Utility Case Study

Public Utilities Board (PUB),
Singapore National Water Agency
Population : 5.4 mil+
Sewer Network: 3600+ KM

Singapore is a city state and is one of the most water stressed countries in the world. Well known for its innovative integrated water management, currently it reclaims more than 40% of the used water collected through the sewerage system.

PUB manages more than 3600 km of sewers and 90,000+ manholes ranging from small diameter pipes to deep tunnel sewers. An efficiently managed and well-maintained sewerage system is essential to ensure used water is effectively collected and reclaimed.

hydroEye AI platform through its innovative IoT hardware and AI based cloud software was able to provide a one-stop platform for multiple applications to manage their sewerage network holistically to improve operations efficiency, safety and compliance.

Value Proposition

hydroEye AI is a unified AI based geospatial cloud platform for integrated water and wastewater network management. Through its cutting-edge IoT hardware and software, it can seamlessly interface various types of sensors and data sources and uses AI-based analytics for smart network management.

It is a cost-effective, easy-to-deploy and simple-to-use platform built for ops and maintenance teams. With user friendly, intuitive web and mobile app, data and insights are provided at fingertips for smart management.

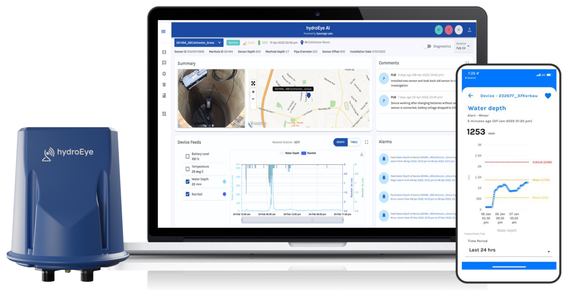
hydroEye AI by SpaceAge LABS

Digital Twin for Water & Wastewater Network Management

Sewer level / flow monitoring

Water Quality monitoring

Geofencing and tracking digging equipment



hydroEye RTU and hydroEye AI web and mobile app

The Experience

hydroEye AI platform was deployed for multiple applications with different types of sensors across PUB's sewerage network :

1. **Sewer Level Monitoring to prevent overflows**. Installed at more than 40 locations for real-time monitoring and predicting blockages
2. **Sewer Flow monitoring** at **40+ locations** for I&I and capacity monitoring
3. **Water Quality monitoring** at more than **175+ locations** to detect illegal discharge of heavy metals from factories
4. **Geofencing and precision tracking** of digging equipment at **100+ construction sites** to prevent damage to underground pipes

Problem Solved

hydroEye AI platform has enabled the utility to move from a reactive approach to predictive approach for operations and maintenance of the network. This has Improved operations efficiency, safety and compliance, saving millions of dollars in losses by preventing incidents and breakdowns.

- predicted more than 10 blockages during a 12 months period and prevented sewer overflows.
- detected more than 50 illegal discharge events (heavy metals) which could have affected downstream wastewater treatment and thus impacting effective water reclamation or reuse.
- tracking and monitoring digging equipment via geofencing at more than 100+ construction sites ensuring that they do not damage the underground pipe assets.

The Future

With the success of ongoing applications, PUB is looking to deploy more sensors across the network to increase the visibility of the network for predictive maintenance (1100+ sensors for sewer level / blockage monitoring and 400+ precision trackers for geofencing at construction sites).

Apart from PUB in Singapore, hydroEye AI has been deployed at more than 6 utilities across UK. Currently actively expanding into the USA market through new partnerships.

The goal of hydroEye AI is to become the most affordable, easy-to-deploy and simple-to-use Digital Twin for Water and Wastewater network management, so utilities can harness the power of data and AI in their journey to sustainability.

www.hydroeye.ai