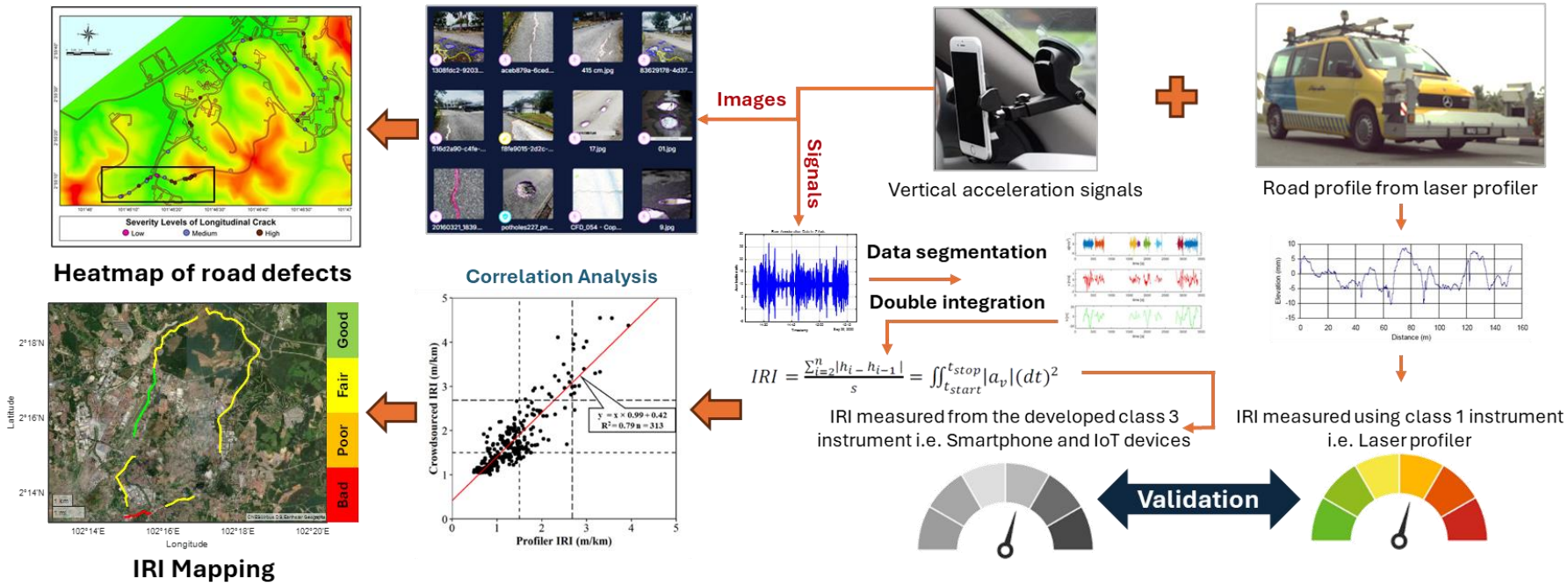
IoT Road Health Monitoring Platform for Secure Urban Mobility in Smart Communities

ASEAN IVO 2025

Urban road maintenance in many ASEAN countries remains a critical challenge, requiring solutions that go beyond patchworks fixes. Existing practices, which rely on periodic inspections and user reports, are reactive, inefficient, and insufficient to meet the demands of rapid urbanization and increasing traffic loads. Authorities often face difficulties in budget planning and resource allocation due to a lack of timely and accurate road condition data. This problem is compounded by the strain on infrastructure, leaving large sections of urban roads under-monitored and poorly maintained.

This project aims to develop an innovative IoT-based road health monitoring platform that will transform how urban road infrastructure is maintained in ASEAN countries. The platform is designed to measure the International Roughness Index (IRI) using accelerometer, camera and GPS data, classify road defects, and prioritize maintenance activities with precision.



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