



BEYOND
SMART

BEYOND SMART: SUSTAINABLE NEXT GENERATION WATER METERING

With Waterfall, a solution developed
by Creative EC

“Sustainable development is development that
meets the needs of the present generation without
compromising the ability of future generations to
meet their needs.”

UN World Commission on Environment and Development



The World Bank indicates that reduced freshwater availability, along with rising demand, could reduce water availability in cities by as much as two-thirds by 2050. Already, water stress is being intensified by climate change. Indeed, the Environment Agency estimates that England will need an extra 3.6 billion litres per day by 2050 to avoid shortages.

Water companies are required to set out how they intend to balance supply and demand over the next 25 years. They also have a commitment to achieve net zero by 2030, a target that will need to be built into the water resource planning process.

It's clear that sustainable solutions are desperately needed. We believe that Waterfall from Creative EC can, and will, play a vital role.

WE WASTE TOO MUCH WATER: DRASTIC ACTION IS REQUIRED

Waterfall is the next stage in the evolution of water metering. It is an IoT-connected, MID-approved smart water metering solution designed to change behaviour.

Waterfall accurately detects every water event in each property where it is installed. It records not only how much water is used, but also identifies what it was used for. To further aid user acceptance, it uses this knowledge to remotely cut off the water supply when a serious leak is detected.

Current 'smart' meters provide simple flow vs time information for billing purposes, but they don't have the capability to change human behaviour – by far the quickest and most efficient way to significantly reduce demand.

REDUCING WATER CONSUMPTION: CHANGING DEMAND IS THE KEY

Reducing the amount of water we use is key to addressing the water crisis. With the impacts of climate change combined with increased demand from rising populations using more water, water stress is ever more common and water rationing coming to major cities soon.

Water event metering will be indispensable in the drive to reduce domestic consumption, which in turn reduces the need for water extraction. Over-extraction has devastating environmental impacts – the fragile chalk stream habitats of the UK are just one example – while the alternatives are costly in terms of energy, carbon and money.

With a Waterfall solution, per capita consumption (PCC) falls by 30% or more.

- Average 15% PCC reduction with a conventional 'smart' meter.
- Further 5% average PCC reduction on installation of a Waterfall device.
- Use of the Waterfall app further reduced PCC by as much as 15% in trials.

So, how can it achieve all this?

CONSUMER EDUCATION AND BEHAVIOURAL CHANGE

Where Waterfall goes above and beyond any other metering solution currently on the market is in its capacity for customer engagement and education.

- Using near-real-time data from Waterfall, the app shares insights with the householder that reveal how much water they are using, for what, and how they could reduce their consumption.
- See and intelligently target excessive use customers. Water saving measures can be identified to suit an individual household's consumption patterns.
- The app has in-built nudge messaging capabilities. Push notifications can be adapted based on the factors that motivate the consumer, such as cost savings, environmental impact, or social comparisons.
- Opportunity to incentivise PCC reduction through water company rewards schemes.
- Children are the eco-warriors of the future; gamification within the app will lead to embedded behaviour change in future generations.

ADDRESSING LEAKAGE AND UNMETERED FLOWS

- On installation the unit senses water flows immediately, highlighting any in-home leaks such as faulty ball valves and worn-out washers, so they can be fixed in the same visit.
- The solution can shut down water flow to a property remotely if a burst pipe is detected, reducing water waste and damage from high flow leaks.
- Waterfall provides near-real-time leak detection in the network, in conjunction with third-party modelling systems. Less water is wasted as leaks are detected faster and fixed more easily.
- More accurately identify so-called non-revenue flows within the distribution network, as household consumption is accounted for to the millilitre.

“Getting ahead of the world’s water crisis will require a reduction in the amount of water humans use to operate economies and societies [...] As a global technology company Microsoft is prepared to act on both accounts, taking responsibility for our own water use and partnering on technology platforms to help others do the same.”

Brad Smith, President, Microsoft



Waterfall: more than just a smart meter.



Forward-thinking partnerships

Waterfall, by its nature, generates considerable amounts of data. Every byte of information has a carbon cost: by building the back-office datacentre within Microsoft Azure, we lower the carbon cost of the data and generate a step-change increase in insights compared to competitor solutions.

- A 2018 study found that using the Microsoft Azure cloud platform can be up to 93% more energy-efficient and up to 98% more carbon efficient than on-premise solutions.
- Azure has committed to 100% renewable energy by 2025, zero-waste certification by 2030, and net zero deforestation from new construction.
- In 2020, Microsoft announced an ambitious commitment to be water positive in their direct operations by 2030.

Sustainability by design

Waterfall is designed and manufactured in the UK, significantly reducing air miles compared to imported competitors. The consumer unit itself comes with an ultra-long-life battery and is built for a long service life.

The carbon cost of fitting is drastically reduced compared to standard, in-road water meters, which require multiple visits and significant road miles. The system is designed to allow efficient upgrades to the firmware throughout its service life and so does not require service visits.

Waterfall has an important part to play in helping water companies to meet the needs of the present without compromising the ability of future generations to meet their own needs.

Discover how Waterfall can provide smarter and more sustainable water metering with one of our free consultations or one-to-one discovery workshops.

Email us at enquiries@creative-ec.com
or call + 44 (0) 20 7682 2820

Sources

<https://blogs.microsoft.com/blog/2020/09/21/microsoft-will-replenish-more-water-than-it-consumes-by-2030/>
<https://azure.microsoft.com/en-gb/global-infrastructure/sustainability/#local-impac>