

Industry: Water

Products Used: Modular PLCs /// Networks /// Telemetry

PLCs breathe life into river

As part of the Laganside redevelopment programme, Rietschle are using a Mitsubishi A1S PLC to control the aeration of the river Lagan.

The Laganside Corporation was established to redevelop an industrial area in central Belfast along the banks of the river Lagan. Its purpose is to regenerate this historic centre that saw the building of the Titanic, into a thriving cosmopolitan waterfront.



A major problem facing the Corporation was how to clean a river that has seen over a century of industrial activity. It must be sufficiently pollution-free for water sports and create a wildlife sanctuary environment. The oxygen deprived river bed had produced an anaerobic environment during warm weather and low water flow. This combination created emissions of Hydrogen Sulphide gas from the bed, which gave the river a smell of rotten eggs making even walking along the banks unpleasant.

After dredging the river to remove the contaminated mud and improve navigation, Laganside approached Rietschle (UK) Ltd to supply a solution to reoxygenate the river, and hence remove the industrial and organic contaminants. Rietschle designed and built a system to pump air into the river based on its DFT dry running compressors which are

controlled by a Mitsubishi A1S PLC. As the aeration needs to be operational twenty four hours a day and tides often rise and fall at three and four in the morning, the system must be unmanned. To give this remote system the A1S communicates with a control room two miles away via a modem link.

At the moment it only provides Laganside with a monitoring facility, but there are plans to expand this to true remote control. Bob Constable, Rietschle's Project Engineer, comments, "With the A1S it is very easy as it is designed for networking. We just put another A1S in the control room and we have full remote control and monitoring of all aspects of the pumping stations with little extra cost".

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Rietschle

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"Both the pumping cycle and communications control programme are very complex processes, but programming them was simplified by the Mitsubishi PLC's programming language." states Constable.

Since the aeration system began operating, water quality has significantly improved. People who live in the Laganside area have rarely seen a fish in the river before. Now the fish are coming back in growing numbers and the whole area is returning back to its former glory.

Application story first released March 1997 by Mitsubishi Electric UK