Media release

6 December 2021

Anglian Water trials innovative new pollution-reducing technology

Anglian Water has teamed up with solutions-providing company PSI Technologies on a proof-of-concept trial for a sewer vacuum system in Maltby-le-Marsh in Lincolnshire. The scheme aims to reduce pollutions by enabling technicians to respond to issues quicker and more efficiently.

The opportunities presented by the project, has been carried out using hardware from PSI Technologies, software from Urban io, which were initially identified through Anglian Water's Water Innovation Network (WIN).

WIN is a partnership initiative between Allia and Anglian Water, which discovers innovative solutions to challenges facing the water sector. Businesses, organisations and individuals can submit their innovative solutions to WIN, to be evaluated by industry experts and decision makers within Anglian Water. This supports businesses with potential sales, as well as feedback, advice, support and access to specialist equipment.

This project was the first time PSI Technologies had worked within the water industry, and saw the company develop a bespoke 3D-printed bracket to improve sensor installation. The scheme is also the first time Anglian Water has used an Internet of Things network to monitor underground assets, opening up a new option for locations in its region where telemetry is particularly challenging.

James Devereux from PSI Technologies said,"We solve complex engineering problems across diverse manufacturing industry and rail. As part of our own digital transformation, we've applied our skills and tenacious energy to hard-to-reach, labour intensive asset maintenance, using IoT as a digital twin for fast asset insights, teaming with monitoring hardware and software developers Urban.io.

"Our boots on the ground approach ensures concept translates to reality and we're delighted to have achieved success for Anglian Water".

The sewer vacuum system in Maltby-le-Marsh is made up of 44 sewer chambers. Flood level and pressure sensors were installed in the system to allow technicians to collect data from hard-to-reach places within the network. The sensors use digital twin technology to improve management of the system by sending out an alarm notification when performance in the network deteriorates. Self-sustained gateways, powered by solar panels, communicate with the sensors in the vacuum system to read the sewer's pressure.

The sensors are geo-located, which means they can pinpoint the exact location of failure, reducing the need for repeat visits. The system also enables Anglian Water to plan work on the network ahead of time, along with any traffic management and risk assessments needed, to cut down response time for repair jobs.

Adam Jessop, project lead for Anglian's Water Recycling Optimisation team, saw the potential benefits of this technology for sewer vacuum systems immediately. Adam previously worked as a network technician in Maltby-le-Marsh, so he is familiar with the challenges posed by spotting problems in sewer vacuum systems, and with the needs of this local network in particular.

Adam said, "This monitoring equipment allows us to visualise the network to prevent historical issues that, up until this point, we've not been able to discover without spending a lot of time and effort. One benefit of the system is that it will give us an early warning of issues in the network.

"This system will also allow us to pinpoint the first failure point when we have issues with low pressure in vacuum systems."

The work in Maltby-le-Marsh emphasises the benefits of a SMART transition and supports Anglian Water's wider ambition to value data as much as assets in order to prioritise proactive maintenance. Due to the success of this project, work has begun on a trial to expand the scheme to Hampton, Peterborough.

The trial in Peterborough will allow the team to explore the technology's potential in a larger system – the sewer system in Hampton comprises approximately 99 sewer chambers – as well as in an urbanised location. Teams also hope to learn more about the opportunities to improve pump station performance monitoring through the scheme.

If successful, the technology could prove to be a valuable tool for use in expanding communities such as Hampton, which are more likely to have sewer vacuum systems, as these are favoured by developers of new build housing. This is particularly important in the Anglian Water region, which is the fastest growing area of the country.

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Notes to editors

About Anglian Water
Anglian Water supplies drinking water to 4.3 million customers across the East of England and collects and treats used water from over 6 million people. We operate within the largest geographical region of England and Wales.

Water is our business. It's our job to handle it with care and balance the needs of our customers with those of the environment around us.

Our ethos is 'Love Every Drop', because it's what we do. Every drop of water is precious, and we believe it's everyone's responsibility to look after it. We're

constantly discovering new ways to keep ahead of a changing world, by planning for the future, and exploring new ideas to meet our customers' individual needs today and tomorrow.

For more information please contact the Press Office on 0871 677 0123.