

ISI – Syrinix

Syrinix Limited is a company established in 2004. Syrinix is a spin-out company from the University of East Anglia in Norwich. It is aware that the water leak detection and location facilitates the prevention of larger leaks and allows the water companies to intervene successfully to prevent the catastrophic failure of pipes and the subsequent loss of water and potential damage to surrounding infrastructure (buildings, roads, etc.). Therefore, the company Syrinix developed signal processing techniques and equipment to detect and locate very small leaks in large-trunk water mains. The detection stops bigger, more devastating leaks from springing up and helps water companies preventing massive loss of water and damages to roads and buildings surrounding the pipes. The company believes that the created algorithms are the most sophisticated and the most sensitive leak detection algorithms available. In the project, novel data acquisition tools were developed, which can capture and communicate high frequency hydraulic data from water mains. This enables optimal pump scheduling to be used in a low-risk manner leading to a reduction in energy consumption. Even small reductions in the use of water pumps represent significant carbon savings. The project provides an integrated solution which continuously monitors and analyses the dynamic hydraulic conditions in large diameter water transmission pipelines. The data will be used to classify and track the pressure changes in the pipes and produce a model for optimal pump scheduling, thus minimizing energy consumption. Using a state-of-the-art multi-sensor head attached to a tapping on the main, the developed system continuously monitors the section of pipes spanned by a pair of sensors. A stochastic modeling system spots new leaks and raises an alarm. The pipe can then be repaired before it fails catastrophically.

<http://syrinix.co.uk/>

SWOT ANALYSIS

Strengths:

- Syrinix has the most advanced technology for water leak detection;
- Syrinix idea was awarded as the best business initiative of the year 2006;
- Products are successful transformation of academic research into industrial product and methodology;
- Core expert team composed of experienced engineers;
- Project and product are developed in tide cooperation with Imperial College;
- Syrinix solutions are applicable in wide variety of water distribution systems, from small to very large systems.

Weaknesses:

- The mounting on existing pipes is relatively difficult and costly;
- The products have not reached the market in industrial versions. For these reason it is difficult to assess the real commercial value of the products, market

range and overall contribution to more reliable and cost effective functioning of water distribution system;

- Non sufficient financial and production capacity of the company;
- Only trial version of the product is available – not yet tested on the market;
- The mounting on existing pipes is relatively difficult and costly.

Opportunities:

- Syrinix technology enables very important savings of water distribution system. Up to 30% of water is nowadays lost due to water leakage;
- Diversification of Syrinix products to other liquid/gas distribution systems (e.g. sewage system, hot water distribution system, gas distribution system, etc.);
- Emerging markets of SEE Region;
- Low level of competition on markets of SEE Region.

Threats:

- Big financing resources are needed for systems realization with both products;
- Application of Syrinix system in older water distribution systems can be questionable due to the bigger construction works needed;
- Recession leading to decrease on demands in emerging markets in SEE Region.