Unitywater and TaKaDu partnership conserves water, saves millions in annual costs, and delivers real value to customers

BACKGROUND

Unitywater was established in 2010, when the water operations of Moreton Bay Regional Council, Sunshine Coast Regional Council and Noosa Shire Council were amalgamated.

From the start, reducing non-revenue water (NRW) was a priority. As a first step, Unitywater created 200 district metered areas (DMAs) across the network and connected flowmeters and pressure sensors. Along with that, it sought a management solution to enable it to efficiently utilise the information provided by the sensors.

AT A GLANCE

GOALS

- Continually reduce NRW, improve network performance and customer service

SOLUTION

- TaKaDu CEM has been deployed at Unitywater since 2013

RESULTS

- Over 10,000 ML of water saved 2013-2021, saving about AUD 28 million
- 1,400 ML saved in the last year alone, saving AUD 4.2 million
- Leak repair times reduced from 11 days to 2
- Most problems are detected before customers notice them
- Unitywater can prioritise repairs, reducing need for emergency response

Unitywater www.unitywater.com Southeast Queensland, Australia

GOALS

In 2013, Unitywater began working with TaKaDu, a global leader in providing Central Event Management (CEM) solutions to water utilities. With the TaKaDu CEM solution, Unitywater aimed to reduce water loss, shorten repair cycles, improve customer service and increase operational efficiency.

Unitywater CEO George Theo noted that with 65% of Queensland drought-declared and the South East Queensland combined water grid dam levels hovering around 55%, water conservation and efficient water management are among the utility's most important undertakings.

It is continuing to advance its digital journey to further reduce non-revenue water (NRW) and costs and improve its network performance and customer service.

SOLUTION

Leveraging big data analytics, TaKaDu enables water network owners to respond to network problems in near real time and manage the full event lifecycle: from event detection, through classification, prioritisation, resource allocation, until event closure.

"TaKaDu provides the technology and some best practices, but what Unitywater does so well and has perfected over the years is the processes, and they have the people that know how to use it and to make a real difference," said Amir Peleg, TaKaDu CEO. "All the benefits of network efficiency and improved water management lead to real value, with higher uptime of the water service and reduced cost of operations."

Insights gained through TaKaDu's vast experience with utilities continually enrich the solution, bringing additional value to Unitywater (and all other TaKaDu customers). Amir added: "Reviewing performance data from utilities across the world, we have established industry benchmarks against which Unitywater can objectively evaluate its performance. It's enlightening to see how they lead in multiple areas and to work with them to prioritise areas for further improvement."

RESULTS

Combining Unitywater's network operations and processes with TaKaDu's CEM paradigm and its strong analytics technology enables an efficient process for detecting network incidents and managing their cycle until resolution. It also provides Unitywater with full visibility into its water network.

Unitywater's nine-year partnership with TaKaDu has delivered significant customer service improvements and helped save thousands of megalitres of water and millions of dollars for the utility's service region in South East Queensland.

Since 2013, TaKaDu has detected more than 10,413 ML of water leakage and unauthorised use in the Unitywater network. That's equivalent to 4,160 Olympic-sized swimming pools of water saved, had the hidden leaks or unauthorised use gone undetected for 12 months. The reduction in NRW loss equates to AUD 27.9 million of savings over the period.

In the 2020-21 financial year alone, TaKaDu helped Unitywater detect 1,400 ML of potential water loss at an annualised savings of AUD 4.2 million. That year it recorded just 3.6 water main breaks and leaks per 100 km of mains – significantly below the industry median of 25.1 water main breaks and leaks per 100 km of mains.

The partnership has led to other benefits, with Unitywater's average repair time for leaks being cut from 11 days to 2 days, more than AUD 11 million in savings from operational improvements, better pressure monitoring and reduced knowledge loss from an ageing expert workforce.

Additionally, Unitywater has been able to improve data availability by efficiently detecting and fixing meter issues, and it now typically knows about problems before customers report them. Unitywater can now intelligently prioritise events and take a planned evidence and risk-based approach to maintenance, with less need for an emergency response. All this has had flow-on benefits for improved customer service.

Unitywater's operational excellence has led to water and sewerage usage charges frozen for

seven consecutive years as part of the utility's ongoing commitment to keeping customers' bills low.

George Theo said: "We aim to continuously reduce water lost due to leaks and bursts across our extensive network wherever we can. Not only does this help us to conserve and protect this precious resource, but it also helps keep our prices as low as possible for our customers. There's no question that our nine-year TaKaDu partnership has helped us deliver on this ongoing commitment."

"Our focus is to adopt a data-driven approach to our decision making and utilise our digital assets to solve complex problems by delivering customer benefits and better environmental outcomes while continually improving our operations," he continued.

"TaKaDu has been instrumental in helping position Unitywater as an industry leader in innovation and technology, which has delivered exceptional outcomes for our environment and our customers."

THE VIEW AHEAD

As Unitywater continues its digital journey, it is investigating additional ways to work with TaKaDu to gain more visibility in its water network and beyond. It is considering adding new systems such as pressure transient sensors, acoustic loggers and advanced metering infrastructure (AMI), and integrating them into TaKaDu. It is also exploring options for using the TaKaDu system to monitor the Unitywater sewerage network.

Additionally, water scarcity and security across Queensland has motivated Unitywater to leverage its long-time experience with TaKaDu CEM to help other regional utilities in Queensland overcome challenges in starting their own digital journey.

"We take a 'we're all in this together' approach to conserving water and providing an essential service that is economically and environmentally sustainable," said George. "Unitywater is exploring opportunities with other utilities with smaller customer bases who could leverage and benefit from the expertise and investment we have made in managing network leakage and providing 24/7 network monitoring.

"It is exciting to think that we can share our knowledge and expertise with other water utilities in Queensland, so that they too can experience similar benefits that would have been otherwise out of reach."

As a first step, in 2021, Unitywater and TaKaDu created a partnership to provide network monitoring, leak detection and network prediction services to other service regions. The offer combines the TaKaDu system with the Unitywater data, its 24/7 control room and operations, and its vast expertise and knowledge. It will provide regional water utilities with a highly cost-effective and risk-free way to quickly establish a fully operational network monitoring and management system, with high potential for water and cost savings.