

CASE STUDY

EDM SMART Water IoT

Level monitoring case study



**WATER
INDUSTRY**



**LEVEL
MONITORING**



MANHOLE

SITUATION

The UK's wastewater network is under more scrutiny than ever before. Precise event duration monitoring (EDM) is essential for the water industry to regulate wastewater discharges. This requires regular, accurate data transmission from challenging locations.

EDM forms part of a Smart Water strategy, enabling data-driven decision-making and improving operational efficiency.

This level of precision allows Water companies to ensure they are in compliance with relevant regulations.

PROBLEM

The main challenge was ensuring reliable communications between the level monitoring equipment in the sewers and the pump station over a mile away.

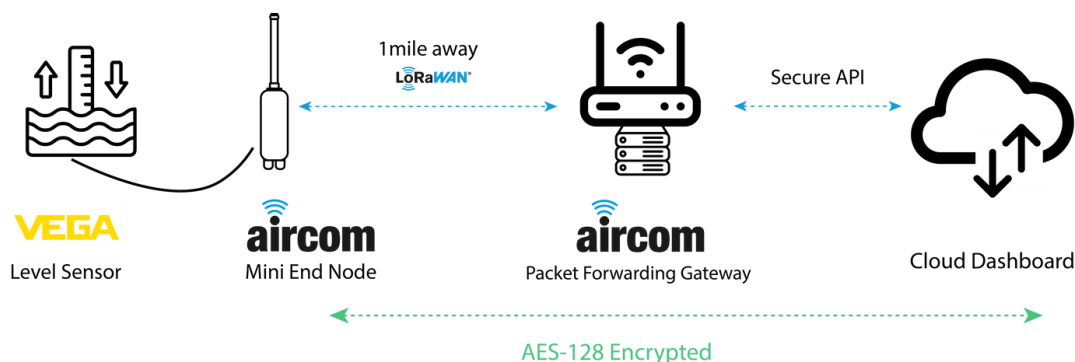
Both the urban terrain and the unique site conditions posed difficult signal obstruction issues:

- The equipment was located below a 100mm cast iron manhole cover, 300mm underground.
- All sites were situated in dense built-up areas.

SOLUTIONS

We deployed Aircom IoT LoRaWAN endnodes paired with 2 VEGA level sensors (VEGAPULS C 22) at each EDM site. This setup allowed us to accurately monitor both the dry and wet sides on the sewer. The Aircom was then able to power both sensors and transmit the reading back to the gateway via LoRaWAN every two minutes.

Our gateway was strategically positioned on the client's pump station to maximize its range and overcome line-of-sight communication barriers posed by the manhole and urban topography.





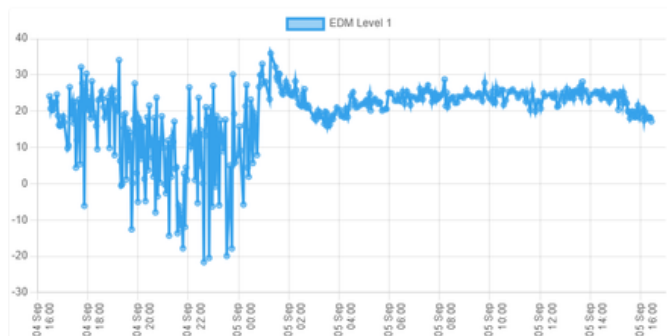
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IMPLEMENTATION

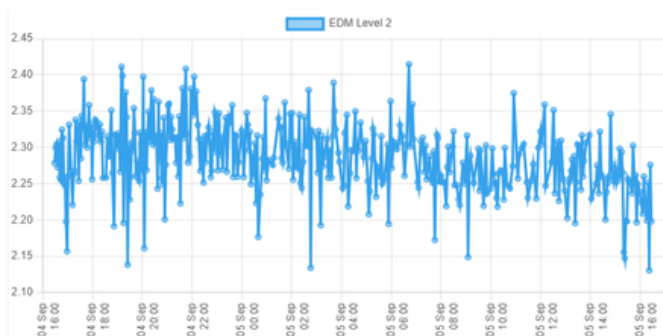
- MCert level sensors installed to ensure visibility at all EDM locations.
- Network Configuration: LoRaWAN network infrastructure for communication
- Data Integration and Security: Encrypted data transmission (military grade AES-128 encryption)
- Customized client data dashboard with alerts at setpoints



CONCLUSION

The deployment of Aircom's remote telemetry system provides substantial benefits in monitoring EDM sites. Providing this robust data audit trail enables companies to meet their Smart Water objectives. Secure platforms like Aircom are cost effective and rapidly deployable.

Aircom's long-life battery allows for operational improvements by reducing callouts for battery replacement.



RESULTS

- ✓ Complete data visibility and audit trail
- ✓ SMART Water IoT for EDMs
- ✓ Data cost savings via LoRaWAN
- ✓ Enhanced operational efficiency
- ✓ 5-10 year battery life, depending on configuration



Further Information

For a demonstration of how Aircom can make your EDM more intelligent **contact us on** yzsystems.com/aircom

