



Ireland's Largest Water Authority Utilises ICONICS AnalytiX[®] Software

Overview

Project: County-Wide SCADA
Country or Region: Co Cork, Ireland
Industry: Water Treatment
Duration: On-going (6 months)

Customer Profile

Cork County Council treats and supplies water to approximately 40,000 non-domestic customers and 100,000 homes across the county of Cork.

Business Situation

Local Authorities in Ireland have been directed by government based on an EU directive to reduce Energy consumption by 30% by 2020. There was no one system in place which would automatically collect data from each District Meter in the county and produce usage figures.

Solution

Cully Automation Ltd provided a totally integrated Water Conservation & Energy Monitoring application from putting meters in the ground to delivering a leakage report on the County Manager's desk, provided through a single consistent interface to all of the county's assets.

Benefits

- Single operator interface
- Multiple integrated views on the data

"The fact that all of the software tools from ICONICS are available out of the box and have the same user interface has given us the ability to deploy the project in a much more efficient manner"

David Cully, Projects Manager, Cully Automation Ltd.

County Cork covers an area of 7,459 square km (2,880sq miles), which is 11% of the Irish State and makes Cork Ireland's largest county. Cork County Council treats and supplies water in compliance with the European Communities (Drinking Water) Regulations, 2000 (S.I. 439 of 2000) to approximately 40,000 non-domestic customers and 100,000 homes across the county. Due to the size of Cork County - there are four zones - one each for South, North, East and West Cork Zones.

With Local Authorities in Ireland being directed by government based on an EU directive to reduce Energy consumption by 30% by 2020, understanding the state of the network is critical. At the time the county's leakage figures were difficult to calculate and there was no one system in place which would automatically collect data from each District Meter in the county to produce usage figures. The council was using manual data entry using excel to produce leakage figures required by the Department of the Environment.



"ICONICS now have the software tools at their disposal with GENESIS64™ and AnalytiX® to deliver a complete countywide SCADA, Leakage & Energy Management solution to our customer."

Situation

The average daily volume of water produced in the North Cork Division is estimated to be 40,465 m³/day. There are a total of 67 Public Water Supply Schemes in the North Cork Division. 7 of these deliver over 2,300 m³/day, a further 12 deliver between 450 m³/day and 2,300 m³/day each and a further 48 smaller public schemes supplying under 450 m³/day each. The total length of water mains in these 67 Public Water Supply Schemes is estimated to be 1,289 Km.

In South Cork Division there are 3 Regional Water Supply Schemes and 32 smaller public schemes in Cork City Hinterland Region and the average daily volume of water produced is estimated to be 82,000 m³/day - a substantial proportion of this is supplied to Cork City. There are also 9 Town / Regional Water Supply Schemes and 39 smaller public schemes and the average daily volume of water produced in these areas is estimated to be 29,376 m³/day.

The West Cork Division average daily volume of water produced is estimated to be 16,783 m³/day. There are 5 Regional Water Supply Schemes and 30 smaller public schemes. The total length of water mains (including Group Schemes attached to the public main) is estimated to be 1,600 km.



With such a vast supply network, the Council could not meet the new EU directives on energy consumption by continuing to use the traditional methods of manual data collection from various sources in order to compile the energy usage reports.

The number of meters from which to retrieve that data continues to increase – approximately 391 District Metering Areas (DMA) with up to 3 meters per DMA.

With those regulations looming and the scale of data collection increasing, the County looked to Cully Automation Ltd, who in conjunction with ICONICS have had a working relationship with Cork County Council for the last 10 years. During that time a number of Plant SCADA systems have been installed in the county to control and monitor local stations.



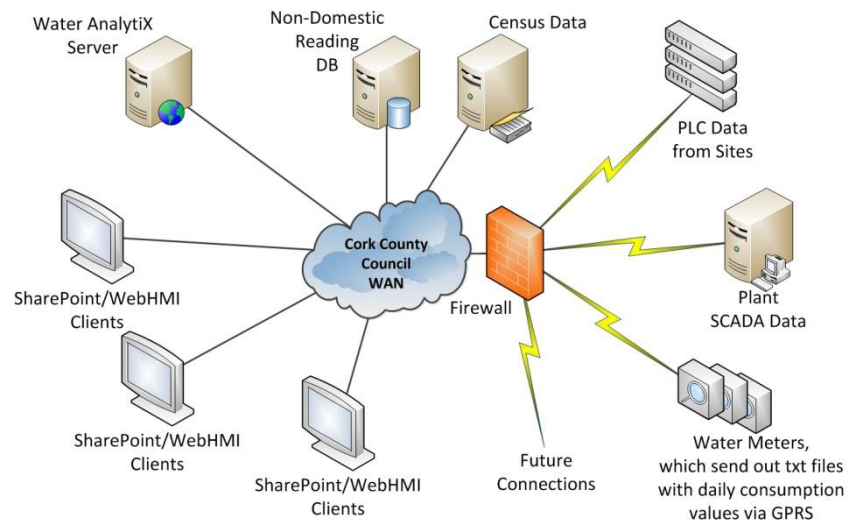
Scope of Supply

Cully Automation Ltd were able to propose an unmatched value proposition to the Council – by leveraging the existing open GENESIS32™ infrastructure using OPC technology.

David Cully, Projects Manager, said "We were the only company to be able to provide a turnkey solution from putting the meter in the ground to delivering a leakage report on the county manager's desk. This was achieved due to the fact that ICONICS' GENESIS64™ and AnalytiX® products provide a consistent user interface designed upon open industry and IT standards."

The project allowed data from each remote meter, sent via a daily GPRS message, to be read into the Historian and used for calculating the water usage for each DMA. By using a simple and intuitive point and click web interface, an asset tree of DMA's was able to be quickly created and calculations added.

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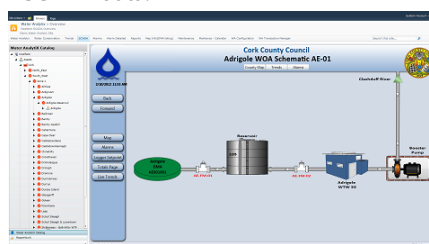


By leveraging the latest Microsoft® SQL Server® 2008 R2 technologies including StreamInsight – which allows for Complex Event Processing – the collected data was then integrated together to produce an up-to-date and accurate DMA water usage figure.

Requirements fulfilment

While the main driver for the project was to allow automatic data collection of the water and energy meter data, in order to make full use of the system, the information had to be presented in context with the state of the entire supply network and in a common easy to use interface.

This is where using ICONICS' GENESIS64™ and AnalytiX® products really come in to their own. Cully Automation Ltd were able to simply convert the existing graphics that had been deployed on earlier GENESIS32™ projects and connect directly to this SCADA data.



It was not just ICONICS' SCADA that needed integration though, with the County having a number of legacy non-ICONICS SCADA solutions still operational. By using GENESIS64™ and the OPC platform, this integration was seamless. The complete solution was then brought into the new Silverlight™ visualisation system hosted in Microsoft® SharePoint® 2010™ providing what is now a true County-wide visualisation solution leveraging Bing™ maps.

From this single SharePoint® 2010 view, the Council can access charts and reports on the status of any meter in any DMA in the county showing information such as

- Daily QMin Summary
- Daily QMax Summary
- Unaccounted For Water
- Minimum Night Flow

According to David Cully, "Cully Automation Ltd chose ICONICS' AnalytiX® solution firstly because of the working relationship and support which ICONICS has given us in the past and secondly because we think ICONICS now have the software tools at their disposal with GENESIS64™ and AnalytiX® to deliver the complete countywide SCADA, Leakage and Energy Management solution to our customer."

About ICONICS

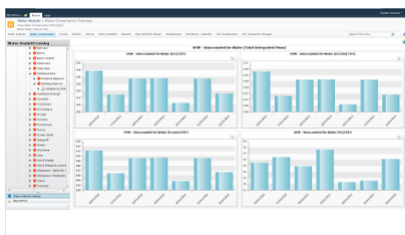
Founded in 1986, ICONICS is a 2008 Microsoft Gold Certified Partner of the Year provider of Web-enabled industrial automation and manufacturing intelligence software for Microsoft Windows® operating systems. ICONICS was one of the first companies worldwide with solutions certified for both Windows Server 2008 and Windows Vista™. Its products include HMI/SCADA, Manufacturing Intelligence/Business Visualization and OPC tool solutions that run on multiple Microsoft Windows platforms including Windows Server 2008, Windows Vista, Windows XP, Pocket PC, Embedded Windows and more. ICONICS is represented in over 60 countries, and has more than 250,000 product installations worldwide.

For More Information

For more information about ICONICS products and services, call +44 (0)1384 246700. For more information about ICONICS, visit the Web site at: www.iconics.com

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David went on to say "The fact that all of the software tools from ICONICS are available out of the box and have the same user interface has given us the ability to deploy the project in an efficient manner"



Active Development

Due to the nature of the deployment, a collaborative approach to the project was undertaken by ICONICS application support engineers and Cully Automation Ltd. This allowed Cully Automation Ltd to impart their knowledge and expertise in Water Conservation projects which in turn led to product enhancements being added to the AnalytiX® offering, strengthening the product for everyone.

This model is one that ICONICS is proud to use and enables the company to remain at the bleeding edge of industry requirements.

One final extremely important feature had to be taken into account from the first, and this was to deliver future flexibility in both technical and operational spheres. During the selection process this was one strong driver for Cork County Council and Cully Automation Ltd.'s selection of ICONICS as the core of the Water Conservation Project.

To summarise the Cork County Council Water Conservation project:

- Over 1,000 remote telemetry flow meters sending data via GPRS
- Over 1,000 data points.
- Scalable application.
- Integrated single view of County-wide SCADA, Water Conservation & Energy Management hosted in hosted in Microsoft® SharePoint® 2010™ using Bing™ maps technology
- Leverages existing OPC data sources
- Integrates to commercial meter and census data through external database connections

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Software and Services

- ICONICS GENESIS64 v10.61
 - SCADA and Historian
- ICONICS AnalytiX v10.61
 - Water Conservation Management
- ICONICS BizViz v9.22
 - Integration services
- Technologies
 - Windows Server® 2008 R2
 - Windows® XP, Vista, 7
 - SQL Server 2008R2 with StreamInsight
 - Silverlight™
 - Bing™ maps
 - IIS
 - SharePoint® 2010™

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