

THE TREATMENT ROOM



Water treatment specialist Judith Herschell discusses the market growth of smart data systems for water networks and advancements in the use of data.

Intelligent water management

At the recent AWWA Annual Conference and Exhibition in Dallas, the hot topic was all things data-related; most notably, the effective use of smart data systems for water networks that are becoming increasingly “intelligent”. The information network is innovative and moving swiftly in an industry that has long-standing staid business practices. This rapid growth may be attributed to key trends, market drivers and, ultimately, benefits to customers.

Benefits

Ultimately, customer benefits are the source of market drivers. Some of these benefits include supplying customers with online tools to monitor their water use, providing more accurate water rates, improving customer service and increasing the effectiveness of preventative maintenance. Smart meter networks improve the efficiency and reliability of the water network by measuring, collecting and analyzing data for a wide range of parameters.

Problems are identified earlier, faults preempted, power usage optimized, pump operation scheduled, leaks detected and so on. According to the World Bank, more than 32 billion cubic meters of treated water are lost annually through leakage from distribution networks¹. Decisive benefits come from implementing a system that can learn from past events to minimize false alarms, act on these events and expand the value of the information obtained.

Smart meters to intelligent systems

The quantum leap for data acquisition and analysis is the move from smart to intelligent networks. “Smart” is having access to necessary data. “Intelligent” use of data means that it is aggregated efficiently and ultimately used to benefit stakeholders. Implementing and optimizing intelligent systems yields a common platform to link various business areas, simplify reporting and provide total informational awareness. There is a clear need to move from the old way of doing things

to a new approach, using the data gathered to manage infrastructure intelligently.

According to a survey conducted by Smart Water Networks Forum (SWAN), a worldwide industry alliance, water utilities personnel believe that the implementation of real-time online monitoring systems will become more common in the next 2-5 years and in the long term will be an integral element of water networks. Smart meter networks are leveraging data and information technology for an improved, streamlined and more efficient operation. There is a constant effort to improve systems to gather data, analyze it and provide accurate and efficient information.

Past projections have shown strong growth for smart water meters. In 2010, Pike Research estimated that when comparing smart and traditional meter sales/shipments beginning in 2009 and forward, the percentage of smart meters supplied in North America was approximately 19 percent². It was estimated that smart meters would capture in excess of 33 percent of the market by 2016.

Summary

Research and development efforts continue the rapid advance of this vibrant and evolving market. With the increased instrumentation and telemetry of smart meter networks, a new layer of smart data applications has become possible. The number and scope of solution providers is expanding and changes are on the horizon. Moving into the future, this is undoubtedly an industry to watch.

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1) *The Manager’s Non-Revenue Water Handbook, Ranhill Utilities Berhad and the United States Agency for International Development (USAID), July 2008*

2) *Pike Research, Cleantech Market Intelligence, “Smart Water Meters” (3Q 2010): 1*

KEY TRENDS AND MARKET DRIVERS IN INTELLIGENT WATER MANAGEMENT

Key trends	Market drivers
Conservation and sustainability, steering us to more efficient use of water	Water demand management improvements facilitate conservation and sustainability initiatives
Improved monitoring and metering technologies, yielding more effective management of systems	More effective system management provides improved productivity, fewer customer service issues and the recovery of non-revenue water
Regulation and government oversight of water issues, increasing the impetus for change	Increased meter accuracy allows more accurate reporting to regulatory agencies
Interdependence of energy and water; facilitating innovation	A reduction of operating costs results from better monitoring, lower water losses and overall improved system management