WIRELESS
DESIGN DEVELOP DELIVER

WOOD & DOUGLAS

Case Study

Customer : Palmer Environmental
Product : Kestrel S8450 low latency radio modem
Application : Water pipe leak detection
Industry/vertical : Utility

Locating the leaks - using technology for water leak detection

Company

Palmer Environmental is part of the Halma Water Management (HWM) PLC group. This international company provides comprehensive solutions for effective water management including flow measurement, data logging, leak detection, pressure management, environmental and energy monitoring. It supplies all of the major UK water boards and management service companies including Thames Water, Wessex Water, Yorkshire Water, Veolia and United Utilities.

Issue

The UK has 330,000km of water pipe with over 24 million connections. It is a complex network that demands constant management and maintenance. Every day over 100,000 megalitres of water, equivalent to 41,000 Olympic swimming pools, is lost through leakage, causing damage and demanding immediate repair.

Utility companies have become increasingly reliant on specialist technology, as a reactive ground level tool, to identify and locate leaks, minimise damage and avoid increasing repair costs.

Although utility companies across the UK are looking for long term solutions to minimise and correct

leaking pipes, this strategy is not always possible and reactive, on the spot, detection technology is also required. Palmer Environmental's MicroCorr Touch high performance leak noise correlator is considered 'best in class', able to detect damaged pipes by communicating with underground transmitters, via highly effective sensors.

Leaking pipes will emit a different sound to fully working pipes, so by measuring different fluctuations in audio, MicroCorr Touch can pinpoint a faulty pipe to within a metre.

Solution

Palmers Environmental required a bespoke powerful compact radio modem to not only transmit the audio through several feet of concrete and mud and to process and digitise the audio characteristics captured by MicroCorr Touch but also to securely transmit this data at high speed to a base station for analysis.

Wood & Douglas' Kestrel SX450 radio modem offered a high level of flexibility to suit the company's proprietary technology, physical dimensions and budget while its low latency performance delivered data in real time. The modem's 'intelligent' Flash-based operating system makes it easy to update with future software upgrades.

The emergence of this water leak detection technology has corresponded with a fall in water waste. Since its peak in 1994-95, the amount of water lost through leakage has fallen 36%*, proving these reactive water detection technologies are having a significant impact for utilities managing a scare resource; reducing the level of ground work required, minimising road closures and pot holes while benefitting customers through less disruption and lower prices.

**Source: DEFRA 2011*

Bullets:

- Critical transmission of audio data to base station
- Kestrel S8450 low latency modem guarantees secure, reliable and high speed wireless transmission