

# world water

Volume 41 / Issue 1  
January / February 2018

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## Strategic Directions Report: Achieving sustainable water systems

# Bentley YII 2017 honors winners of *Be Inspired* Awards

Bentley Systems' Year in Infrastructure 2017 Conference, held for the first time in Singapore, highlighted extraordinary advancements achieved by Bentley's building information modeling (BIM) software users around the world. The annual awards program was held on October 10-12 at the Marina Bay Sands Convention & Exhibition Center.

This year, 10 independent panels of jurors, comprising distinguished industry experts, selected the *Be Inspired* Awards winners from 51 project finalists. These finalists were chosen from more than 400 submissions by organizations in more than 50 countries. These projects were also reviewed by a panel of Bentley executives, who evaluated them based on the criteria established for each award.

Award categories included water

and wastewater treatment plants, water networks, asset performance, reality modeling, utilities and communications, project delivery, and many others.

In the BIM Advancements in Water and Wastewater Plants category, the Tongzhou Water Works of Beijing South-to-North Water Diversion Project won the award. A multi-discipline design engineering team from the Beijing Institute of Water deployed a BIM platform of 14 Bentley products to secure a safe water supply to support the relocation of an entire city for future urban development. The team achieved a 50 percent increase in design work efficiency, while their 3-D model collision checking reduced audit drawing work by 40 percent.

The award winner in the BIM Advancements in Water Networks

category is the AEGEA Prologos Sewerage Master Plan 2041 for the Região dos Lagos, Rio de Janeiro, Brazil, carried out by Prologos S.A. and AEGEA Saneamento e Participações S.A. Deploying Bentley's SewerGEMS helped the company to develop a robust master plan for sewerage and drainage that will ultimately lead to the restoration of the polluted and hypersaline Araruama Lagoon, a tourism hub attracting more than 2 million visitors during high season. Resulting design changes reduced capital investment by 60 percent to achieve 90 percent sewerage coverage. In addition, energy costs decreased more than 25 percent.

The 2018 Year in Infrastructure will be held in London, England, United Kingdom on October 16-19. Visit [www.bentley.com](http://www.bentley.com) for more information.

## World's largest industrial facility using MBR and EDR

On January 24, 2018, Bashneft-Ufaneftekhim refinery, a Rosneft-affiliated company, inaugurated its biological treatment plant, Bashneft key nature protection facility, which secured its spot as the world's largest industrial facility using membrane bioreactor (MBR) and electro dialysis reversal (EDR) technologies. The facilities, located in the Russian city of Ufa, will treat up to 84 million liters of wastewater per day, which makes them unprecedented for industrial wastewater treatment, employing the most advanced technologies and enabling water reuse.

SUEZ supplied its ZeeWeed\* MBR membranes, EDR, and reverse osmosis (RO) equipment to the Bashneft-Ufaneftekhim biological treatment plant and will provide services as part of a 15-year long-term service contract.

The SUEZ MBR technology significantly improves treatment efficiency by passing water through microscopic pores of

membranes, removing impurities and micro-organisms. Further treatment is performed with SUEZ EDR, RO, and ion exchange technologies to ensure treated wastewater compliance with the toughest discharge and reuse regulations and to minimize the waste streams disposal.

As part of the long-term service contract for the wastewater treatment plant, SUEZ is providing advanced asset performance management with its InSight\* platform. InSight combines data and analytics to maximize performance, minimize unplanned downtime, lower operating costs, and deliver better business outcomes.

## Xylem opens pump rental business in Philippines

In January 2018, the global water technology company Xylem opened a pump rental and service business in Calamba in Laguna to meet the growing demand from the municipal and industrial sectors across the Philippines and Southeast Asia, particularly in flood control, mining, and power supply operations. It

will also further expand Xylem's footprint in the region and build on its current manufacturing and sales operations in Calamba.

## The Philippines are the second largest mining market in Southeast Asia

Xylem's Godwin and Flygt brands play a key role in dewatering and liquids transfer in municipal and industrial projects, including mining. As the second largest mining market in Southeast Asia, the Philippines has mineral resources estimated at approximately US\$1 trillion. Furthermore, by 2030, \$25 billion will be invested in expanding power generation infrastructure across the Philippines. Finally, as the heavily storm-exposed Philippines faces a growing threat from tropical cyclones, Xylem's Calamba business will offer immediate access to flood control equipment to protect communities, infrastructure, and industries.

## ABB and TaKaDu help restore Ho Chi Minh City water network

Saigon Water Supply Corporation (SAWACO) is deploying ABB's digital control and monitoring technologies together with TaKaDu's Integrated Event Management Solution as part of its restoration of Ho Chi Minh City's water distribution network.

The ABB Ability™ Symphony® Plus SCADA solution will monitor and control the entire water distribution system and integrate TaKaDu's Event Management Solution, which detects, analyzes, and manages network events and incidents such as leaks, bursts, faulty assets, telemetry and data issues, and operational failures.

The urban project aims to increase efficiency, reduce water leakage, prevent disruptions, and ensure that everyone has access to clean water in Ho Chi Minh City – Vietnam's economic powerhouse. Last year, Ho Chi Minh City lost nearly 30 percent of its potable water to leaking and damaged pipes.

ABB's and TaKaDu's complementary solutions will enable SAWACO to monitor the network conditions digitally through multiple data collection points, such as sensors and meters, and offer actionable insights to reduce non-revenue water. SAWACO will then be able to increase the amount of water delivered to the city's industries and eight million residents. At a first estimate, SAWACO will hit 50 million m<sup>3</sup>/year of water savings, equivalent to 20,000 Olympic-size swimming pools, while production cost savings could be higher than US\$10 million a year.

"Water projects like Ho Chi Minh City's show the full potential of advanced automation for all municipalities dealing with rapid expansion or aging infrastructure," says Kevin Kosisko, managing director of ABB's Power Generation & Water business. "Aggregating and analyzing data from the field will offer real-time insights into network status and will increase revenues."