

Thames Water is using a revolutionary technology which can detect catastrophic bursts on huge trunk mains before they happen.

Syrinx's TrunkMinder is a number of sensors placed in pairs along every 750 metres of trunk main which gives round the clock internet monitoring and the early identification of leaks. The technology is now in place on London's trunk mains.

Syrinx is based at the Hethel engineering centre in Norwich and was spun out from the University of East Anglia (UEA). The company is seven years old, and early investors were Icen Seedcorn Fund, Carbon Connections, UEA and London Business

Angels which put in £575,000. More recently, the low carbon innovation fund based at UEA has contributed £65,000. "That was an investment rather than a loan," said James Dunning, Syrinx's chief executive who was brought in by shareholders last year to refinance the company and move it out of the development phase and into business sales and growth, nationally and internationally.

TrunkMinder uses a combination of sensors, permanently attached to pipelines, to provide clients with a clear picture of what is happening along the monitored pipeline. Each sensor includes a hydrophone, geophone, pressure sensor and optional flow monitor, and is physically attached to the pipe.

TrunkMinder sensor units are in contin-

about contributing their facilities and expertise to the renewable energy TIC bid. "We will be looking in particular at how knowledge transfer and technology from the automotive and aerospace sectors can drive innovation and cost reduction in offshore renewables," said Mr Reynolds.

The Technology Strategy Board has suggested that if each



Water giant aims to stop big bursts



Syrinx's staff with their award from the British Business Angels Association. Chief executive James Dunning is second from the right in the top row

uous contact via mains or broadband data links to Syrinx's servers, which analyse the data received many times a second. A computer model compares the information received with the expected data for use at that time, allowing changes in activity to be noted and monitored, and gives customers such as Thames Water a highly qualified alert with ongoing information also available on the web.

This constant monitoring with early warning allows minor leaks of less than 50 litres per hour to be detected and tracked, so that Thames Water can intervene early and prevent catastrophic failures which can shut down schools, cut off roads and block railways. In addi-

TIC builds to a turnover of between £20 and £30 million, it would be employing between 100 and 150 people, and create some new jobs. Mr Reynolds explained that some of the jobs could go to those already in the partnership with the universities who are redeployed.

The board's literature shows the TIC is likely to cover the range of technologies involved in offshore wind power development – transferring knowledge from the established offshore engineering industry into foundations, installation, connection, operations and maintenance but also into developing turbines, blades and other subsystems and components, where links with the UK's high value manufacturing technologies such as composites, direct drive and control systems may help. Mr Reynolds estimated that there were only three centres across the country which were as ready as OrbisEnergy to start a renewable energy TIC.

tion, TrunkMinder tells maintenance teams where the leak is to an accuracy of within one metre along the pipe.

Primary assembly of the TrunkMinder technology is done at Syrinx's office and the company has made a deliberate decision to have all the components manufactured in the UK and delivered by suppliers based in Wolverhampton and Spalding. "We could go abroad and save money," said Mr Dunning. "But if anything goes wrong on the first production run, we can go through everything with local suppliers. That is a 30 minute car journey rather than a 13 hours 'plane flight.'

"Before now, water companies had to wait for a burst before they knew there was a problem," said Mr Dunning. "With this technology, they can find the leaks and repair them before they cause a catastrophic failure. We are the only highly sensitive, automated 24/7 monitoring system on the market which can detect early stage leaks."

This year, TrunkMinder won the clean tech investment of the year award from the British Business Angels Association, the government backed national trade association which promotes and supports early stage industries and investment in the UK. The award recognises innovative and successful new businesses in the environmental sector.



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