Smart Water Report

EXCLUSIVE INSIGHTS

Condition Assessment

Smart Water Strategy

Workforce Management

Customer Engagement

Resiliency

Water Quality Monitoring

Workforce Management

Collaborative Innovation

Stormwater

Digital Twin

Asset Management

IT/OT

Data Science

Digital Water

NAVIGATING THE SMART WATER JOURNEY: From Leadership To Results

This e-book was inspired by SWAN's 9th Annual Conference, featuring more than 80 speakers covering the latest applications of digital solutions for water and wastewater systems. We're excited to expand on many of the top insights shared at the conference to help demonstrate the benefits of digitalization, as well as the pitfalls to watch out for, as you progress along your own smart water journey.

A Joint Publication

WATER ONLINE

SWAN
THE SMART WATER NETWORKS FORUM

JOIN US ON THE MARCH TO A
SMARTER UTILITY

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Welcome to the inaugural Smart Water Report, a joint publication of the Smart Water Networks Forum (SWAN) and Water Online. This e-book was inspired by SWAN's 9th Annual Conference, which took place in Miami in May 2019, featuring more than 80 leading global speakers covering the latest applications of digital solutions and communication systems within water and wastewater systems. We're excited to expand on many of the top insights shared at the conference to help demonstrate the benefits of digitalization, as well as the pitfalls to watch out for, as you progress on your own smart water journey.

Many of the insights shared here showcase how the world of water is becoming smarter by the hour, as a variety of converging trends such as artificial intelligence (AI), machine learning, and digital twins are impacting our industry. AI and machine learning offer utilities new ways to find patterns and hidden insights to make informed, proactive decisions. A digital twin is a virtual or digital representation of the elements and dynamics of a plant or system, which, if applied properly, can influence the design, build, and operation of the system throughout its life cycle and help optimize operations through informed insights. Another opportunity is the convergence of information technology (IT) and operational technology (OT), explained by leading U.S. water utility CIOs at the annual event.

A recurring trend was the need to run operations with fewer resources. Utilities now face an aging workforce with mass retirement of experienced operators soon expected. At this year's conference, it was announced that 55,000 operators will retire over the next 10 years in the state of Texas alone. To ensure success, visionary leaders are needed, as well as a dedication to innovation and willingness to adopt data-driven solutions.

To assist utilities, software providers are emerging left, right, and center to help operators better diagnose, predict, and respond to changes in day-to-day flows and water quality. Built to present the voluminous amount of data that utilities have always been regulated to collect, these solutions analyze the data to better inform their users on how to run their plants and distribution systems.

It's a challenging time, and yet the insights included here offer real-world case studies and approaches to achieve tangible results to looming water challenges. For example, DC Water details how digitalization enables "intelligent" pipeline rehabilitation, the Miami-Dade Water and Sewer Department reveals the role of data in building resiliency, the University of Michigan explains how algorithms can unearth lead-leaching pipe, and Oregon's Clean Water Services showcases holistic watershed management through digital solutions. And that's just the beginning of what you'll learn.

The path towards a smarter utility will only gather speed in the years (and pages) ahead. We hope you will join us on this journey to proactively influence the future of the water sector.

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