Monitoring Surface Water, Groundwater, and AQMS for 25 locations in Tra Vinh province, Vietnam

TIME
December 2022

LOCATION
Tra Vinh province - VietNam

CLIENT
DONRE Tra Vinh Province

ABOUT THE CLIENT

Tra Vinh province is situated in the Mekong Delta, it is home to 1.3 million residents, together with a diverse environment in impressive statistics. The region features an intricate network of rivers and canals, totaling over 1,500 kilometers, fostering fertile landscapes for agricultural activities. The coastal area is complemented by mangrove forests spanning approximately 20,000 hectares, contributing significantly to ecological balance. Tra Vinh's commitment to environmental preservation is evident in its conservation efforts covering around 25,000 hectares of natural habitats. With over 70,000 hectares dedicated to rice cultivation and fruit orchards, the province exemplifies a harmonious blend of sustainable practices and natural beauty in the heart of the Mekong Delta.

THE CHALLENGE

Tra Vinh province faces formidable environmental challenges across its water systems and ambient air. Agricultural runoff and industrial discharges compromise river water quality, threatening aquatic ecosystems and community well-being. Saline intrusion intensifies concerns over groundwater quality, impacting its usability for agriculture and daily consumption. Simultaneously, rapid urbanization and industrial growth contribute to ambient air pollution, with emissions from factories and vehicles endangering public health. Addressing these intertwined challenges requires comprehensive strategies, ranging from sustainable agricultural practices and pollution control measures to the implementation of resilient water management systems and air quality improvement initiatives.

THE SOLUTION

iLotusland offered 18 units of iMisff 4101 (plug-play surface water monitoring station), 6 units of iMisff 5101 (plug-play groundwater monitoring station), and 1 unit of iMisff 8101 (plug-play AAQMS) which are fully equipped from hardware to software to measure a wide range of required parameters. And the iLotusLand platform centralized all of the measured parameters to display on one dashboard for the customers to do remote monitoring and management while ensuring the data is still hosted in the customer's server and inside the territory. In addition, the monitoring data is also pulled over on the LED screen in popular locations for the local people to witness.

Application	Surfacewater Monitoring	Groundwater Monitoring	AAQMS
Number of stations	**18**	**6**	**1**
Measured parameters	COD, DO, pH, TSS, Temp, Conductivity, Amoni, Nitrate, Oil in water, Level, Salinity, Phosphate	Level, Flow	Nox, SO2, O3, NO2, NO, CO, PM10, PM2.5, Humidity, Wind Direction, Wind Speed, Radiation, Temp, Dust, Pressure, Precipitation
Instrument models	**WTW:** ViSolid 700, SensoLyt 700, FDO 701 **ChemScan:** Mini LowAm, Mini oP **Horiba:** UV300 **In-Situ:** AQUA TROLL 500		**Envea:** AF22e, AC32e, CO12e, O342, MP101M **Met One:** ES642 **Luff:** WS700-UMB
Datalogger model	Envidata 1801		
Software model	iLotusLand Platform for Environment (On-Premise) & iLotusLand for LED		

THE RESULT

"The platform not only supports our team in remote monitoring for all stations, but also keeps the data inside our server for security purposes."
- Mr. Vu Son, Deputy Manager

The installation of 25 monitoring stations in Tra Vinh province, along with a dedicated platform, signifies a major stride in environmental sustainability. This initiative provides the local authority valuable insights into water quality, groundwater conditions, and ambient air, aiding prompt responses to environmental threats. The data gathered will not only enhance environmental conservation efforts but also contribute to the formulation of evidence-based policies, fostering a healthier and more sustainable for Tra Vinh's ecosystem and community well-being.

" iLotusLand is an environmental IoT company offering data-driven environmental monitoring solutions for better decision-making. With our plug-and-play stations, we monitor a wide range of parameters in Wastewater, Surface Water, Groundwater, Drinking Water, CEMS, AAQMS, etc. And iLotusLand data analytics platform delivers actionable insights for government, industries, and communities. Our commitment is to be a key player in fostering a sustainable future through intelligent environmental monitoring solutions and data science. "