

# Welsh Water accelerates smart pumping transformation with Flygt Concertor rollout.

Following a successful AMP7 deployment, Dŵr Cymru Welsh Water expands its use of intelligent pumping systems to over 400 sites.

## The background

As part of its commitment to enhancing customer service and protecting the environment, Dŵr Cymru Welsh Water is significantly increasing investment in its wastewater operations. The utility plans to invest £1.9 billion during AMP8, nearly doubling the £1 billion committed in AMP7.

This major investment targets reducing pollution incidents significantly and preventing 186 high priority storm overflows from harming the environment. Innovative technologies, including intelligent pumping systems, are central to achieving these outcomes and Welsh Water's broader goals, including energy reduction and achieving carbon neutrality by 2040.

DCWW manages a large wastewater infrastructure portfolio, including approximately 2,800 pumping stations and 800 treatment works. Increased pressure from climate change and population growth has driven the need to modernise assets, build resilience and reduce operational risks including blockages, pollution events and flooding.

In 2020, DCWW partnered with Xylem to pilot the Flygt Concertor 6020 pump and Nexicon control panel at 10 problem-prone pumping stations. These sites had experienced frequent blockages and required regular cleaning and maintenance.

Following this success over a six-month trial, Welsh Water upgraded approximately 80 pumping stations with Concertor systems during AMP7.

## The solution

The Flygt Concertor is a smart, adaptive pumping system designed with integrated sensing, control, and communication capabilities to optimise wastewater operations. Its advanced self-cleaning functionality uses built-in control technology to prevent blockages, significantly reducing maintenance demands. By automatically adjusting performance in real time based on operating conditions, the system can deliver energy savings of up to 70%.



Flygt Concertor dry installed pumps at Llannech Wastewater Pumping Station.

## Client

Welsh Water

## Xylem's role

To provide innovative intelligent pumping and monitoring solutions to help modernise and optimise wastewater operations.

## Over the six-month trial:

- Blockages were reduced at all sites - with one station reducing blockages from 53 to zero.
- Site cleaning requirements dropped significantly across all locations.
- A reduced need for ancillary equipment freed up capital for other investments.

Additionally, the Flygt Concertor enables an 85% reduction in pump and parts inventory through system standardisation. At the core of its intelligence is the Nexicon smart controller, which leverages adaptive algorithms to optimise power usage, lower energy consumption, and minimise the need for site visits.

### The results

Welsh Water reports the following improvements at the 80 sites upgraded with Flygt Concertor systems:

- Average energy savings of 40%.
- Significant reductions in truck miles and site visits, lowering carbon emissions.
- Improved resilience during storm and nighttime flows.
- Lower maintenance demand and fewer manual interventions.
- Standardised hardware and operations across sites – eight pump models now replace nearly 90 variants.

This standardisation has reduced complexity, enabled dual skilling of engineers, and decreased reliance on specialist support. Engineers are now able to maintain systems independently, reducing downtime and support costs.

Building on the strong performance of the initial rollout, DCWW plans to install Concertor systems at an additional 400 sites during AMP8, including the new, larger Flygt Concertor 6030. It is the first UK utility to adopt the model.

Welsh Water is now laying the groundwork for an intelligent, predictive operations model. As part of this digital transformation, the utility plans to integrate Xylem's Avensor cloud platform. The integration of Concertor systems and Avensor will enable smarter asset management, data-driven decision-making, and long-term performance optimisation.

**"We have worked closely with Welsh Water over many years, and this scaling-up of intelligent pumping systems is very exciting to see. With Concertor and Nexicon simplifying operations, and Avensor poised to bring real-time intelligence, the utility is setting a new standard in wastewater management."**

Synneve Henningson, Strategic Marketing - Xylem



Compact advanced wastewater control panel.

### Xylem's Avensor cloud platform to:

- Predict equipment failures and service needs before they occur.
- Detect infiltration and leakage using weather-flow comparisons.
- Pilot pressure and flow sensors at test sites to validate scalable approaches.
- Reduce alarm fatigue and improve situational awareness using weather-integrated data.