



# Case study with Vitens

VITENS, THE LARGEST DRINKING WATER COMPANY IN THE NETHERLANDS WANTED TO FIND A TECHNOLOGY THAT WAS NOT ONLY TAILORED TO THE UTILITY INDUSTRY, BUT ALSO GUARANTEED RELIABLE AND SECURE METER READING

The FlexNet® pilot in Leeuwarden achieved 100% read success rates, demonstrating the benefits of using utility-grade technology



## CHALLENGE

*Keeping customers and employees safe whilst collecting accurate meter data*

## SOLUTION

*Proven technology increasing safety and operational efficiency*

## SMART RESULTS

*Project provides insight into the reliability of the network*

Vitens delivers drinking water to 5.6 million people and companies in the Netherlands. Annually they deliver 350 million m<sup>3</sup> of water through 100 water treatment plants and 49,000 km of water mains. As the biggest drinking water company in the Netherlands, Vitens understands the importance of setting and successfully meeting high standards within the industry and the region. For this reason, they undertook extensive research to find a technology solution that would not only meet the EU mandate of reducing Co2 emissions by 2020, but also guarantee the safety of their employees.

## Challenge: How to keep customers and employees safe whilst collecting accurate meter data

One of the main challenges Vitens experienced was centred around the safety of those reading the meters - either utility employees or the customer. In 20,000 locations, the meters were located in hard to reach locations which lead to the technicians either working in unsafe circumstances, or not being able to take readings at all. The level of safety when collecting data from the



## “We needed a technology solution to address the dangers our employees face when trying to manually read meters in hard-to-reach locations”

RIK THIJSSSEN *Manager, Business Development for Vitens*

meters is such an important factor for the utility, that it became a board level mandate to reduce in-work accidents to zero. Without a suitable technology that could help, Vitens often had to rely on estimated meter readings to try and ensure its employees and customer's safety.

Vitens also needed to find a technological solution that would help reduce its carbon footprint. Implementing a two-way communications network would increase operational efficiency by enabling the utility to carry out ongoing maintenance like identifying leaks and possible meter faults. Being able to pinpoint exactly where in the network the fault exists, means the utility would not only reduce the number of truck rollouts, but also the amount of water that was pumped around it. These factors are vital when trying to reduce Co2 emissions.

### **Solution: Proven technology increasing safety and operational efficiency**

Vitens decided to carry out a trial with Sensus' advanced metering infrastructure (AMI) solution to see if they could increase their employee's safety and operational efficiency. Sensus' FlexNet® utilises utilitygrade Long Range Radio technology within dedicated spectrum to ensure that meter readings can be achieved across

all types of terrain; from deep basements in urban and crowded settings to rural surroundings. This smart network ensures full duplex two-way communication tailored to the utility industry which enables utilities to prioritise traffic, like alarms notifying of leaks; broken pipes or even changes in pressure within the network. FlexNet® uses a dedicated mission critical communications network to ensure the reliable and encrypted transmission of data to Vitens' internal systems. Once the technology was installed, it was proven that FlexNet® was able to reach smart water meters placed underground and under metal covers in the city of Leeuwarden - even at a distance of 5km. The meter casing itself functions fully in under water locations, as well as in extreme temperatures. Vitens was pleased with the design of the network, which has overlapping coverage ensuring that the meters can always be heard and data is reliably and securely transmitted.

### **Smart Results**

The FlexNet® communications network trial that was carried out for Vitens highlights the benefits of deploying technology that has been specifically designed for the utility sector. The fact it operates within licensed spectrum enables reliable, near real-time data transmission, which would otherwise



“The installation of water meters and smart points was flawless. Reading the meters through the FlexNet® system worked smoothly from the first moment. All visited addresses could be connected and read out via the network, which was not possible with our previous pilot. Thanks to the headend system, the installation could be followed closely. Each newly-installed water meter automatically appeared in the portal.”

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not be guaranteed within unlicensed spectrum. In order to deliver near real time data, 24/7 to the utility, the meters were read every 15 minutes and achieved 100% read success rate. This was a taxing trial for the technology and not only did it successfully deliver the desired results, but FlexNet® also guarantees the Dutch markets requirements of 16 + years of asset life whilst maintaining those frequent data reads. A further result of the pilot project provides insight into the reliability of the network, as well as demonstrating the speed and method of installation. Sensus' FlexNet® system has proven that it can help Vitens improve its operational efficiency through actual readings, rather than relying on estimated readings, as well as providing a tangible way in which the utility can meet the EU mandate of decreasing CO2 emissions by 2020. Based on the success of the trial, Vitens is now investigating how the FlexNet® communications system will benefit the rest of Vitens' network.

#### ABOUT SENSUS

*Sensus, a Xylem brand, helps water utilities, energy providers and cities do more with their infrastructure to improve quality of life in their communities. We enable our customers to reach farther by responding to evolving business needs with innovation in communications technologies, advanced metrology, data analytics and services.*