

Customer Case Study



Yorkshire Water Services gained valuable insights into the performance of their network from the large volume of data capture and analysis. This award-winning project earned Utility Week's Water Industry Innovation Award for two years running, as the UK's first smart water network in Sheffield, 2020. It has now been rolled out to cover 74,000 properties.



REDUCING
LEAKAGE



REDUCING
EMISSIONS

The problem

With challenging AMP7 targets to meet on network leakage, including reducing supply interruption and increasing customer satisfaction, YWS needed an innovative approach.

The solution

Xylem's Water Loss Management (WLM) solution saw the implementation of an advanced analytics platform that harnessed data from different sources to deliver valuable insights into the network and empower operators to spot leaks more rapidly. Xylem's WLM was the first smart platform in the UK to incorporate a hydraulic model simulator and localised surge analysis tool to quickly detect changes in pressure. The platform offered near real-time monitoring of all data streams, allowing the health of each stream to be tracked and reported. Other functionalities included transient monitoring and predictive burst analytics, alarms based on static and learned thresholds, and an interactive incident management interface. Some 200,000 packets of data were monitored each day, with 50 million data packages processed to date.

The process

Xylem collaborated with Stantec and other third-party vendors for the pilot which initially focused on 24 district metered areas (DMAs) within the urban Hadfield area. Following its success, YWS has expanded the smart water network to cover a wider area around Sheffield, encompassing 84 DMAs with 300km of pipeline and 74,000 properties, making it the largest smart water network in the UK.

The outcome

Through machine learning, multi-sensor validation and smart band AI-informed algorithms Xylem's smart platform achieved the following highlights in the first phase of the project:

- Leakage reduced by 32% in highly instrumented DMAs with high intensity sensors and smart meters
- Visible leakages decreased by 57%
- Reliability and maintainability activities and CO₂ cut by 41%
- Reduced the number of alarms that required action

"Not only has this award-winning proof of concept really helped Yorkshire water in accelerating the deployment of Smarter Water Networks, it has also provided environmental and social benefits for the community we serve. By working with Xylem to properly analyse the enormous volume of data that was available to us, we were able to better monitor the network and spot leaks more efficiently."

Sam Bright, Yorkshire Water

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Countdown to zero.

xylem
Let's Solve Water