

Technology is being deployed in the UK water sector that will transform operators' understanding of their trunk main infrastructure, says **Chris Hegley**, business development director for pipeline protection company Syrinix

# Monitoring critical water mains

**T**runk water mains, both raw and potable, form part of the critical infrastructure operated by most water companies. These pipelines are integral to the way in which companies deliver services to their customers. It is therefore vital that companies understand the condition, performance and integrity of these large pipelines so that:

- Services can be maintained and customer experience enhanced
- Risks can be assessed on an informed basis
- Early signs of deterioration can be identified and addressed ahead of catastrophic failures
- Leakage can be reduced
- Operational expenditure and capital replacement can be refined through the acquisition of real-time data which can also be applied in regulatory submissions

Small leaks on pipelines can often be the precursor to a sudden failure at some point

in the future. In the case of trunk mains these failures are often spectacular, usually very expensive and disruptive, and always result in large volumes of precious resource lost. Recent devastating events in the UK and overseas illustrate the consequences.

Based at Hethel, near Norwich, the multi-award winning team at Syrinix have developed and are now deploying highly sensitive and accurate technology that is permanently installed on some of the nation's most critical water infrastructure.

TrunkMinder is a fully automated and intelligent data acquisition service that constantly monitors and detects emergent leaks and provides immediate burst alerts to an accuracy of 1m. In addition clients also have access to real-time flow and pressure data.

TrunkMinder units, containing a fusion of sensors to measure vibro-acoustic signals, along with pressure and flow monitors, are

attached to pipelines at up to 750m spacings. Data is continually fed to the "brains" of the "Cloud" based system which includes bespoke algorithms and models which monitor the pipelines and look for small changes that indicate the presence of a leak.

Customisable alerts along with immediate burst notifications are then automatically sent to the water company through a variety of available channels to either control rooms/ SCADA systems or direct to operatives in the field.

## Proactive

Armed with this data and intelligence, water companies are now able to adopt a proactive approach to trunk main management. Trials on a major pipeline in London in 2006 confirmed the capabilities of TrunkMinder. TrunkMinder units are now being installed in numbers with one of the major UK water companies. ■■■



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