

Northern Ireland Water

Province-wide migration from analogue to digital radio

Northern Ireland Water awards EMR a €1.8 million contract to upgrade the island's largest radio-based telemetry network. The contract involves migrating 1800 sites from legacy analogue technology to a state-of-the-art digital radio network.



Introduction

Northern Ireland Water (NIW) is a government-owned water utility serving a population of 1.7 million across the province of Northern Ireland. With the second largest network of pipelines, water and wastewater treatment plants in the UK, NIW operates the largest single, radio-based telemetry network on the island of Ireland.

This network has formed a key part of NIW infrastructure for the past 10 years and provides real time monitoring of critical infrastructure. In 2011 EMR was awarded a €1.8 million contract to upgrade the network from the legacy analogue radio technology to a state-of-the-art digital radio network based on the 4RF Aprisa platform.

The Solution

The NIW telemetry network comprises over 1800 radio sites. As part of the migration to digital, EMR was charged with the task of maintaining service to all sites, the integration of the new system with the existing Serck SCADA system together with the provision of a comprehensive network management system. After a careful assessment of the project requirements EMR selected the 4RF Aprisa SR digital radio platform combined with Castle Rock's SNMPc management software suite. Aprisa SR is a family of IP radios incorporating the highest levels of security and manageability combined with an unrivalled level of reliability.

Castle Rock is the leading network management software deployed in the IT sector. The implementation of Castle Rock allowed EMR to have full visibility of the radio network during rollout, facilitating optimisation and allowing NIW gain confidence in the network from day one and provide NIW with invaluable performance monitoring into the future.



PRODUCTS:

- Aprisa SR Outstation Radio x 1875
- Aprisa SR Hot Standby Base Station
- Castle Rock SNMP Manager
- Integration with Serck SCADA

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About 4RF

4RF is a New Zealand based specialist manufacturer of high availability RF solutions for the utility and military markets with a worldwide customer base. In 2007, having established its enviable reputation based on the provision of solutions in the microwave frequency bands, 4RF turned their R&D attention to UHF radio for the developing digital radio telemetry markets. The Aprisa SR was the product of four years development effort combined with 4RF's innate knowledge of the utility.

About the Aprisa SR

The Aprisa SR is a family of fully integrated digital radios designed to meet the evolving needs of utility customers. Being fully IP enabled, the Aprisa SR slots in seamlessly with the modern distributed automation, monitoring and control systems of the water and energy utility sectors, while the inclusion of serial communications ports allows integration with older, legacy systems. Because of the nature of the networks on which it is deployed, security has been built in the form of AES256 encryption and comprehensive password protection. Where there is a requirement for redundancy the Aprisa SR is available in a fully managed hot standby configuration. The Aprisa SR is fully SNMP compliant allowing a high level of realtime monitoring and remote diagnostics, allowing control room operators verify that the radio network is operating effectively and address issues before they become critical.

About EMR

EMR Integrated Solutions is a wireless communications and SCADA system integrator with a long track record in the two-way radio, microwave, SCADA and telemetry market. With a team of 25 engineers, technicians and support personnel, EMR provides complete turn-key systems to utility, broadcast, industrial and government sectors in Ireland and abroad. EMR is fully committed to delivering the highest standards across all areas of activity and is ISO 9001, 14001 and 18001 certified.



"Prior to this tender, we had never heard of EMR. They responded out of the blue and the

solution they proposed was an unknown entity. But the quality of the radio that was offered via 4RF and the cost at that time, was so good...

As it transpires, they were a breath of fresh air. We were really pleased with the project and the great working relationship allowed us to successfully complete the replacement of just under 2,000 digital radios. If our current outstation project comes anywhere close to that, I will be very pleased indeed."

Pearse Bradley, Telemetry and SCADA Manager, Northern Ireland Water