



# Water Initiatives & Solutions

ADB e-Marketplace for Water Management



# SMART WATER MANAGEMENT SOLUTION

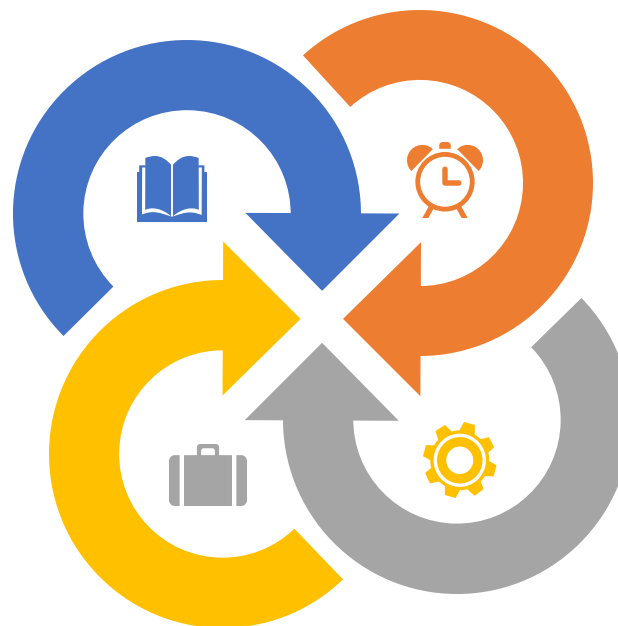
## Water Management Solutions Embed To Address

### Complex Urban-environ

Nature-based resilience options for supplementing the vintage and under-designed infrastructure .

### Climate Change

Climate change prognosis to address vulnerability, risk and exposure to biotic, abiotic and build environment



### Situation Analysis & Model Scenario

Examine cause, process, & potential impact in data-scarce environment

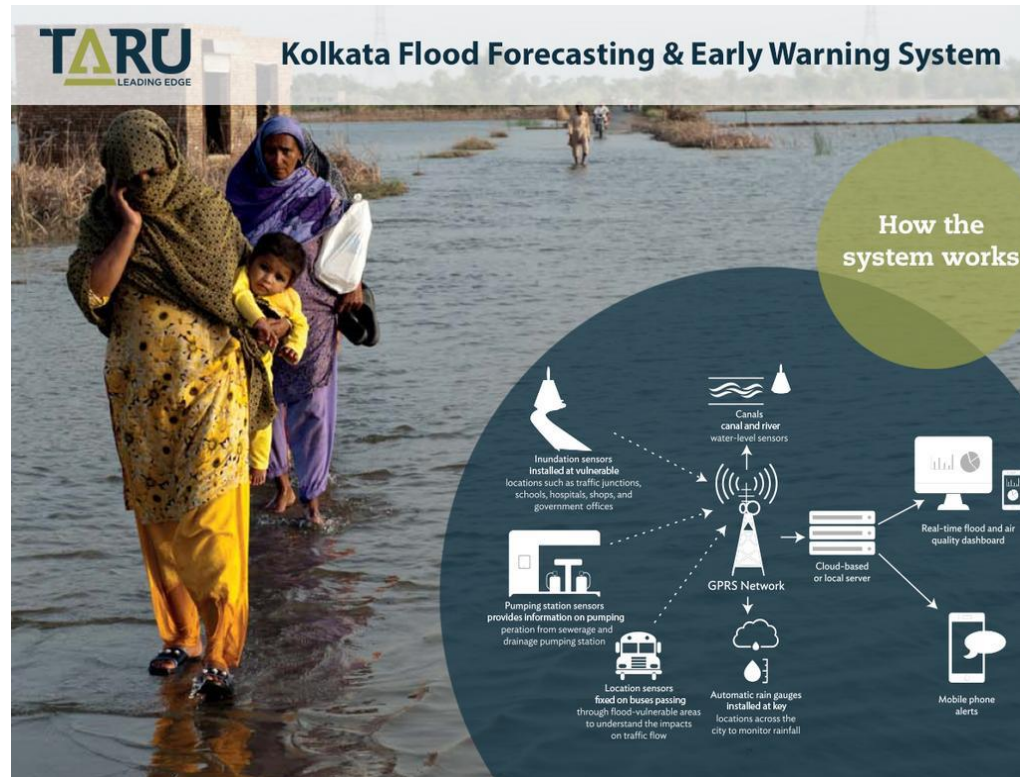
### Tech Enable Modular Solutions

Smart Digital technologies, to capture real time data (IOT) & facilitate inform decision making



# WATER MANAGEMENT SOLUTION

Taru's water management solutions evolved around nature based and community led decentralized frameworks supported by smart digital technologies addressing data scarcity, vintage/crumbling infrastructure issues and evolving urban context



Cutting-edge Flood Early Warning System using IoT/sensor – Kolkata



Water Resilience through Lake Conservation using Artificial Island Concept - Indore



# WATER RESILIENCE SOLUTIONS



Taru's has demonstrated several community based decentralized water management solutions addressing resilience, supply, quality and source sustainability issues



Rain Water Harvesting Services- Indore



Conjunctive Water Services- Indore



Wastewater Management - Indore



Community Water Supply Services



Household Water Storage for Poor Families

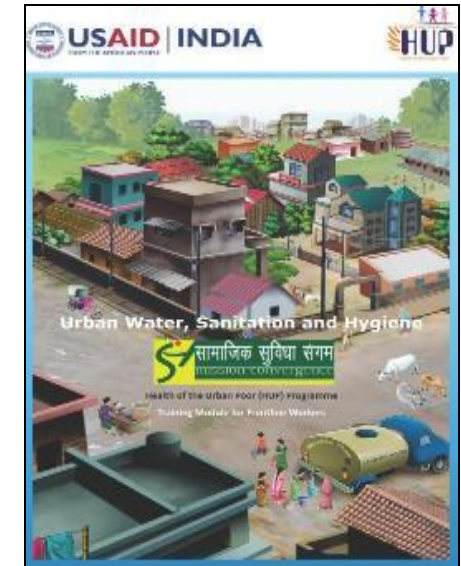
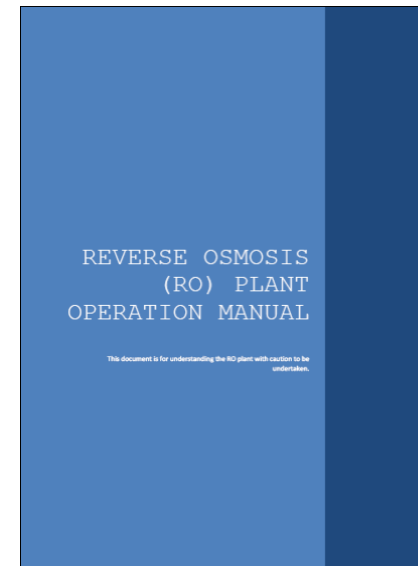
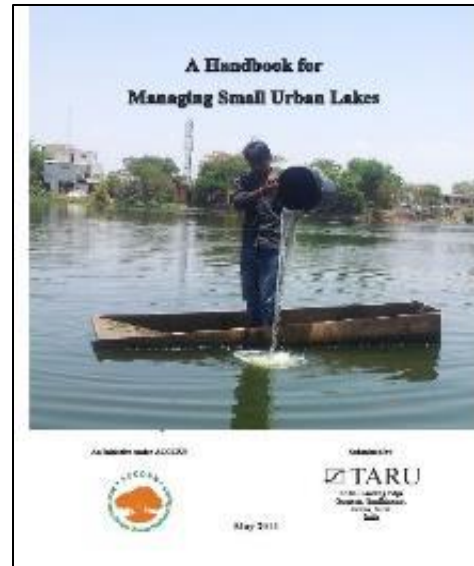
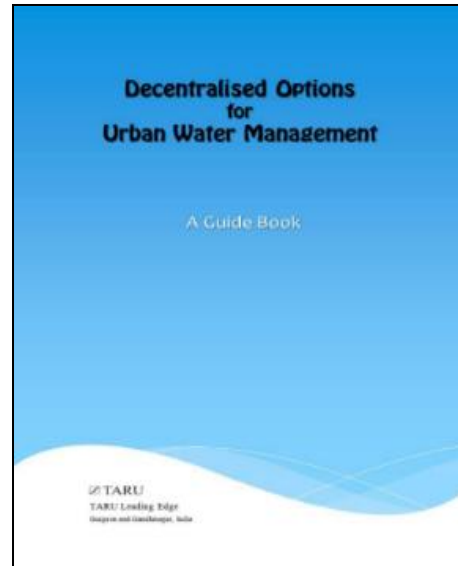


Water & Toilet Service -Cuttack & Bhubneshwar

# WATER POLICY AND STRATEGY INITIATIVES



Taru has worked extensively on policy, strategy, investment planning, design and tech options, and flood and water resilience plan addressing water management issues



Flood Resilience Plan – Ratnagiri, Vidhan Nagar, Punjim, Kochi, Mangalore, Porbandar

## Key Studies/Strategy/TA Work

- Institutional Development, Human Resource Development and Economics Inputs to the Bangalore Water Supply and Environmental Sanitation Master Plan Project
- Promotion of Integrated Water Resource Management in Peri-Urban Setting of National Capital Region of Delhi
- WASH Alliance for Visioning Enhanced Sustainable Services at Scale (WAVESSS)- Odisha
- Multi-sector Assessment of Drought Impacts in Select Regions of South India
- Strategy For Equitable Sustainable Water Service Delivery-Odisha
- Community Development and Alternate Approaches of Services Delivery to the Urban Poor Component of the Bangalore Water Supply and Environmental Sanitation Master Plan Project

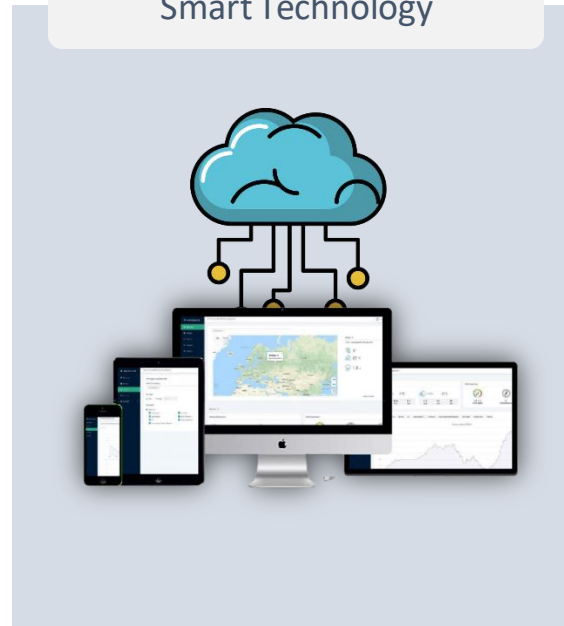


# A ROBOUST SOLUTION CONTAINING

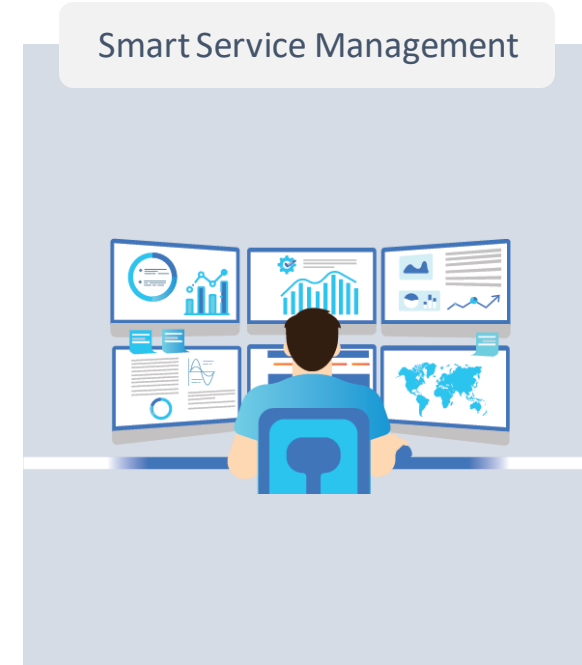
Smart Devices



Smart Technology

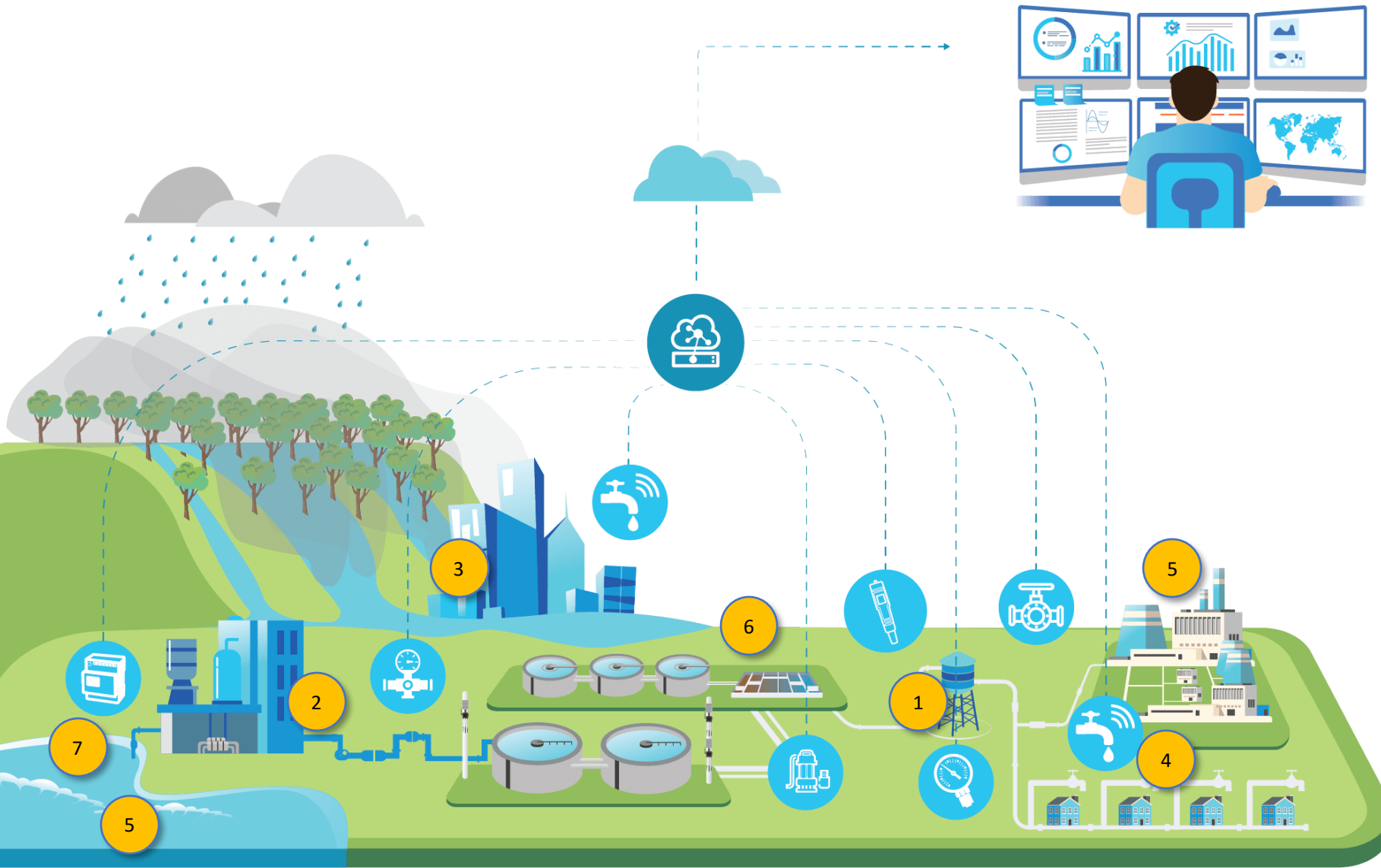


Smart Service Management



# WATER MANAGEMENT | IN A NUTSHELL

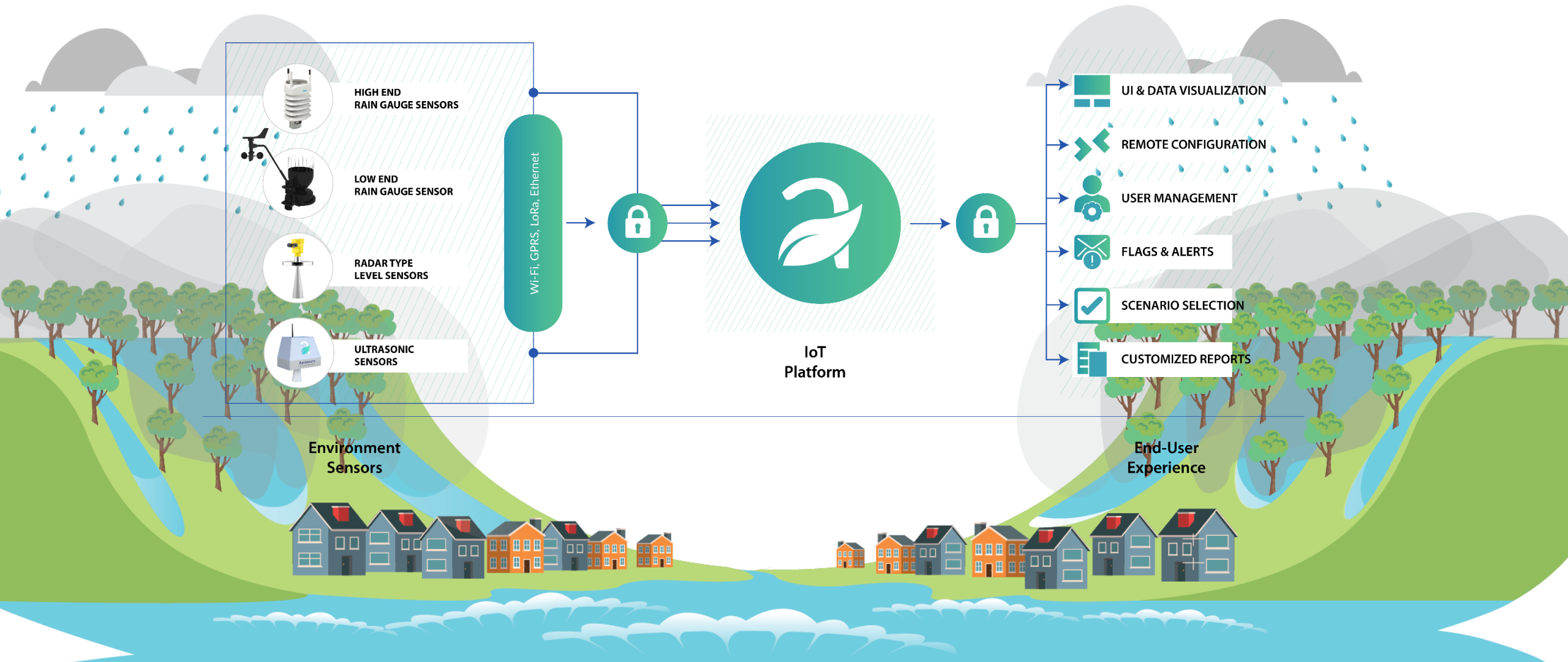
Smartening-up water systems & Building resilience for a brighter future



1. Smart Water Delivery
2. Smart Water Treatment
3. Smart Water Infrastructure
4. Smart Water Consumption
5. Smart Ocean Data Collection
6. Smart Wastewater Treatment Plants
7. Smart Conservation Of Water Sources

# URBAN FLOOD MANAGEMENT & RISK MITIGATION

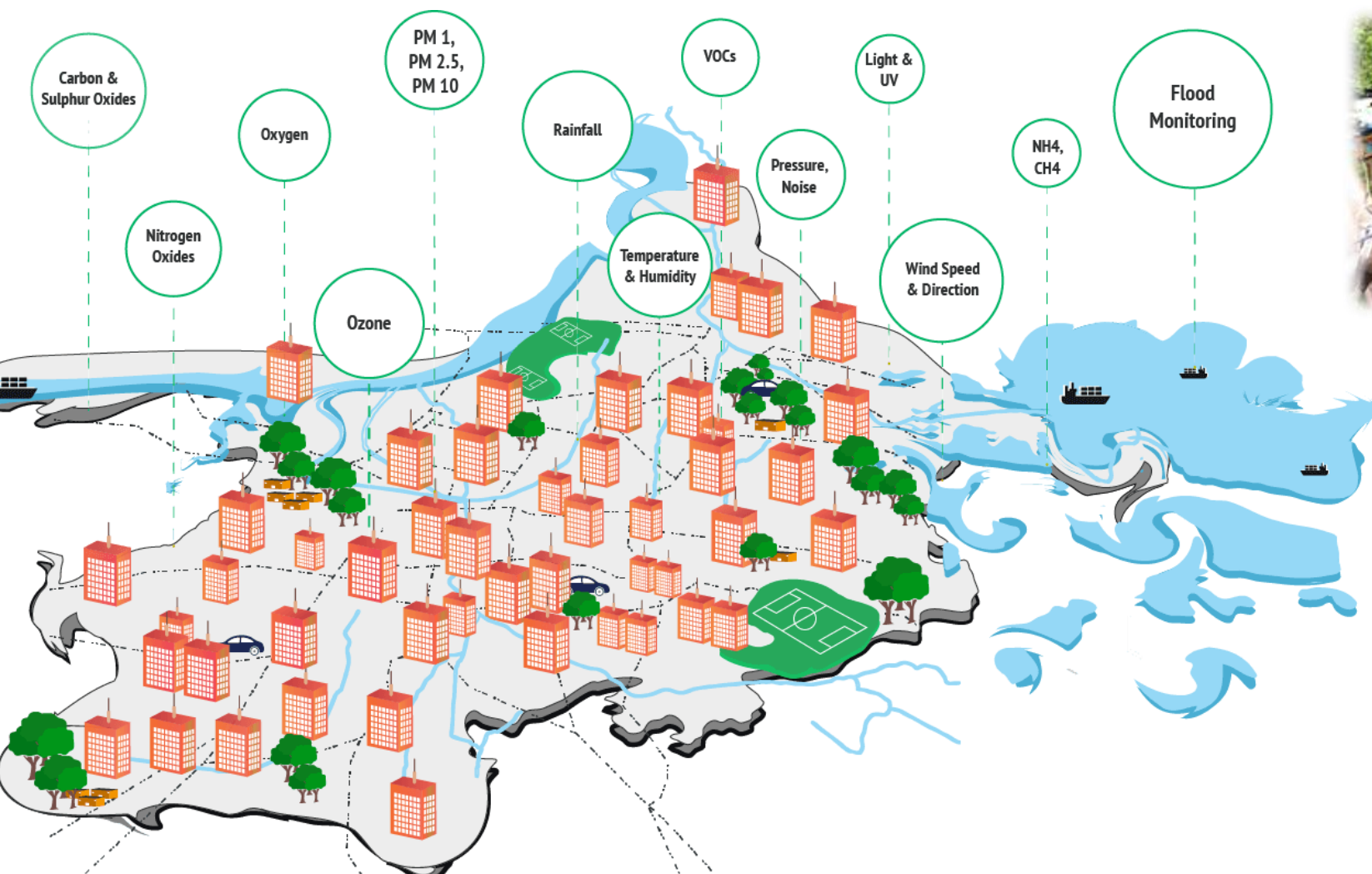
Improve Your Flood Resiliency Before Damage Occurs





# CASE STUDY | TOWARD RESILIENT KOLKATA

India's 1<sup>ST</sup> Comprehensive City-Level Flood Forecasting & Early Warning System



## A Network of IoT Sensors



40  
Automatic  
Rain Gauges



80  
Sensors for Pump Station  
& Sump Level Monitoring

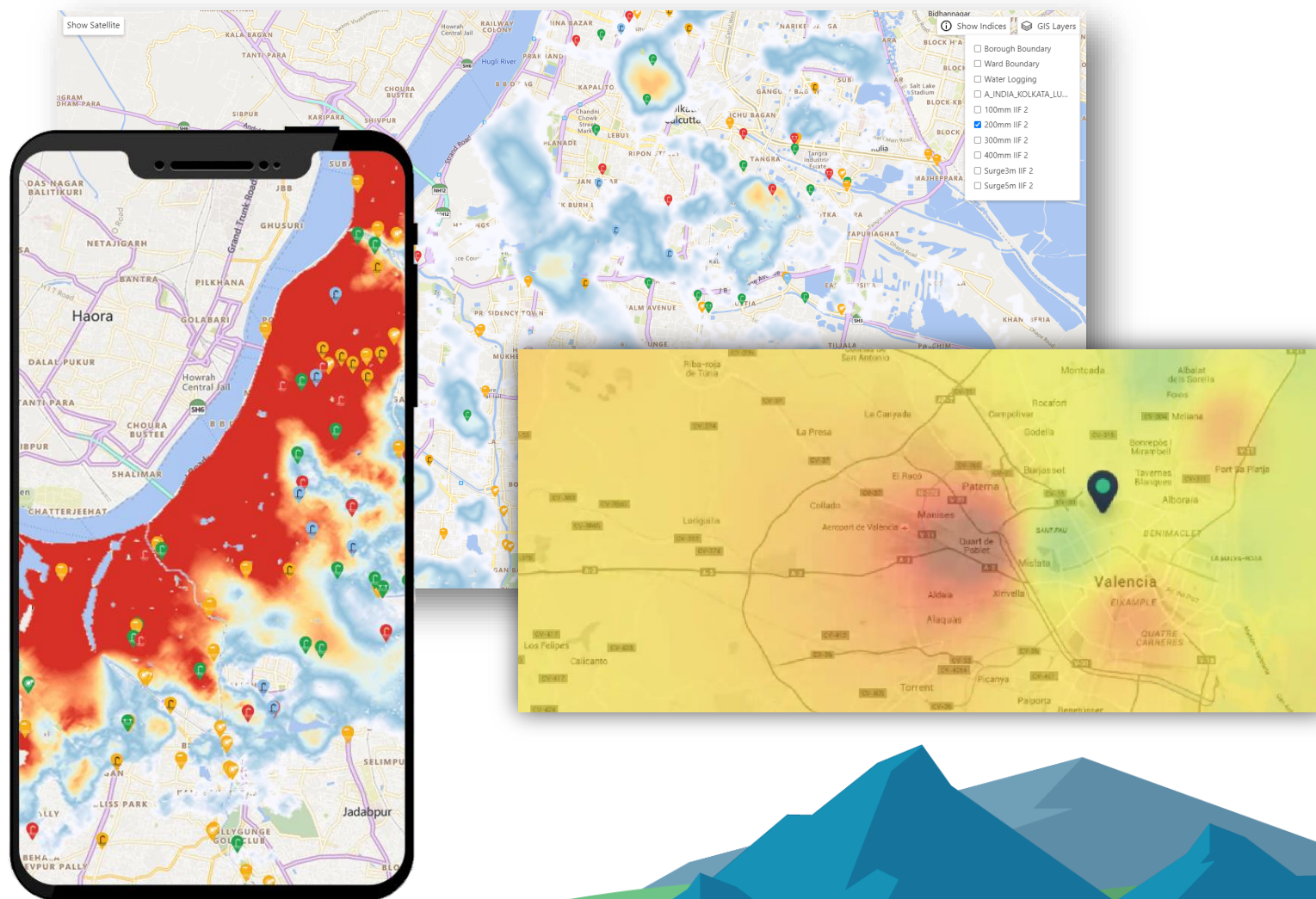


160  
Street Sensors  
For Inundation Level

## System & Components

- Canal Level Sensors
- Pumping Station Sensors
- Rain Gauge/ Weather Sensors
- GPS Vehicle Tracking
- Street Inundation Sensors
- Air Quality Sensors

# COMPLETE RISK MANAGEMENT FROM SINGLE DASHBOARD.



## UNIFIED DASHBOARD

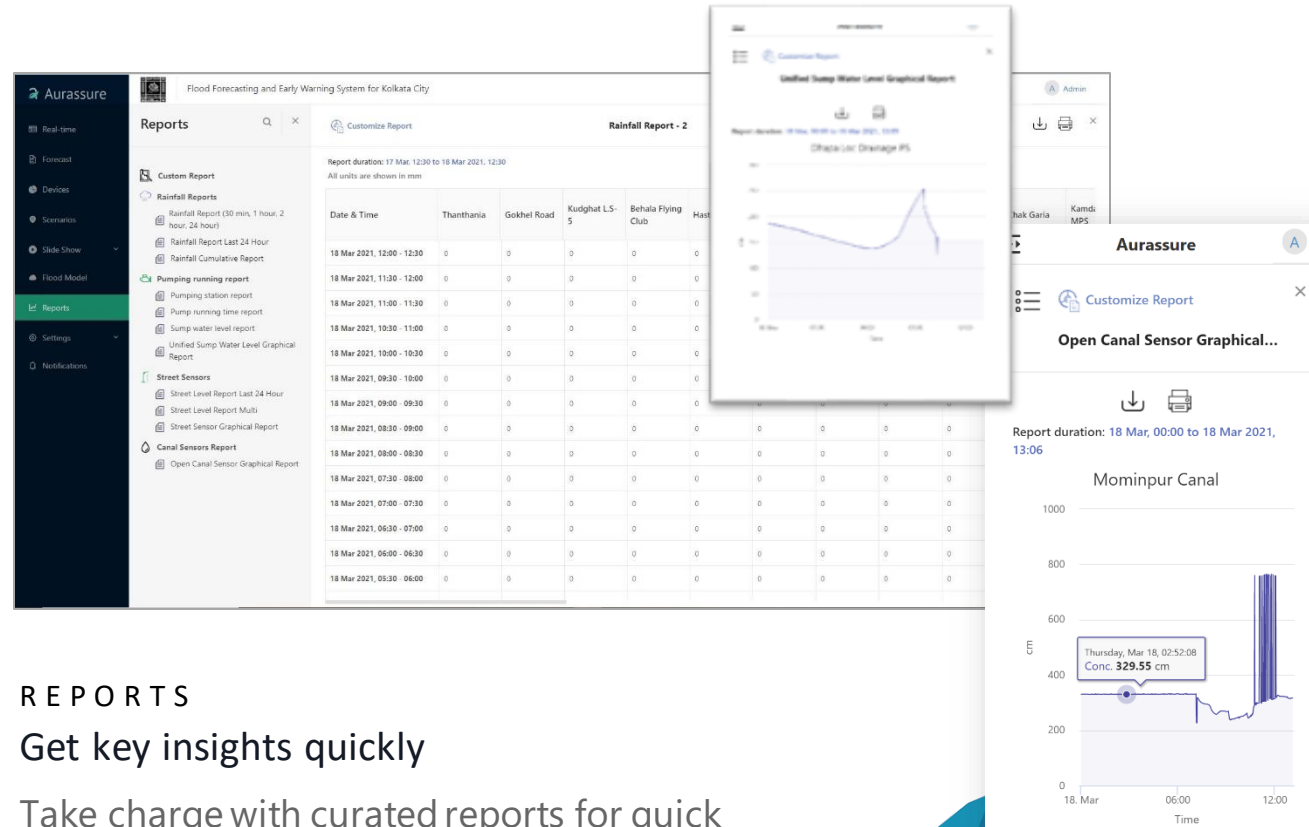
### Data Visualization From Every Angle

Dashboards showing you real-time metrics, to help you make data-driven decision & assisting city officials to build a resilient city infrastructure.

- Rainfall
- Water Logging
- Storm Water Surge
- Rainfall Heat Maps
- Sensor Data
- Warning System
- Scenario Selection

# TAKE THE CHARGE WITH CURATED REPORTS

Harness the information whenever you need it.



## REPORTS

Get key insights quickly

Take charge with curated reports for quick insights, custom reporting to build reports unique to your requirements.



### Rainfall Reports

- Rainfall Report (30 min, 1 hour, 2 hour, 24 hour)
- Rainfall Report Last 24 Hour
- Rainfall Cumulative Report



### Pumping Running Report

- Pumping station report
- Pump running time report
- Sump water level report
- Unified Sump Water Level Graphical Report



### Street Sensors

- Street Level Report Last 24 Hour
- Street Level Report Multi
- Street Sensor Graphical Report



### Canal Sensors Report

- Open Canal Sensor Graphical Report

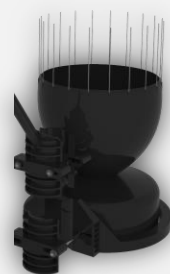


## THE SENSORS

A sweet combination of High-end & Low-end Sensors



Rain Gauge, Wind Speed/Direction, Temperature, Pressure & Humidity



Rain Gauge Sensor



Radar Type Level Sensors



Ultrasonic Sensors



TraDe OMNI (IoT Gateway)

1. All the devices will be power by solar or directly from the grid depending upon the availability of power.

2. All device will be having battery backup for at-least 7 Days.

3. The devices will transmit the data using 4G LTE or GPRS to the central server and will ensure the 100% data availability throughout the life cycle.

4. All communications will be encrypted between device and server using AES256.

# ALREADY BENEFITTING SMART CITIES

Collaborate today & your city could be the next!





## Taru Leading Edge

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