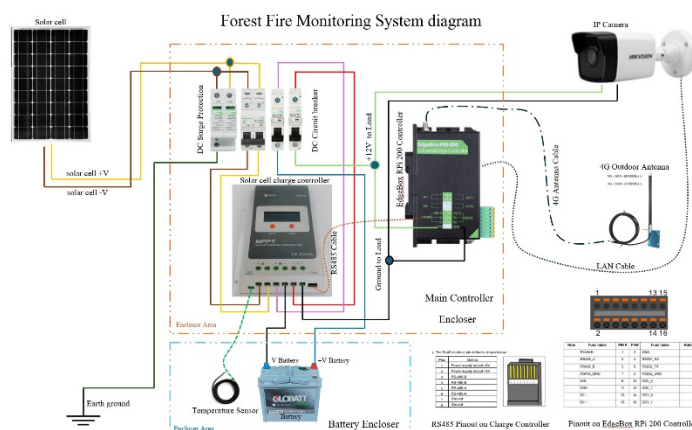


Fig.1 Overall wiring diagram of Visual IoT System.

The experimental area in Santhong district, Vientiane Capital in the following location.

- Location #1 – Napor village (lat 18.27404, long 102.1803), as shown in Figure 2.

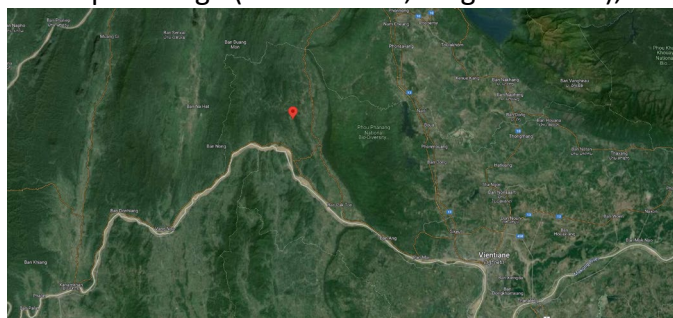


Figure 2 Experimental area

**III. Schedule:**

Date	Location	Work	Person in charge
5 Aug 2024		NECTEC team travels to Vientiane, Lao PDR from Bangkok	Mr. Kanokvate, Mr. Montri and Mr. Nathavuth
6 Aug 2024	Office in NUOL	Meeting between NUOL and NECTEC team.	NUOL team and Mr. Kanokvate, Mr. Montri and Mr. Nathavuth
7 Aug 2024	Juptter Tech. Co. Ltd	Hand on training.	NUOL team, representative of the company and Mr. Kanokvate, Mr. Montri and Mr. Nathavuth
8 Aug 2024	Office in NUOL	Site visit	NUOL team and Mr. Kanokvate, Mr. Montri and Mr. Nathavuth
9 Aug 2024		Travel to Bangkok from Vientiane, Lao PDR	Mr. Kanokvate, Mr. Montri and Mr. Nathavuth

**V. Participant List & Itinerary:**

No.	Name	Organization	Itinerary
1	Mr. Kanokvate Tungpimolrut	NECTEC	5/8/2024 (in) 9/8/2024 (out)
2	Mr. Montri Chatpoj	NECTEC	5/8/2024 (in) 9/8/2024 (out)
3	Mr. Nathavuth Kitbutrawat	NECTEC	5/8/2024 (in) 9/8/2024 (out)
4	Dr. Phoummixay Siharath	NUOL	NA

**V. Summary of the activities corresponding to the objectives**

Since the company did not received remitted money from NICT and they have some difficulties to purchase all equipments first. They would like to wait for the remitted money and will start to purchase, assembly and install the system later on. Therefore, NUOL and NECTEC could not perform the system commisiioning as planned. As of Aug 12 (Mon.), the company contacted to the bank and the bank also did not received

remitted money. Therefore, the schedule was unavoidably adjusted and the following activities have been done.

1. Meeting between NUOL and NECTEC team to update the current status and coordinate to NICT for remitted money to the company and conclude the possible activities during this field experiment. NECTEC team also shown more information of implemented system in Thailand and how utilize the new developed data visualize system. The exact location of system installation and the future plan in Lao PDR is also discussed.
2. Fortunately, NECTEC team brought one set of Main microcontroller (Edgebox RPI 200 controller) and IP camera as shown in Fig. 1 to Vientiane. NUOL team also did not has any experience on using this complicate microcontroller before, so NECTEC team organized a hand on training for NUOL team and representative of the company to learn about system configuration, installation and commissioning. More details information about wiring diagram and software installation procedure for assembling and installing the system is also explained.
3. NUOL team visit the targeted sites in Sangtong district with NECTEC team to reconfirm the exact location of system installation. Since the distant between the selected location and forest fire prone area is too far, so the taken image will be too wide and it is more difficult to classify the smoke/fire, so we discussed to villager and surveyed the new location which is more closer to the forest fire prone area. From the new location, the taken image is clearer and bigger and it covers whole forest fire prone area, so the smoke/forest fire would be effectively detected. Furthermore, NUOL team planned to install 2 sets of camera on the same pole to take the image in opposite directions. However, we could not find a good location that needs monitoring of forest fire in both directions at the same time, so we decided to install the 2<sup>nd</sup> camera at another location separately. The signal strength of 4G signal and suitable direction for solar panel installation at selected locations have been also checked.

After coming back to Thailand, our NECTEC team has communicated to NUOL team to coordinate to the company for the system installation. Two sets of Visual IoT System have been successfully installed at Sangtong district in November as shown in the pictures below.

## **VI. Others**





