



water - link Eliminates Manual Meter Reading and Reduces Leakage with Hydroko's 0G Enabled Smart Meters and Valves

The Challenge

Like all water utilities water-link, which serves more than 640,000 customers in Antwerp, faces challenges to get accurate and timely data on water consumption when meters are read manually, and to detect leaks. But it has another challenge. It is required to turn off the water supply and read the meter whenever a residential customer leaves a property, then turn it on when a new occupant moves in. And Antwerp has a high residential turnover rate.

The Solution

water-link selected Belgian company Hydroko to develop smart meters and smart valves that communicate over Belgium's Sigfox-powered 0G Network operated by ENGIE M2M. This enables meters to be read every day, water to be turned on and off remotely, leaks and reverse-flow to be detected, and supply to be restricted in response to non-payment of bills or general water scarcity caused by long periods of drought.

The Results

water-link has deployed 190,000 smart meters and valves, connecting all residential households in Antwerp:

- Increased billed water usage by 2%
- Detected 4,000 leaks and 375 backflow incidents
- Reduced water consumption for 18% of customers
- Real-time online access to consumption information for all residential customers.

0G Network Operator



ENGIE M2M is the exclusive Sigfox 0G Network Operator in Belgium, and offers a wide range of IoT solutions. With coverage of 99 percent of Belgium, it is the country's first national IoT network. www.engiem2m.be

Solution Partner



Hydroko develops and manufactures innovative valves and other custom-made smart solutions for water companies. Hydroko teamed up with leading Danish smart meter manufacturer, Kamstrup. www.en.hydroko.com

Customer



water-link is a Belgian water company serving over 640,000 customers in Antwerp with a focus on customer service providing reliable water supply in the easiest way possible. www.water-link.be

water-link is a Belgian water utility supplying 640,000 residents across 190,000 households in Antwerp. Residential customers were required to read their water meters and send the reading to water-link. This meant it was getting readings only every one or two years, and with no guarantee of accuracy. water-link was also unable to detect water loss through leakage and fraud, which across water utilities globally averages 34 percent. It now receives an alert whenever there are irregular consumption patterns. Loss reduction is also important with water becoming an increasingly scarce resource. Detecting backflow, which can pollute the water supply, was also very difficult.



Digital meters ... open up lots of opportunities for water-link, which will improve our efficiency.

Franky Cosaert, CEO, water-link

water-link knew that remotely-readable smart meters and remotely-controllable smart valves could solve all these problems, but there was no commercially available technology.



Challenges to find an economically viable and operationally scalable IoT solution

Faced with the challenges of relying on residential customers to provide meter readings and with the costs of having to manually shut-off and turn on supply to residential premises for every change of occupancy, water-link calculated that, for a solution to be commercially viable, **installation would have to be possible in about 10 minutes** and the device would need to **operate without needing maintenance or battery replacement for at least 16 years**.

Hydroko identified Kamstrup's ultrasonic meter as the perfect meter to combine with its smart valve. By adding OG Network connectivity to their meter, Kamstrup was able to tick all the boxes Hydroko needed to complete their solution.

Using ultrasonic measurement technology meant that the meter was natively digital and required no analog to digital data translation. It also had no moving parts which excluded normal wear and tear associated with mechanical meters. Furthermore, issues typically encountered with pulse counting were eliminated.

In addition, it was possible to perfectly fit the combined meter and valve in the same space where previously the meter alone was installed. This decreased installation time significantly.



Now that we get easy access to consumption data, we can optimise the way we handle questions from end-users and eliminate resources for following up on missing readings.

*Annelies Gebruers,
Team leader, customer service, water-link*

Another advantage was the built-in alarms the meter featured to allow the detection of various incidents, such as leaks, bursts, tampering, backflow or freezing temperatures. **Combined with the Hydroko smart valve, the result was an innovative solution which led to the first large-scale deployment of connected water meters in Belgium.**

The ENGIE M2M Sigfox 0G Network:
Reliable connectivity over a low - cost,
low - power, long - range wireless network

The ENGIE M2M 0G Network is part of the global Sigfox 0G Network.

The 0G technology is a critical component of water-link's smart meter and valve system. Sigfox pioneered the low-power connectivity specifically for the many applications made possible when devices can operate and communicate for years without needing a replacement battery.

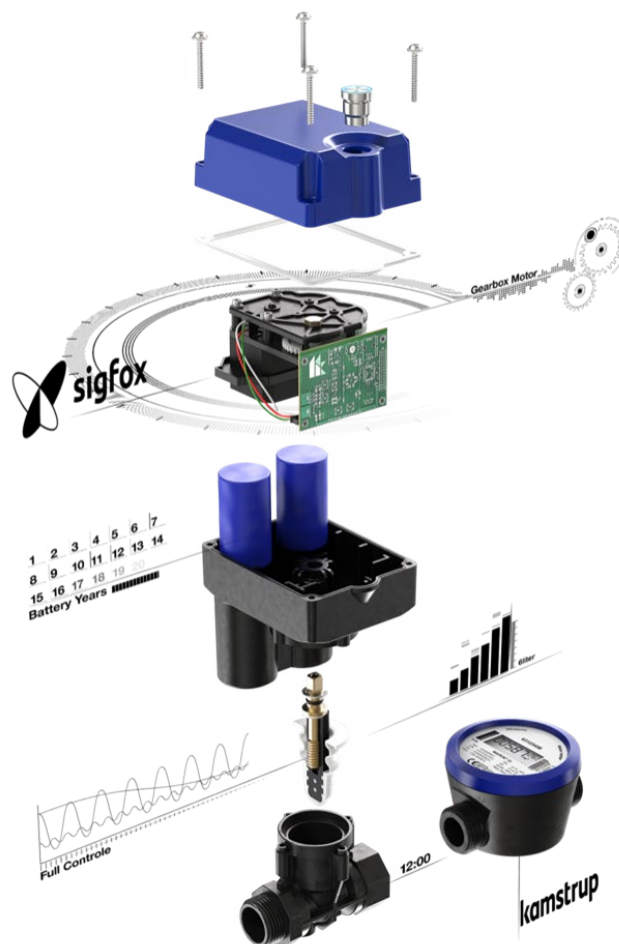
The Sigfox 0G Network harnesses ultra-narrowband technology to support connectivity solutions that improve existing business cases and enable a new range of opportunities for businesses across all industries. It delivers out-of-the box, two-way, secured communication services to unlock the true potential of the Internet of Things (IoT).

The network's ability to support two-way communication over long distances in outdoors, indoors and underground and with limited space for antennas was crucial.

The ENGIE M2M Sigfox 0G Network was key to the viability of water-link's metering project, because it was the only IoT communication technology able to:

- Operate with a fixed per-meter connectivity cost
- Guarantee fixed power consumption
- Guarantee 16 year battery life

A key to the successful development of the solution was close collaboration between all parties: water-link, Hydroko, ENGIE M2M and Kamstrup. The technology is now being deployed elsewhere in Europe by several other water utilities.



Another benefit of the meter is in the presence of a water backflow alert. This lets us quickly discover and solve pollution from consumer installations.

Franky Cosaert, CEO, water-link