



GEMS AIR Pollution

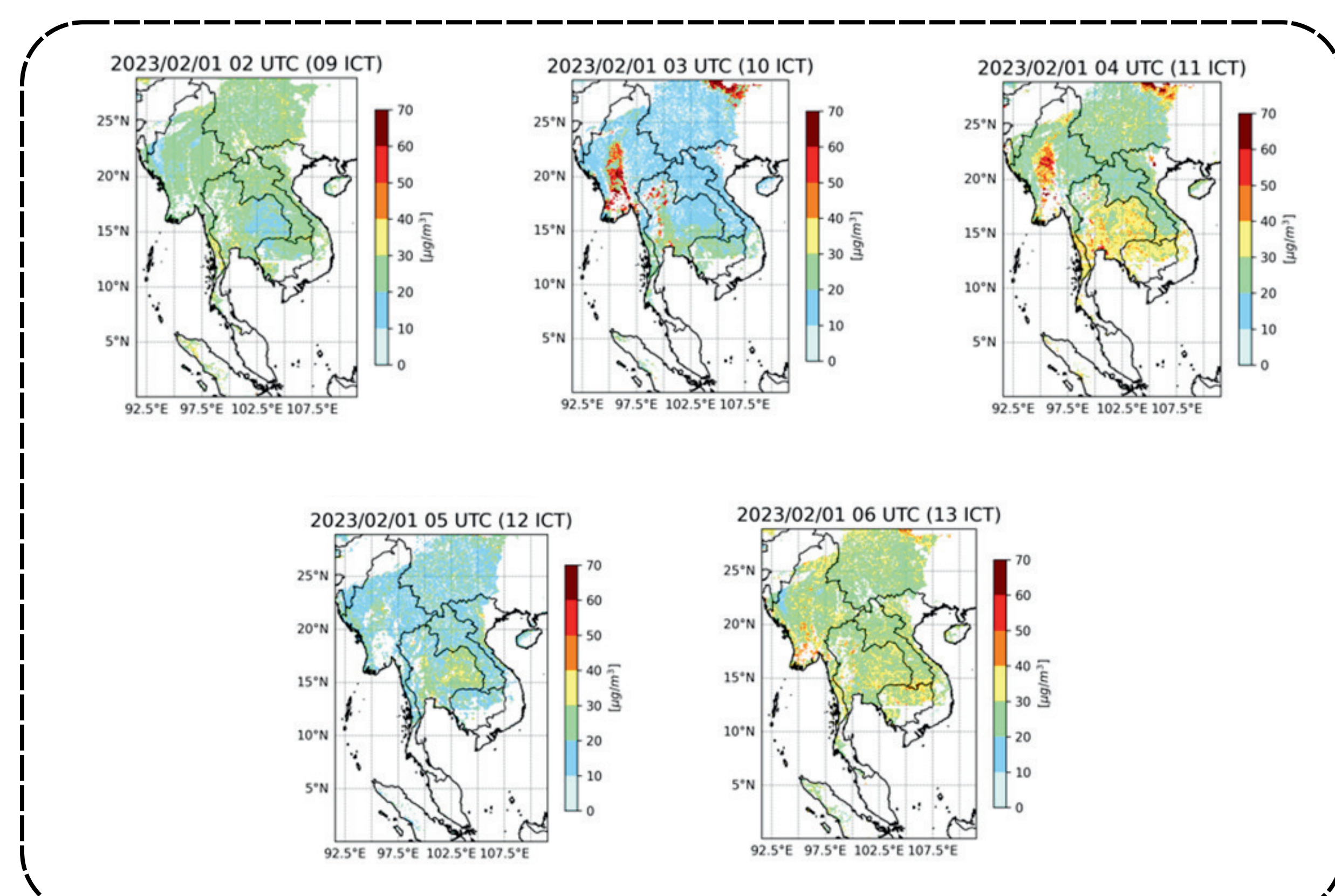
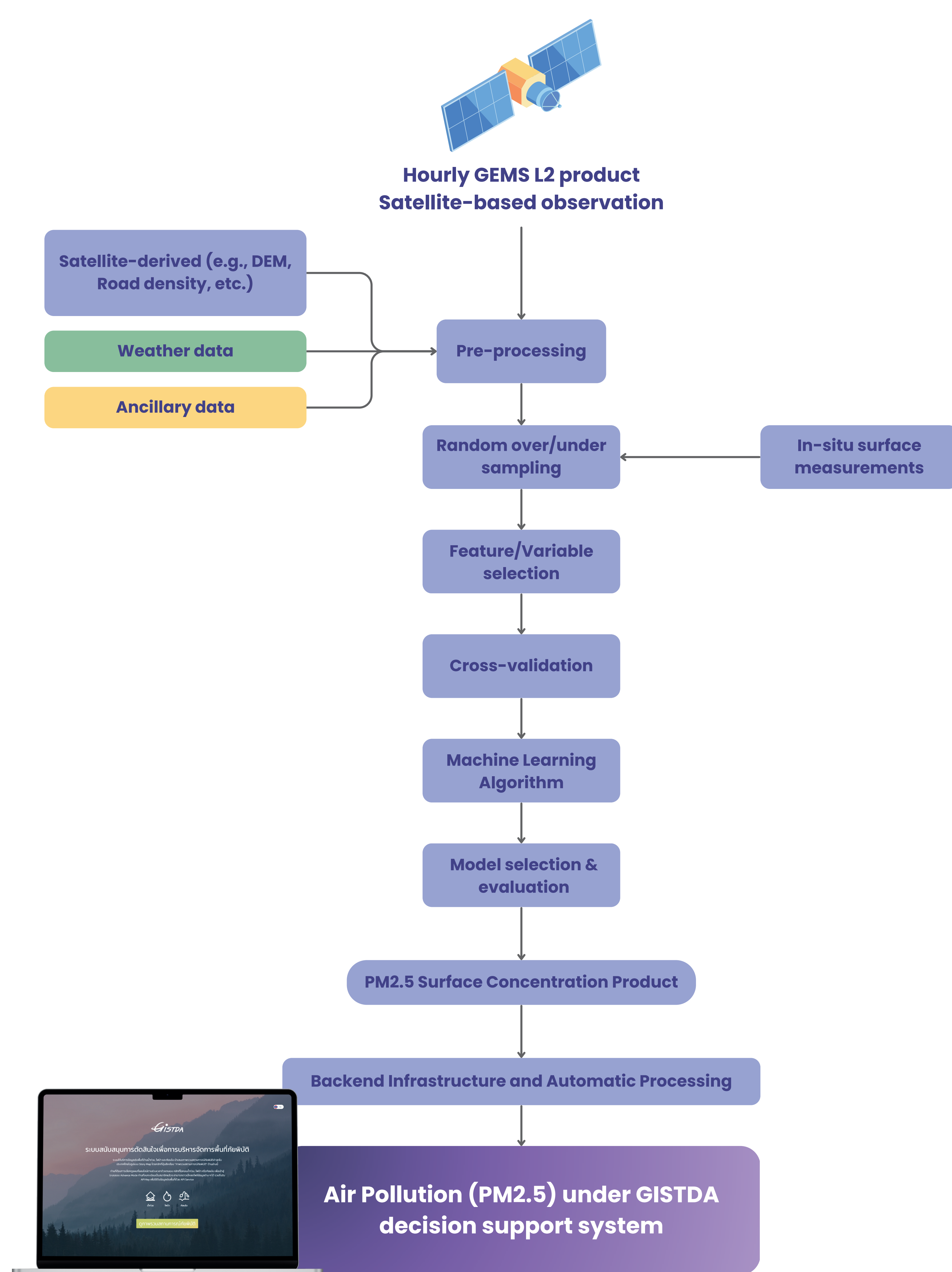
Empowering GEMS to Establish Air Pollution Decision Support System in Thailand

The Regional Collaboration



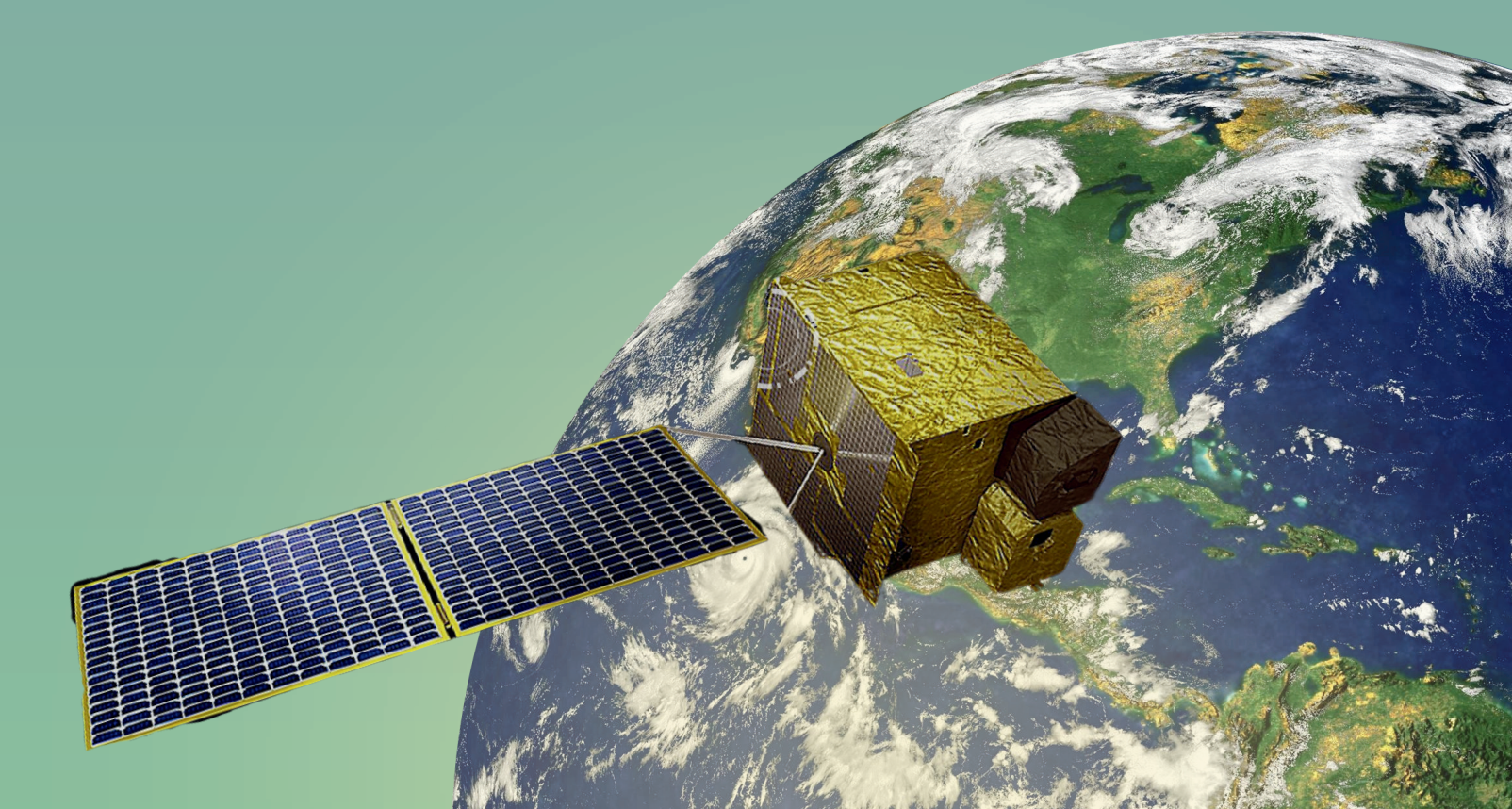
Pradthana Laiwarin, Nuntikorn Kitratporn & Jiratiwan Krusailp
 Geoinformatics and Space Technology Development Agency (Public Organization),
 Bangkok 10210, Thailand

Thailand Air Quality Decision Support System



Technology Development

Thailand has been facing higher ambient air pollution and more intense short-term episodes of high pollution, particularly during the dry season from December to April. Both local emissions and transboundary pollution contribute to the issue. The Geo-Informatics and Space Technology Development Agency (GISTDA), in collaboration with the United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP), has implemented the Building the Pan-Asia Partner for Geospatial Air Pollution Information project. This project utilizes advanced satellite data and geospatial technologies to assess ground-level air pollutant concentrations. GEMS satellite data and other relevant information have been used to develop a prototype for air quality monitoring in Thailand

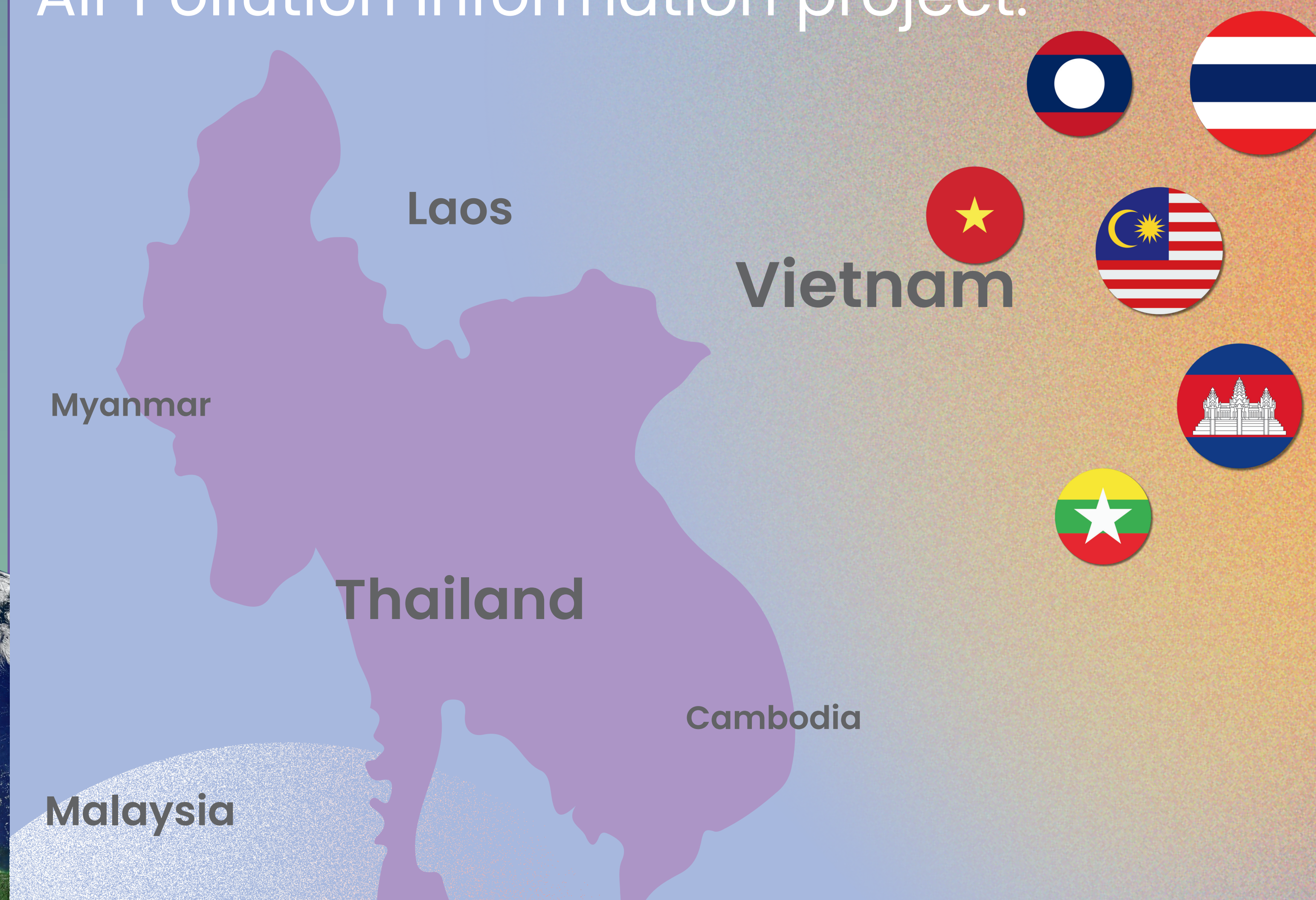


Research Aim & Objectives

This project focuses on estimating hourly surface PM2.5 concentrations under all sky conditions by applying machine learning techniques to geostationary satellite products together with other satellite-derived data, weather data, and ancillary data.

Collaborative Initiatives

GISTDA, in collaboration with UN-ESCAP, is leading the Pan-Asia Geospatial Air Pollution Information project.

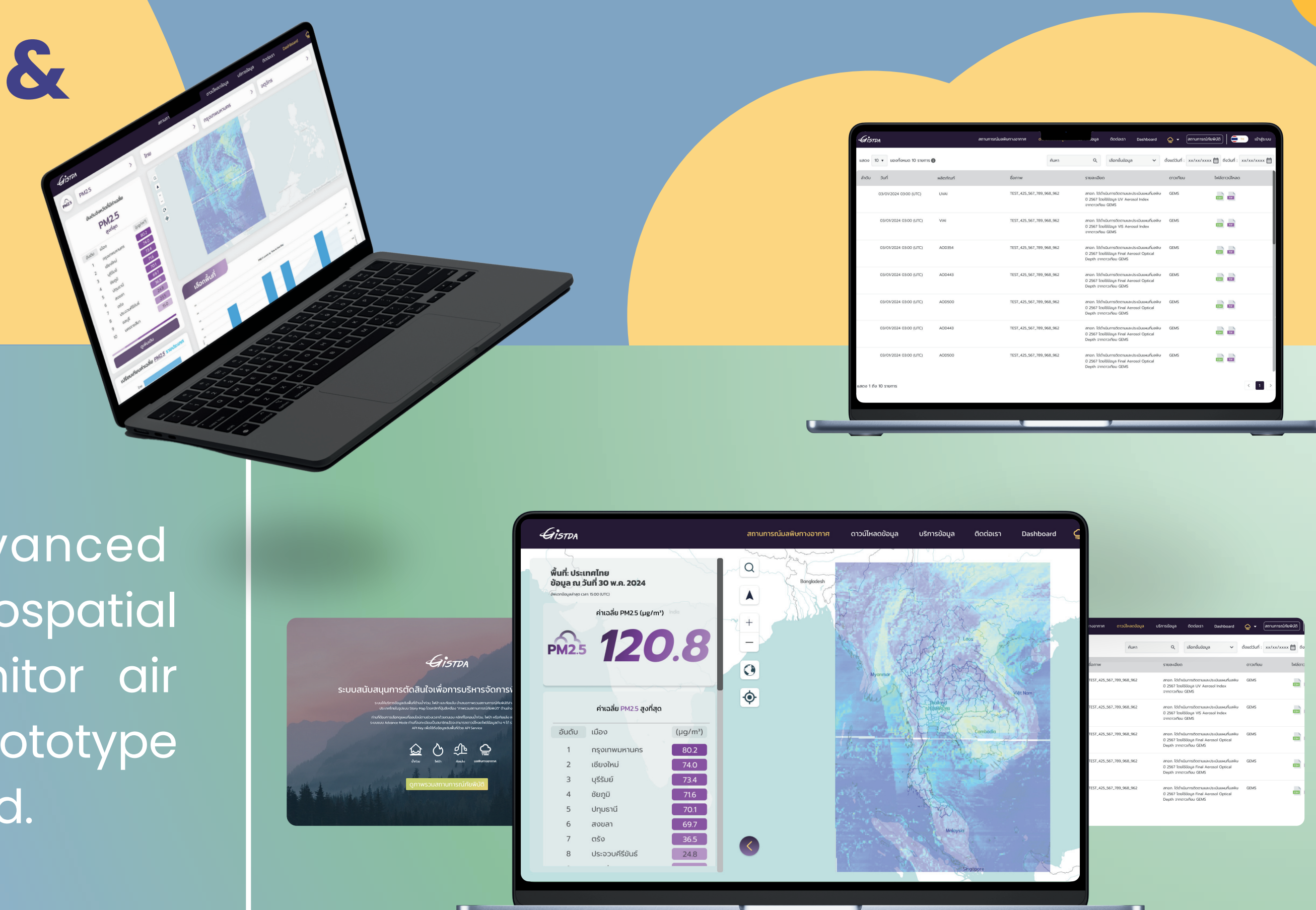


Impact & Regional Collaboration

This initiative supports air quality decision-making and fosters regional collaboration in using satellite data for air pollution monitoring

The developed model has produced value-added products that enhance spatiotemporal air quality observation and support the regional air pollution decision support system

Result & Model Development



Project Implementation & Prototype

The project uses advanced satellite data and geospatial technologies to monitor air quality, with a prototype developed for Thailand.

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 Decision Support System for Disaster Management