



Smart JAMP(2021) Study and examination work on the possibility of introducing infrastructure management systems in ASEAN



Target Area

- Indonesia, Singapore, Vietnam

Background and Purpose

- Many of ASEAN countries highly expect to obtain the infrastructure management and maintenance technologies with low-cost, long-term, stable, because they are at the stage of starting to accumulate related knowledge and technical capabilities and are not sufficiently secured the necessary maintenance and management budgets.
- Based on these conditions, this study aims to improve the efficiency and sophistication of road management and maintenance works by using smartphone-based road damage detection system powered by image analysis with AI.

Related Organization

- Indonesia: Directorate General of Highways(Bina Marga), Toll Road Agency(BPJT), other toll road operators, etc.
- Singapore: Land Transport Authority(LTA), etc.
- Vietnam: Directorate for Roads of Vietnam(DRVN), Ministry of Transportation(MOT), Hanoi Department of Transportation(DOT), Vietnam Expressways Corporation(VEC), etc.

Project Stage

- Pre-feasibility Study, Experimental implementation

Contents and Results

1. Field demonstration experiment using Road Manager

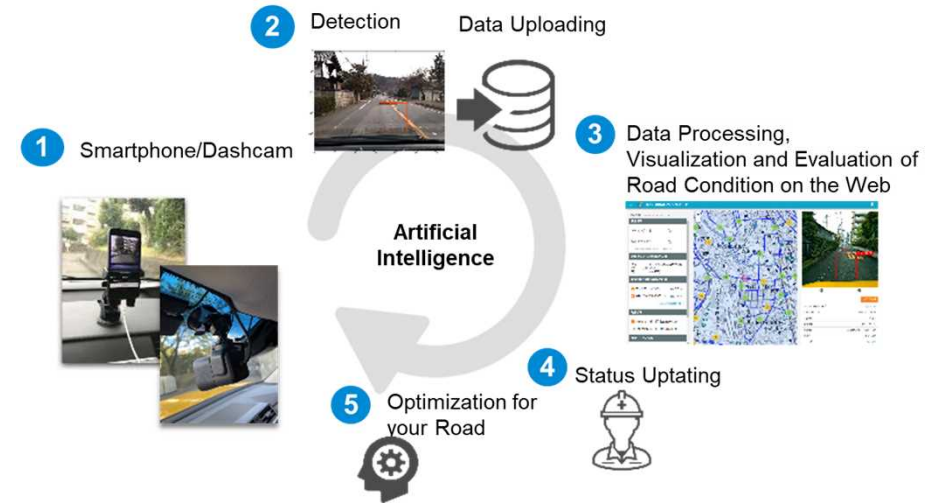
- Demonstrations were conducted on the general roads and toll roads (motorways), and the detected road damages and the dashboard were shared and discussed

2. Estimated benefits of introduction of the Road Manager

- The works to be replaced or reduced by the system were estimated based on their current maintenance workflows
- The estimation of the cost reductions between current one and after introduction the system
- The merits of using big data accumulated by the system were indicated

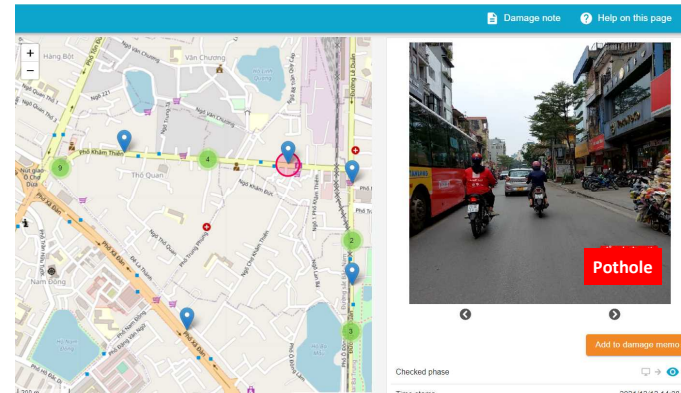
3. Issues to be addressed

- The necessity of customizing the damage evaluation method based on the current practices of each country (level of damage to be repaired, etc.) was confirmed by the study



Source : Study Team edited using the material provided by Urban X Technologies Inc

Figure 1: Overview of Road Manager, a road damage detection system



Source : Study Team

Figure 2: Dashboard display of demonstration experiment results



Source : Study Team

Figure 3: Demonstration on a motorcycle in Vietnam (measures to reduce survey costs)