Developing an Integrated Business Solution
with Telemetry and GIS

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FORMAT: 6-12 page paper plus 30-minute PowerPoint presentation

KEYWORDS

Telemetry, GIS, Integration, Decision Support, Data, Analysis, Web

ABSTRACT

SCADA and telemetry allow operators to maintain systems and manage processes. Instrumentation can require significant initial investments as well as on-going costs for what typically comprises a single, departmental purpose. Operational data often become "silos" that cannot be easily accessed or reused, missing a strategic opportunity to benefit the whole organization.

Between 2008 and 2010, CDM Smith and CDM Caribbean assisted the Puerto Rico Aqueduct and Sewer Authority (PRASA) in implementing an island-wide telemetry system, consisting of over 1,500 sites and 100,000 I/O points. It was one of the largest water / wastewater telemetry system projects in the U.S. The telemetry project was part of a multi-phase technology upgrade to deliver reliable real-time monitoring and control from both a central headquarters location and control centers in each PRASA region. The objectives were to improve efficiency, reduce operating costs, and comply with regulatory requirements.

While this project ensured compliance and control, PRASA and CDM Smith recognized an immediate opportunity for extending the business benefit by leveraging the telemetry data and integrating it with its existing web-based GIS. From concept through initial design and prototyping CDM Smith coordinated with the Telemetry Team and instrumentation vendor to build a rich, easy to use visualization interface that enabled faster decision making, strategic insights and broader information distribution.

This paper explains the benefits and techniques for integrating data from disparate systems. Using PRASA as a case study, it demonstrates the enhanced business value that supports longer-term monitoring insights, managerial analysis and decision making. Likely audience members are program managers, project managers, planners and owners.

About the Authors:

Michael Waddell has led application development projects specializing in data integration to realize organization-wide benefits. He is Applications Development Practice Leader at CDM Smith and has been in the industry over 22 years.

Isabel Szendrey is the Auxiliary Director of Planning at PRASA. She is responsible for developing fully integrated solutions that support the Authority's daily operations. Ms. Szendrey has been working in the water/wastewater sector for over 10 years.