CUSTOMER CASE STUDY

Parting the waters: Evides uses data to improve situational awareness

Evides Waterbedrijf - www.evides.nl
Industry - Water and Wastewater

Goals

- Improve situational awareness
- Increase customer satisfaction and reliability

Challenges

- Large databases impede quick issue resolution
- Underused data troves and orphan datasets

Results

- Fifty functionalities developed in twelve months
- Greatly improved situational awareness

Solution

- AVEVA™ PI System™
- AVEVA™ PI Server
- AVEVA™ PI DataLink™
- AVEVA™ PI Vision™

The Dutch water company Evides Waterbedrijf (Evides) services a large territory where streams, canals, and dykes crosshatch densely populated cityscapes. Evides is responsible for managing a highly complex network of resources spread across a large geographic area that is absolutely critical for the daily lives of the people and cities within its service territory. The company serves an estimated 2.5 million consumers in the Netherlands and industrial customers in the Netherlands, Belgium, and Germany. It is the second-largest water company in the country and the largest one for industrial water: Evides delivers 160 million cubic meters of water to consumers and 144 million cubic meters of process water to industrial users every year through a far-ranging infrastructure that includes 14,000 kilometers of water mains and 7,000 kilometers of connections. Evides also processes 100 million cubic meters of wastewater.

As with any utility company, Evides faces many challenges in its quest to bring high-quality, clean water to the Dutch people – aging infrastructure, flooding, and a large geographical territory, among others.

The first trickle of data: Seeing is believing

Evides built a large integrated system called the Geographic Assets Management at Evides (GAMEs) that combines operational and equipment data from AVEVA PI System with pertinent information, such as geography.

Evides launched a pilot program called GAMEs to create four functionalities for combining AVEVA PI System data with ESRI ArcGIS in the first twelve months. Instead, it created 50 functionalities in GAMEs Playground, including functionalities for "seeing":

- Data on the current state of the soil across the service area
- The current status of production plants
- The location of potentially vulnerable customers
- Flooding depths
- Charts detailing the status of existing risks

A flood of data

Every ten seconds, Evides collects data on water pressures and flows from the sensors on its water mains, and every thirty seconds, the data on GAMEs refreshes. On a single screen, employees can view multiple functionalities – current pressures, the relationship of municipal boundaries with Evides's assets, the location of water meters – at the same time. Users can also examine a wide geographic area or zoom down to individual households

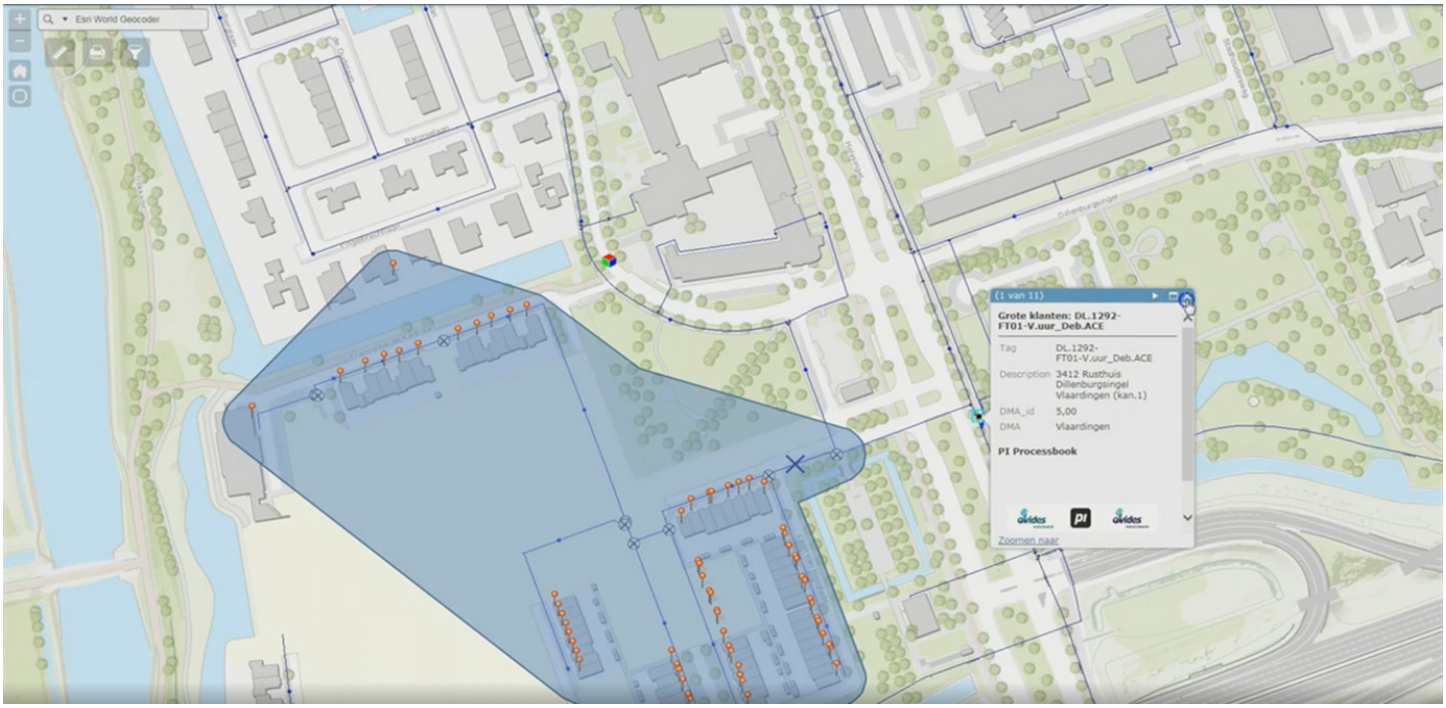
"There is useful information hidden in the data," said Jan Urbanus, Manager of Unit Project Management at Evides. "A picture is worth 1,000 words, or in this case, 1,000 figures."

Patching leaks: Improving process and collaboration

In 2016, a large (630mm-diameter) pipe burst in Vlaardingen. Pressure dropped from 30 meters to 6 meters while flow increased from 700 cubic meters per hour to approximately 4,300 cubic meters per hour. Urbanus showed how GAMEs pinpointed the individual pipe that burst and delivered information on which valves needed to be closed to isolate flooding. With this information, Evides restored normal operations in around two hours. GAMEs also allowed Evides to send messages to customers in the affected area to warn them of the problem.

Evides uses analytics in GAMEs in conjunction with TaKaDu, an event management solution developed for the water industry that uses smart analytics. AVEVA PI System sends five-minute snapshots of raw data every hour to TaKaDu. TaKaDu then analyzes the data, detects anomalies, and enables Evides to manage events such as leaks, pressure issues, data and sensors problems, and more.

GAMEs is also helping Evides detect poor quality data and "orphaned" data by visualizing data that would otherwise not have been reviewed or combined with similar sets of data in different silos.



Using PI Vision, Evides can quickly map which customers will lose service in the event of a leak

"We expect our control system will be able to act faster and be more effective and be more efficient because of this too. And as a result, we expect a decrease in customer minutes lost."

Jan Urbanus

Manager unit project management, Evides

Improving customer service

Evides is now developing a production version of GAMEs Playground called Serious GAMEs which can be integrated into Evides's day-to-day operations. Serious GAMEs will initially include twenty of the most robust functionalities from GAMEs Playground. "We expect our control system will be able to act faster and be more effective and be more efficient because of this too," Urbanus said. "And as a result, we expect a decrease in customer minutes lost."

For more information about Evides Waterbedrijf and AVEVA PI System, watch the full presentation here.