Yorkshire Water Services

UTILITY REDUCES LEAKS BY 57% AND ELIMINATES 30% OF ANNUAL DISTRIBUTION MAIN REPAIRS BY INTEGRATING AND STANDARDIZING DATA INTO A SINGLE PLATFORM

Yorkshire Water Services (YWS) is a leading UK water utility that serves nearly 5.5 million people and has a well-deserved reputation as a progressive and proactive utility. Their belief that innovation is one of the key driving forces that allows utilities to deliver better services to their customers while keeping costs down has led them to always seek out new ways to improve their operations both now and in the future.

Challenge

In 2019, the UK's Water Services Regulation Authority (Ofwat) issued a challenge to all UK water companies to look beyond business-as-usual solutions and embrace innovation to transform the way they serve both their customers and the environment.

YWS embraced that challenge and, in 2020, selected its Sheffield location to launch what would become the largest and most extensive smart water pilot in the UK. Sheffield's harsh winters and freeze-thaw events would regularly result in leakage and maintenance cost challenges for the utility. This made it the perfect place to put this new approach to the test.

With the aim of incorporating the latest advances in technology and communications to create a true digital twin and revolutionize the way they manage leaks and supply interruptions, Yorkshire Water collaborated with 15 companies in the digital water space – including Xylem and Idrica – to transform Sheffield into the country's first smart water city.

After installing 6,000 sensors, including smart meters and flow, acoustic and transient detection devices, in Yorkshire Water's network and around the Sheffield area, YWS wasn't lacking in data. But the utility still needed a way to manage that data and help managers and operators transform it into actionable intelligence.

Solution

Xylem and Idrica partnered to join their combined technology, innovation, and water expertise in developing and deploying **Xylem Vue powered by GoAigua**, a single, integrated, and vendor agnostic software and analytics platform.

The platform enabled YWS to securely integrate and standardize their data, regardless of its source, through the platform's Smart Water Engine.

The standardized data was then provided to specific modules within the platform (Leak Detection, Leak Localization and Meter Data Analytics) allowing Yorkshire

Program Highlights:

- 57% reduction in visible leaks
- 32% leak reduction in high-priority DMAs
- 30% fewer distribution main repairs annually
- Won Smart Water Networks Award at the Water Industry Awards (July 2023)
- Established reliable, unified alarms
- Increased field operations efficiency by integrating work orders
- Improved non-revenue water management by increasing water balance calculation accuracy

Xylem Vue powered by GoAigua provides YWS with the current operational status for all of their Pressure Management Areas (PMAs) in a single platform.

Water to monitor and manage their system in real time.

The Xylem and Idrica teams also deployed Operational Intelligence, a centralized information management system, and component of the platform, which enabled the utility to customize dashboards that link the modules together and provide managers with critical utility KPIs, as well as alarms and reporting capabilities.

Outcomes

Xylem Vue powered by GoAigua provides Yorkshire Water with more accurate water balance calculations to help improve non-revenue water management, increase process efficiency, and accurately determine the impact of various leak-detection technologies being used.

To date, YWS has seen a 57% reduction in visible leaks and reduced leakage in high-priority district metered areas (DMAs) by 32% while requiring almost 30% fewer distribution main repairs on an annual basis than were previously required.

By establishing reliable, unified alarms to minimize "alarm overload", and integrating work orders to monitor field operations more effectively, Xylem Vue powered by GoAigua allows the utility to focus on priority issues and manage the entire life cycle of a problem, from detection to work-order assignment, all from a single platform.

In July of 2023, the Sheffield pilot program won the prestigious Smart Water Networks Award at the Water Industry Awards, showcasing how smart technologies and digital solutions can help water utilities achieve their goals.

By removing the burden of managing multiple independent technologies, Xylem Vue powered by GoAigua helped provide Yorkshire Water with the critical, 360-degree operational decision intelligence needed to increase the efficiency of early leak detection and localization tasks across Sheffield's water distribution system – controlling costs, improving performance, and limiting environmental impact.
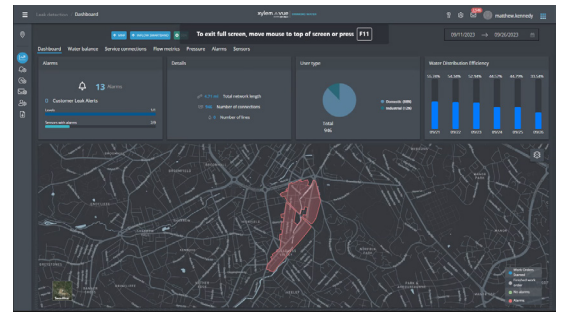
Leak Detection helps Yorkshire Water improve water efficiency by visualizing key indicators in real time and providing an early warning of potential real or apparent water losses.

The platform enables us to bring all of our data together to monitor and manage priority issues across our system in real-time. This has helped us achieve significant results in reducing leaks, costs, and environmental impact.

Marc Turner
Business Change Manager:
Smart Data and Analytics,
Yorkshire Water Services

Meter Data Analytics captures, uploads, and displays meter readings, regardless of vendor, and alarms in a central, unified platform.