

# ARAD Case Study

## Southern Water's AMR implementation

### At a glance:

Organisation: Southern Water,  
Worthing, West Sussex, England

- Supplies 555 million litres of drinking water to one million households every day
- 90 drinking water treatment works
- 13,600 kilometres of water mains
- 800,000 water meters planned

### Solution Spotlight

- Gladiator water meters
- Dialog 3G AMR system

### Critical Issues

- South East of England is classed as an area of serious water stress
- Growing population is increasing demand for water
- Customers' water bills are not linked to water use
- Reduce leakage levels



**Darren Bentham**

Director for Universal Metering project,  
holding the Gladiator meter.

### Introduction

As one of the largest water and wastewater companies in England, Southern Water needed to develop long-term plans to ensure it could continue to supply high quality drinking water to more than one million households in the South of England, one of the driest areas in the UK.

**“Because ARAD design and manufacture the meters themselves, they are able to be flexible to meet our specific needs”**

Darren Bentham, Director for Universal Metering project



Implementing an effective way to measure water consumption, detect leakage and encourage customer water savings is an integral part of Southern Water's strategic goals to secure cost effective water resources in the long-term.

With the implementation of Arad's Gladiator water meters, integrated with Arad's Dialog 3G system, Southern Water's customers are gaining control over their water use and their bills. The meters will allow Southern Water to remotely read the individual water

consumption and send an accurate bill to each household, according to their actual consumption.

In addition, thanks to Arad's advanced water meter features, Southern Water can improve its leakage detection, thus saving significant amounts of water and energy.

The company's operational effectiveness will be significantly improved by implementing the programme and the level of customer service, a key factor for Southern Water, will be increased.

### The challenge

The challenge is to install more than 500,000 new meters by 2015, allowing 92% of customers to pay only for the amount of water they use and take control of their bills.

Southern Water needs to ensure it continues to provide a robust and resilient water supply round the clock for future generations. These challenges need to be met within a strictly regulated environment, with the agreement of the industry's financial regulator Ofwat and environmental regulator, the Environment Agency.

## Aims

- Give people control over their bills so they are based on the water consumption
- Help detect and fix leaks on the network and customers' supply pipes
- Enable people to save water, save energy and save money
- Efficient, accurate billing

## Results

- First 650,000 meters installed
- One reader can read up to 15,000 meters per day.
- Improved leakage detection

## Results

In 2010 Southern Water started its Universal Metering Programme - a ten year project to install more than 800,000 Arad Gladiator Water meters. The Gladiators are equipped with Arad's unique integrated Dialog 3G AMR system, enabling Southern Water to remotely read the meters using 'drive-by' methodology.

The signal from the meters is transmitted constantly and picked up by Arad's receivers, which are installed in the company's cars and integrated with navigation and route optimisation software. This enables efficient coverage of large areas in the shortest time.

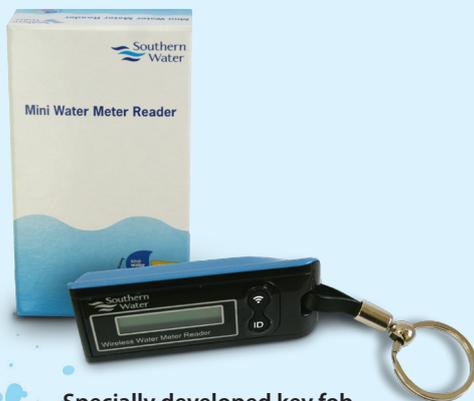
The collected reads will be transmitted to a central database, and can interface seamlessly with Southern Water's billing system. Southern Water will now be able to bill its metered customers with actual readings and put an end to estimated bills. One of the system's features is leakage alert, enabling Southern Water to quickly detect any leakage on customers' supply pipes and within their households, thus reducing water loss significantly. As the Gladiator's starting flow is only 1 L/h, it enables detection of even the smallest leaks. Southern Water predicts the leakage picked up on customers' pipes through the metering programme will save up to five million litres of water per day.

The meters transmit the reads as they are recorded at the end of each of the previous 10 months and in addition, each meter can log 4,000 reads with programmable intervals. These reads can be downloaded remotely in less than one minute, enabling Southern Water to analyze the daily, weekly, or monthly consumption.

Arad's Dialog 3G system is a two way system, enabling not only remote reading of the water meters, but also programming and controlling of the water meters remotely.

In order to enable Southern Water to give the best service to its customers, in the future data will also be able to be viewed on a secure internet portal, allowing customers better control and understanding of their water bills.

As a unique service Southern Water will provide its customers with the key fob reader. This device, especially designed and made by Arad, will enable Customers to remotely read their own meter (from about 15m) and get previous readings for Up to 10 months back.



Specially developed key fob

**“The Arad meter best fulfills our needs.... Greatly increases productivity and allows more data to be collected.”**

**“The long term data storage means we can display consumption trends and quickly identify leaks.”** Jon Croke, Installation Manager