Catalyzing Innovations and Digitization for Safe, Sustainable, Resilient, and Inclusive Water Management

LAUNCH OF **E-MARKETPLACE** AND PUBLICATIONS

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Urban Flood Forecast Early Warning System

Name of Organization	**Taru Leading Edge Pvt. Ltd. and Phoenix Robotix Private Ltd.**
Location	**India**
Year Registered	**1996**

Technology Profile

Numerous studies rank Kolkata among the top ten most vulnerable cities in the world due to high exposure to flooding under climate change projections. Kolkata City faces most of its floods from local rains. High spatial inhomogeneity in rainfall distribution makes urban flood forecasting a challenge. Therefore, real-time rainfall and inundation monitoring are more appropriate in the absence of microscale (with resolution of 1-kilometer or better) forecasts. To bridge the gap, a Flood Forecast Early Warning System (FFEWS), enabled by Internet of Things (IoT), was designed to provide real-time data in Kolkata.

The main component for having a strong forecast system in place is data quality, both for model setup and meteorological forecast/nowcast data, etc. Before initiating the FFEWS, flood risk map and vulnerability maps were developed to create hazard zonation maps that included hydromet and geotechnical assessment. This enables the FFEWS to provide spatio-temporal rainfall and waterlogging changes that are used to update flood risk maps.

A network of IoT sensors is also a key component of this technology and digital solution for flood management. This includes 40 automatic rain gauges, 160 street sensors for inundation level, and 80 sensors for pump station and sump level monitoring. All the sensors have been running successfully in Kolkata since 2018 and this has provided various insights during flooding events in the monsoon season and during Cyclone Amphan. The IoT sensor devices have been specifically designed for harsh environments and can be retrofitted to existing infrastructure. The devices have built-in data logging with multiple transmission option in order to maintain 100% data availability throughout its operation cycle.

Additionally, the IoT platform has all the necessary features for access management, specific reports, real-time spatial models, and warning and alarm generation system along with various trends and charts for real-time data visualization. The platform helps the decision-makers to take data-driven actions during critical times and helps manage use of water resources.

To know more about our Smart Water Technology:

Brochure

Aurassure | India's First Comprehensive City Level Flood Forecasting & Early Warning System

The recording of interactive session will be uploaded here.

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