



SMARTTERR A

Winner
Zero Water Waste
2024 Award



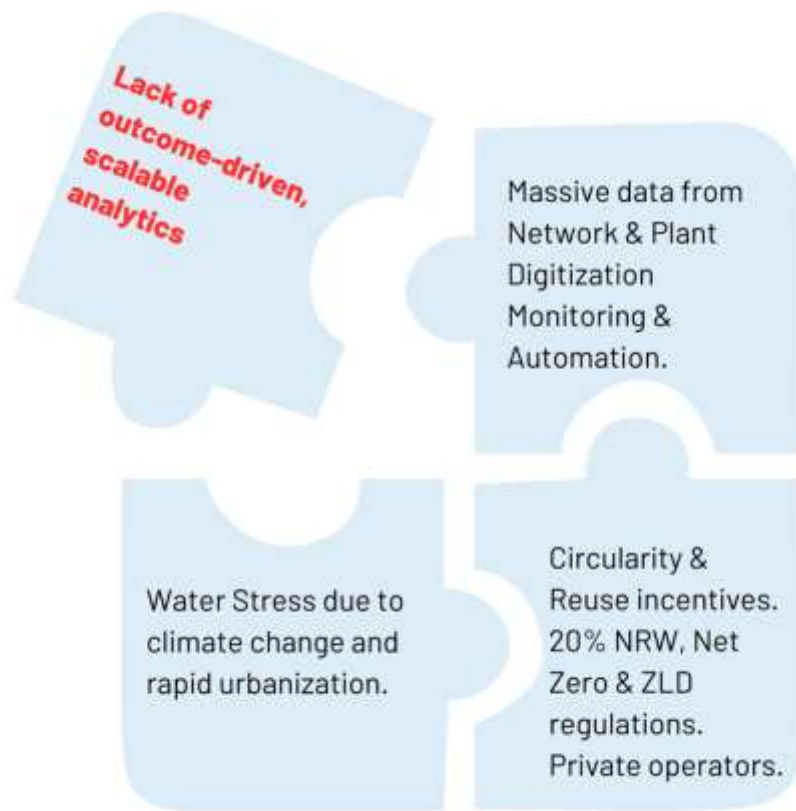
Advised by



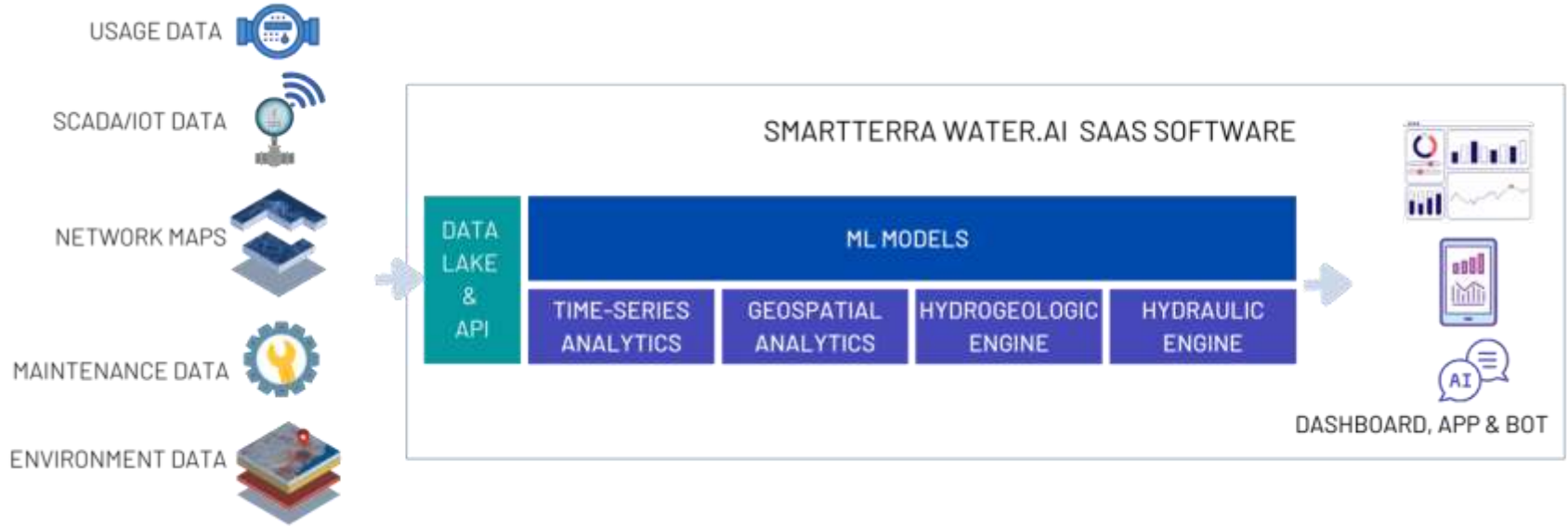
MoHUA - AMRUT 2.0 startup program 2022
Karnataka-Elevate startup program 2024

**Raised USD 1 Million in Pre-Series A
round led by Siana Capital in 2025**

Water needs AI

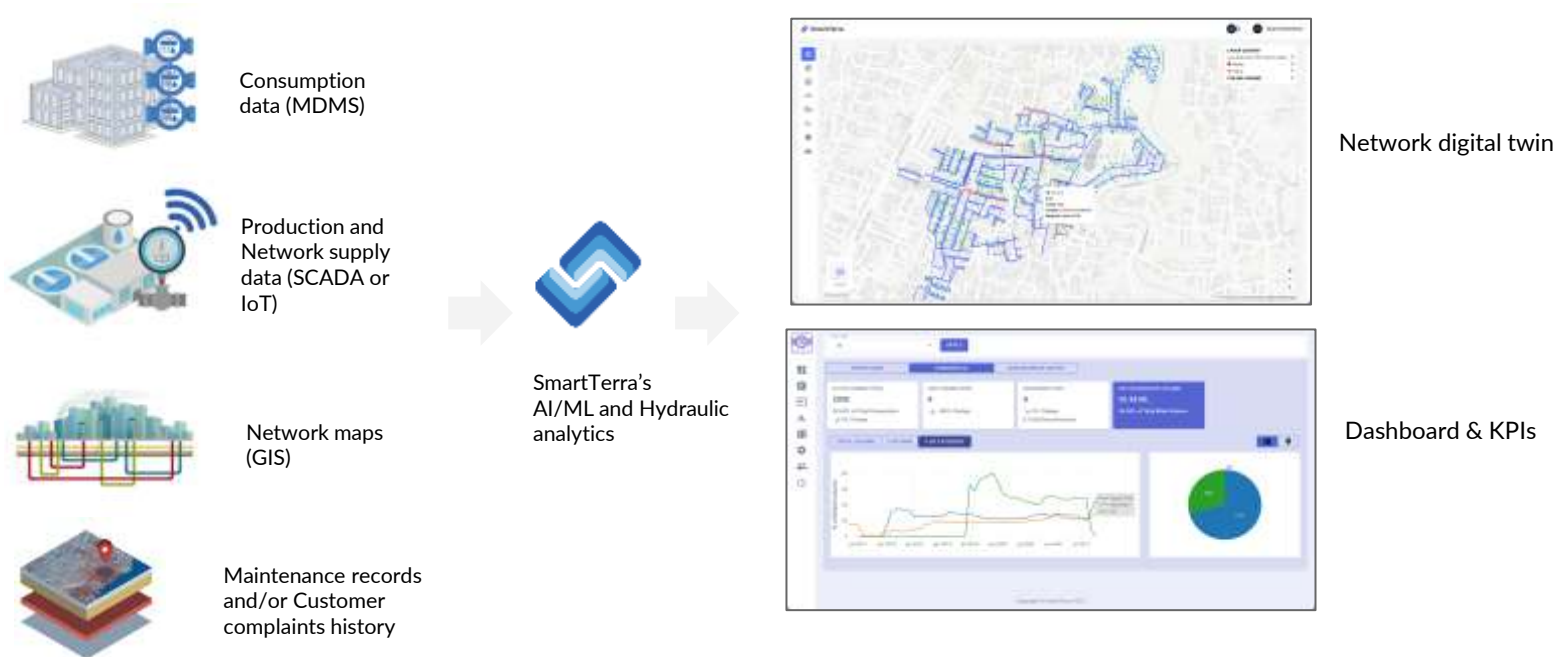


SmartTerra is developing an AI/ML-powered analytics software, Water.AI, to enable water and wastewater utilities to effectively analyze their existing data.



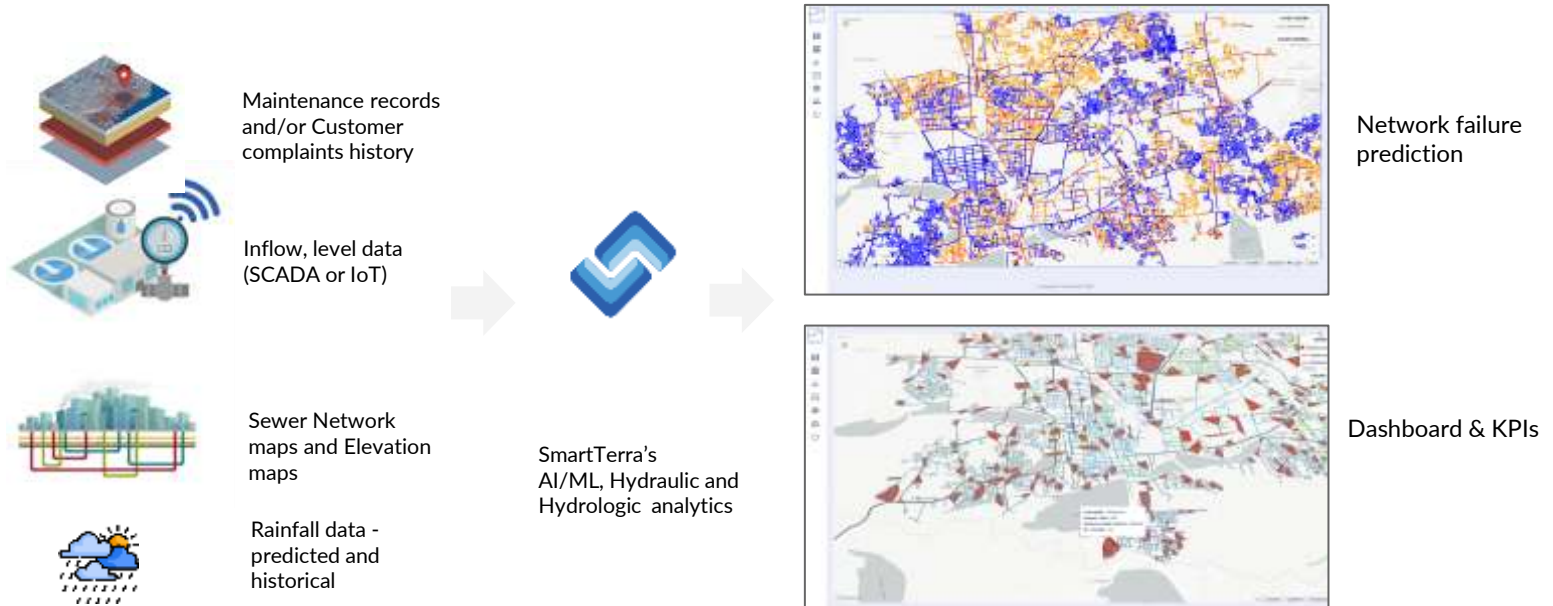
Municipal water utilities need to minimize pipe leaks, ensure long network asset-life, improve revenue and provide continuous service.

SmartTerra's Water.AI will rapidly identify and prioritize the riskiest pipe segment and customer connection. From data from disparate O&M and asset management silos.



Municipal wastewater utilities need to minimize sewer blockages & overflows; minimize stormwater flooding and ensure long network asset-life.

SmartTerra's Water.AI will rapidly predict the riskiest sewer segments to prioritize O&M resources. Improve predictive and situational awareness during sudden rainfall events.



Industrial water and wastewater utilities need to improve treatment efficiencies, ensure long asset-life, minimize downtime and achieve zero liquid discharge.

SmartTerra's Water.AI will rapidly identify inefficiencies in water treatment, use and reuse. And predict the risk of asset failure. From data from disparate O&M and asset management silos.



Supply, process consumption and treatment data (MES, SCADA or IoT)



Asset data (EAM)



Maintenance data (CMMS)



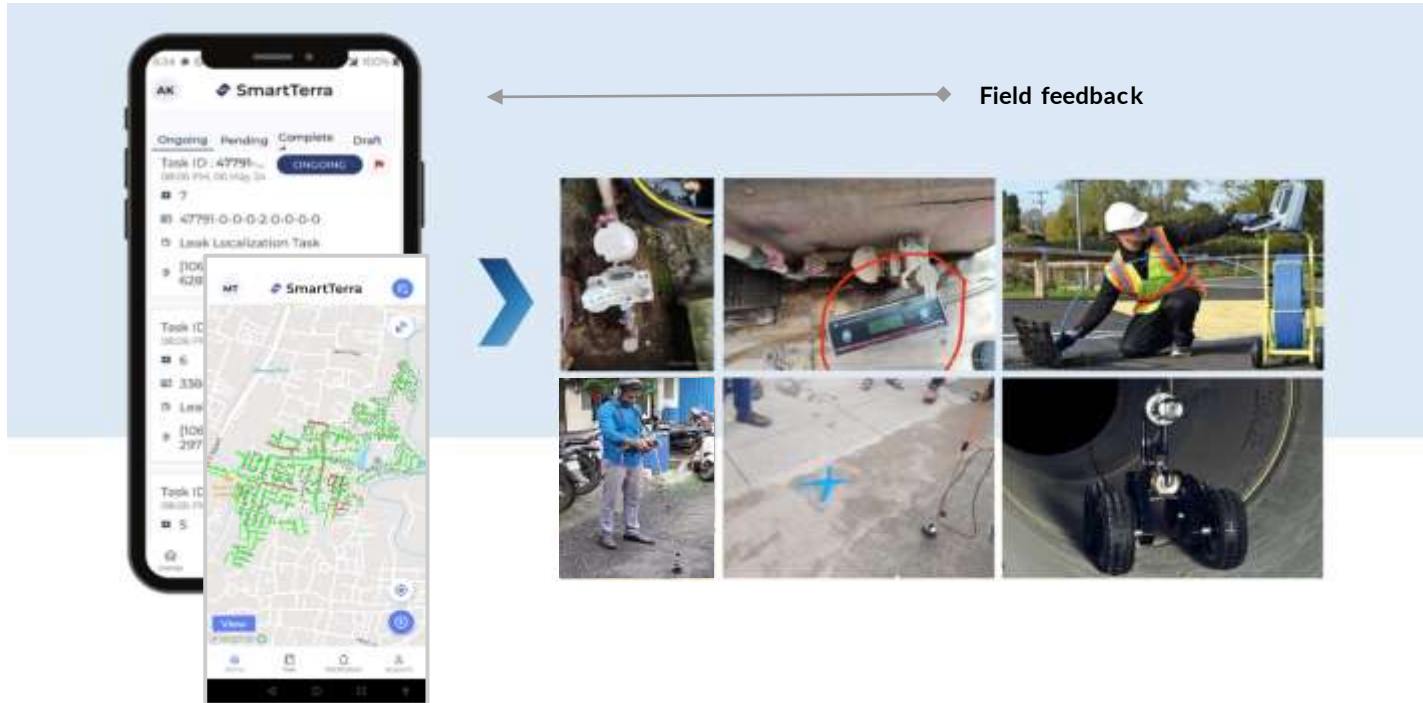
SmartTerra's
AI/ML analytics



The software produces targeted and prioritized field tasks for the utility staff.

SmartTerra also provides field services in India.

Data augmentation upstream of the analytics. Leak pinpointing and network inspections downstream of analytics.



Case study 1: Modeling the network and operations. Pre-localizing losses to guide leak pinpointing and meter checks field teams

Multiple cities with DMAs of total 150KM and 20K connecti



Datasets

- Georeferenced network maps and customer locations
- DMA flow and pressure data along with customer meter reads

Outputs

- Auto-calibrated digital twin of network and customers
- Flagged pipes prioritized by estimated loss volume

Field validation

- Localized NRW issues to less than 30% of network length on average
- Accuracy of localization analysis at 65% - 85%
- 10.8MLD reduction in Pune
 - NRW reduction by 43.2% points across 12 DMAs
 - Reduced NRW to less than 20% in 3 DMAs



Case study 1: Details from a large City in India

		DMA set 1							DMA set 2				Total	
		MMD4	DZ2D1	GND1	GND2	GBZ1D3	SSD2	AGD1	MWD1	PLD3	PLD2	PLD1	KWD1	Total
Project performance indicators														
	Total network length (KMs)	11.13	8.17	16.2	14.79	6.58	2.34	6.78	19.79	19.14	9.89	14.32	9.67	138.8
	Baseline Number of Connections	1,903	508	1,794	1,784	920	398	1,004	2,737	489	511	406	566	13,020
A	Baseline Supply (KL per day)	2,316.00	2,006.50	6,357.10	5,371.20	3,133.80	1,442.45	3,092.00	8,277.00	2,609.6	2,741.00	2,327.05	3,434.00	43,107.70
B	Baseline Consumption (KL per day)	501.7	1,097.00	1,376.67	1,607.15	1,010.57	381.14	1,325.19	1,707.93	987.76	299.47	524.12	1,498.43	12,317.13
C	Baseline NRW : (A-B)/A * 100	78.30%	45.40%	78.30%	70.10%	67.80%	73.60%	57.10%	79.30%	62.20%	89.10%	77.50%	56.40%	69.59%
A1	Current Supply (KL per day)	2,252.00	2,006.50	2,717.10	6,754.00	3,133.80	1,213.50	2,458.00	8,277.00	1,634.75	1,078.00	2,175.68	2,921.88	36,622
B1	Current Consumption (KL per day)	1,828.86	1,783.37	2,022.17	2,205.57	1,370.55	901.17	2,139.44	2,878.08	1,290.13	768.64	1,495.66	2,229.02	20,913
C1	Current NRW based on metered consumption (without estimates) : (A1-B1)/A1 * 100	36.50%	27.80%	47.00%	67.70%	57.50%	57.70%	19.70%	66.80%	48.70%	70.40%	50.10%	46.90%	49.72%
D	Estimated current NRW including estimates for pending interventions	18.80%	11.10%	25.60%	49.00%	40.60%	25.70%	10.50%	48.70%	21.10%	28.70%	31.30%	23.70%	27.90%

Case study 2: Modeling the city's consumption. Predicting revenue loss due to under-registering meters and customer premise leaks

Singapore: 1.6 Million meters



Datasets

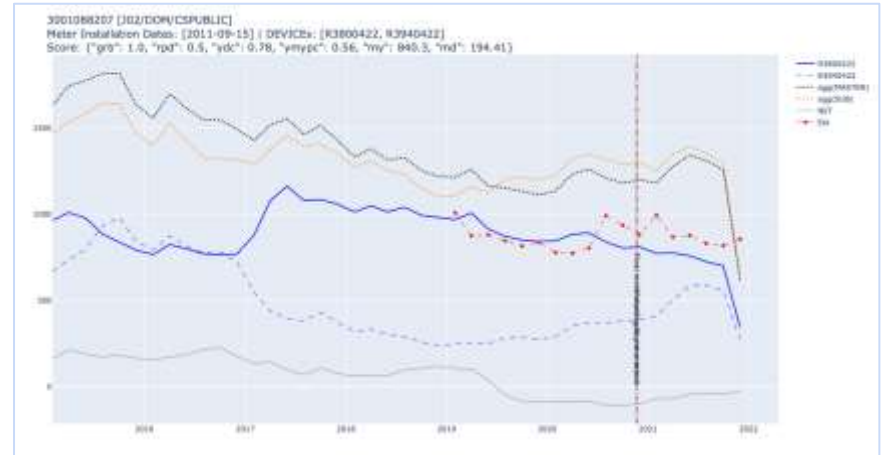
- Bi-monthly meter readings every other month with 7 years of history
- Move-in/Move-out and Master/Sub customer information

Outputs

- Flagged master meters prioritized by revenue loss
- Flagged submeters with potential premise leaks
- Dashboards tracking revenue and customer trends

Field Validation

- 77% accuracy during bench testing of a sample set



Case study 3: Modeling the network, city and weather. Dynamically predicting pipe condition & future leaks

Coimbatore: 1,757 km network serving 1M people



Datasets

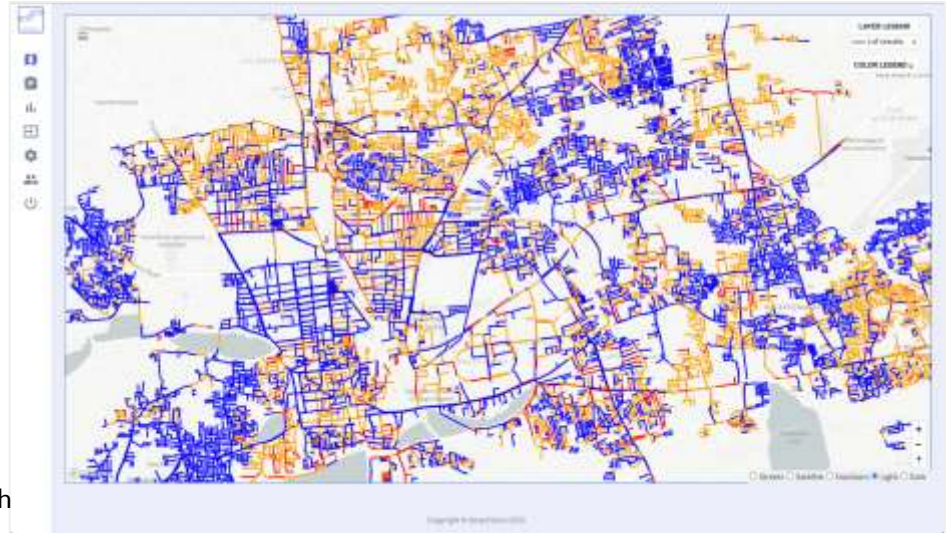
- Network attributes +
- Environmental stresses +
- Maintenance history (3 years) +
- Operational stresses

Outputs

- Classifier model of network, leaks and stresses
- Pipe scores: Likelihood of leakage, failure.
- Consequence of failure.

Field Validation

- 72% accuracy in predicting poor-condition pipes
- 43% of future leaks predicted in the top 10% of network length



Case study 4: reuse water.

Modeling the water circuit of water, ultrapure water, effluent and treated

Water Intelligence (SLD & Dashboard, anomaly prediction).

Chennai Factory:



Datasets

- 70 meters/sensors
- 23 operational KPIs
- 93 process components

+
+

Outputs

- Real-time monitoring (physical + apparent losses)
- Water Balance across facility
- Water quality → product quality predictions
- Water sourcing → energy optimization
- Water quality trends with anomaly flags + event markers



Case study 3: Pilots for BWSSB-Bengaluru and HMWSSB-Hyderabad- reducing commercial losses & improving revenue

7K connections in BWSSB and 2K connections in HMWSSB

- Manual meters read monthly and having 2 years of consumption history
- Step 1: Software analysis of meter readings along with network and customer/tariff information. Estimation for unmetered connections
- Step 2: Flag connections with connections with under-registering meters, abnormal usage, commercially misclassified accounts etc.
- **Revenue improvement of 3-4% identified**

