CASE STUDY

UISCE ÉIREANN CHOOSES AVK UK SMART WATER FOR IRELAND'S LARGEST WATER TREATMENT PLANT

AVK UK has partnered with Uisce Éireann (formerly known as Irish Water) to deliver a major Smart Water project in Ireland – at the largest plant on the Dublin network, supplying the Greater Dublin Area (GDA).

The project brings AVK UK's state-of-the-art intelligent monitoring solutions to the water treatment facility in Ballymore Eustace (BME), County Kildare. The site supplies drinking water to over 2.1 million people, serving homes and businesses across Dublin and North Kildare.

As Uisce Éireann embarks on its Water Services Strategic Plan 2050 (WSSP 2050), a suite of AVK Smart Water products have been installed across the BME Control Station – including level, position, and open/close sensors – connected via LoRaWAN Gateway technology to enable real-time data capture and remote network management.

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The Ballymore Eustace Water Treatment Plant

BME is the largest of its kind in Ireland, supplying over 50% of the Greater Dublin Area's drinking water supply. The site has recently undergone significant upgrades, including a €14m programme of works that was completed in early 2025 to modernise and improve treatment processes at the plant, ensuring raw water continues to be treated to the highest standards.

The works included the upgrade of ten filters as well as essential improvements to the filter building, central controls, and automation systems. A further programme of works representing an investment of €33m is also set to commence, to ensure the continued supply of clean, safe drinking water to the Greater Dublin Area.

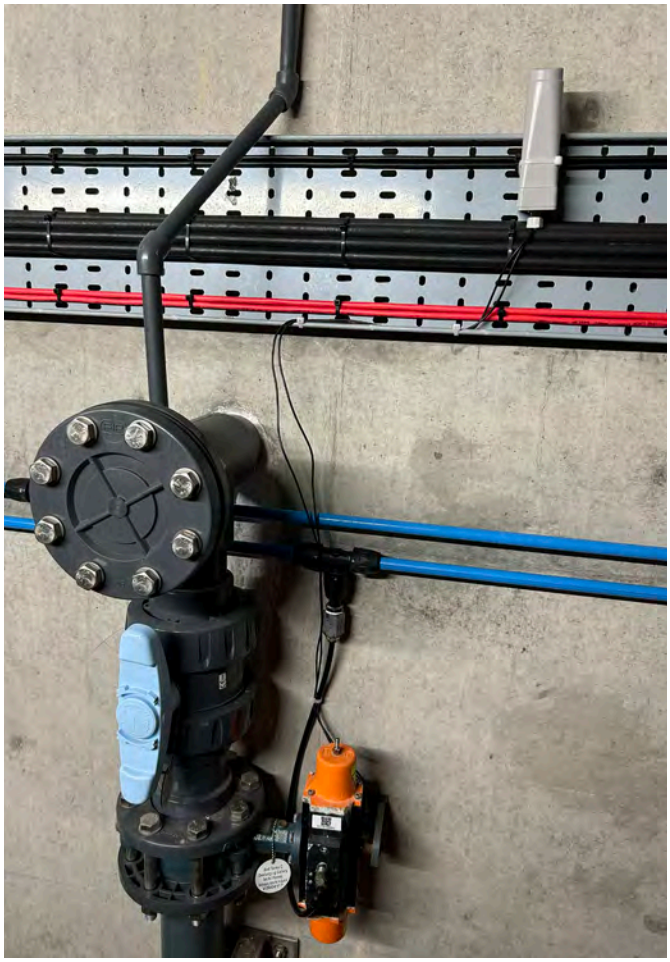
Read more about the upgrades **here**

Uisce Éireann's WSSP 2050

The WSSP 2050 is Uisce Éireann's long-term strategic plan to ensure sustainable public water services for Ireland. The 25-year strategy outlines the actions being taken to overcome the challenges impacting water services in the country, including climate change, the growing population, changing economic conditions, environmental and biodiversity crises, ageing infrastructure, and continuously evolving legislation, regulation, and policy.

To ensure the continued provision of safe and reliable drinking water to the population, the utility provider will implement measures to bolster operational resilience in the face of these challenges, improve incident response processes, and reduce the loss of water through leakage reduction projects, among other actions.

Part of the solution is the continued development of "real-time data and monitoring capability, facilitated by advanced telemetry systems," which "will play a critical part in enhancing operational capability, predicting failures and responding to outages so their impact is minimised." BME is a prime example of this modernisation, embedding intelligent monitoring solutions to support long-term performance and maintenance.



AVK UK's Smart Water Technology

AVK UK was selected to supply and install a suite of Smart Water technologies at BME, to integrate seamlessly with existing infrastructure and enable Uisce Éireann to monitor asset performance in real time.

These include:

1x VIDI Level

Installed on a weir as an additional safeguard to monitor potential overflow from the site's 56-million-litre reservoir. While overflow events are highly unlikely due to existing alarms and operator monitoring, this sensor provides an extra layer of protection by capturing data at the spillway to the River Liffey.

An additional level sensor was also deployed in a valve chamber prone to flooding on a twin 36" raw water feed in an adjacent field, where two ageing actuators had recently been replaced. This sensor provides flood-level feedback to protect the remote chamber and is also used in adjacent chambers with air valves.

7 x VIDI Open/Close

Fitted to desludging valves across four double-cell sedimentation tanks, these sensors provide binary status updates (open or closed) without the need for hardwired connections to a control panel, instead using wireless signals that successfully penetrate the thick concrete tank walls. With over 300 desludging valves, the sensors help identify issues that could affect tank performance.

1 x VIDI Positioner

Installed on a 36" raw water valve located approximately 2.5 km from the plant, this sensor demonstrates the system's ability to transmit positional data over long distances. It continuously monitors the position of a valve, whether open, closed, or any percentage in between.

1 x VIDI Pressure

Installed on an AVK UK air valve to monitor valve operation and provide a previously unavailable pressure reading for twin 36" raw water lines (originally laid in 1939), which converge into a 1600mm connection at the Raw Water Manifold building.

1 x LoRaWAN Gateway

A communication hub transmitting data to Uisce Éireann's central systems. LoRaWAN's low-power, wide-area capabilities offer reliable connectivity even in challenging environments.

By providing real-time insights into flow, valve status, and water levels, AVK UK's Smart Water technology provides the data required to make faster, more informed decisions – whether on-site or remotely – helping to reduce downtime, optimise resource use, and improve reliability.

Steve Hurley, Smart Water Project Engineer for AVK UK, has been actively involved in the project, travelling to BME to install the Smart Water sensors and train the Uisce Éireann team on their use.

He said: "Our Smart Water solutions give utility providers the ability to gather real-time data remotely, providing a cost-effective, efficient way to monitor their network assets. Working with Uisce Éireann to install a suite of sensors across the Ballymore Eustace site, we have been able to create a data-rich picture of operations and efficiencies, which will help improve resilience across the network and guide future maintenance requirements. Free training and ongoing support was also made available to the site team – all part of the AVK UK service – to ensure they have the knowledge, confidence, and tools to get the best from the technology long after installation."

> ***"THE INTEGRATION OF SMART TECHNOLOGIES AT BALLYMORE EUSTACE WILL ENABLE US TO RESPOND FASTER, OPERATE MORE EFFICIENTLY, AND PLAN MORE EFFECTIVELY FOR THE FUTURE."***
>
> DERMOT EGAN
> Frontline Operational Technical Lead - *Uisce Éireann*

Dermot Egan, Frontline Operational Technical Lead from Uisce Éireann, said: "This pilot project represents a major step forward in how we manage and monitor our water infrastructure. One of the major benefits is that we can now access information from previously unattainable assets, such as flood protection of critical actuated valves and online raw water pressure monitoring in remote sites located up to 2km from the main plant. The integration of smart technologies at Ballymore Eustace will enable us to respond faster, operate more efficiently, and plan more effectively for the future."

Explore Smart Water Solutions with AVK UK

The project at BME demonstrates how Smart Water technologies can digitise water infrastructure to provide real-time insights, improve operational efficiency, reduce leakage/wastage, and support long-term sustainability goals.

If your organisation is exploring ways to digitise its network and assets, AVK UK's wide range of Smart Water products are the first choice of many of the UK's water and sewerage companies, contractors, and suppliers, with a comprehensive range and accompanied by extensive support services.

We offer free technical support, from specification through to servicing, and training opportunities to suit customers' preferences, including "Lunch and Learn" sessions in a classroom setting or via a webinar. Our mobile roadshow is also available to visit customers wherever they are, bringing product demonstrations and installation training to their doorsteps.

SCAN HERE

Learn more about AVK UK's Smart Water product range visit