Appendix 4.2

SLOPE-AI (Smart Landslide Observation and Prediction Enhanced with AI) for Reliable and Economical IoT-Based Landslide Monitoring
"1-day International Workshop: Digital Transformation in Slope Monitoring Systems for Infrastructure Safety"
&
"Project Meeting – Progress and Planning"
Report/Minutes Form

I. Organizer:

Name:	Norinah Abd Rahman
Position:	Project Leader
Institution:	Universiti Kebangsaan Malaysia

II. Program:

Date: 1-2 December 2025
Venue: Ming Garden Hotel, Kota Kinabalu, Sabah.

Program Agenda:
1-Day Workshop, 1 December 2025

Time	Activity
8:00 – 8:30 AM	Registration
8:30 – 9:00 AM	Opening Ceremony
9:00 – 10:30 AM	Session 1: Latest Technologies in Slope Monitoring (Hardware) Speaker: P.Geol. Siti Nur Liyana Adzman
10:30 – 11:00 AM	Coffee Break & Networking
11:00 AM – 12:30 PM	Session 2: Technologies in Remote Slope Monitoring: Communication, Data Trending, and Integrated Database Speaker: En. Mohd Faiz Othman
12:30 – 2:00 PM	Lunch Break
2:00 – 3:30 PM	Session 3: Types of Slope Monitoring and Early Warning Systems in CKC — Case Studies from Batang Kali, Taman Bukit Permai (Ampang), and Jalan Simpang Pulai–Blue Valley Speaker: Ir. Ts. Wan Muhammad Hafiz Zakaria
3:30 – 4:00 PM	Coffee Break & Networking
4:00 – 4:30 PM	Closing & Group Photo

Half-Day Meeting, 2 December 2025

Time	Activity
8:30 – 9:00 AM	Presentation by Project Leader: *Current State of the SLOPE AI Project*
9:00 – 10:00 AM	Progress Updates by Member Institutions (UKM, USK, NUOL, MU, FACE, GVS, CKC)
10:00 – 10:15 AM	Coffee Break
10:15 – 11:00 AM	Industry Partners Reflections and Technical Input
11:00 – 11:30 AM	Discussion on Task Division and Institutional Roles
11:30 AM – 12:00 PM	Planning of upcoming activities, timelines, and coordination among partners
12:00 AM – 12:30 PM	Summary of Action Items & Closing
12:30 – 2:00 PM	Check-out & lunch
2:00 PM onwards	Travel to Project Sites in Kundasang, Ranau.

III. Participants:

** The detailed list of participants is attached separately. The seminar was attended by a total of 55 participants.*

IV. Summary of the activities corresponding to the objectives.

Objectives of the Event

The event comprised a one-day technical workshop and a half-day project coordination meeting conducted under the SLOPE-AI project.

The objectives of the workshop were to (i) share industry and government insights on digital transformation in slope monitoring and infrastructure safety, particularly in relation to smart sensing, communication systems, and data integration; (ii) promote structured knowledge exchange among government agencies, industry practitioners, and SLOPE-AI members; and (iii) strengthen collaboration for the development of smart, reliable, and cost-effective landslide monitoring and early warning solutions suitable for high-risk and rural environments.

The objectives of the meeting were to review the current progress and achievements of the SLOPE-AI project, coordinate and assign upcoming tasks among member institutions, and refine the project implementation plan through technical input and practical feedback from members and industry partners.

Activities Corresponding to the Objectives

To achieve the workshop objectives, a full-day technical program was conducted on 1 December 2025, comprising three focused technical sessions. The workshop began with a session on latest hardware technologies for slope monitoring, covering sensor types, installation considerations, and field deployment challenges. This was followed by a session on remote slope monitoring technologies, addressing communication systems, real-time data transmission, data, and analysis. The third session presented case studies of slope monitoring and early warning systems, illustrating practical implementation experiences and lessons learned from real landslide-prone sites.

Each session was delivered by experienced industry and government professionals and was followed by interactive discussion and networking segments, enabling participants to exchange technical knowledge, operational experiences, and best practices. The workshop also served to introduce and highlight the SLOPE-AI project, increasing awareness among stakeholders and encouraging future collaboration.

To achieve the meeting objectives, a structured half-day coordination meeting was held on 2 December 2025. The meeting commenced with a presentation by the project leader outlining the current status, key achievements, and ongoing activities of the SLOPE-AI project. This was followed by progress updates from all member institutions and industry partners, ensuring shared understanding of contributions and milestones. Industry partners then provided technical reflections and practical input to improve system design and implementation strategies. The meeting concluded with discussions on task division, institutional roles and responsibility, upcoming activities and coordination. During the discussion, the project leader emphasized the need for historical landslide and related datasets from each participating country to support the development and validation of the landslide prediction algorithm.

Changes from the Initial Proposal

There were no significant changes to the approved work plan or project schedule as outlined in the initial proposal. However, there was a minor increase in budget allocation due to several logistical adjustments. Additional accommodation costs were incurred as the initial plan for shared rooms was revised to single-room occupancy following requests from some members. Furthermore, due to tight individual schedules, several members were required to return earlier than originally planned, resulting in changes to travel arrangements. In addition, flight ticket costs were higher than the earlier quotations, contributing to the overall increase in budget allocation.

V. Others.

1-Day Workshop, 1 December 2025

Speakers presenting their topics.

Participants involvement during discussion.

Call for participants, speaker bio, tentative and information on SLOPE-AI project members.

Group photo.

Half-Day Meeting, 2 December 2025

VI. Workshop Evaluation Questionnaire

** The list of WORKSHOP EVALUATION QUESTIONNAIRE is attached separately.*

WORKSHOP EVALUATION QUESTIONNAIRE

Workshop Name: _____

Location: _____

Date: _____

Participant Name (optional): _____

Institution /Company name of participant (optional): _____

Job Title: _____

Please give us your comments here: