

Tarragona Water Consortium Implementation of an advanced data management solution

The Tarragona Water Consortium (Consorci d'Aigües de Tarragona - CAT) was established in 1985. It provides drinking water to 69 municipalities, for 1.5 million inhabitants and 26 industries on the Costa Dorada in Catalonia (Spain). CAT has always been committed to technological development.

The challenge

The Catalonian coast has traditionally suffered from water scarcity. The recent increase in demand, as a result of more tourism, population growth and industrial activity, has posed additional challenges. In this context, where resources are being used to their maximum capacity and aquifers have been salinized, digital transformation is key.

CAT has always been a leading utility in water technology, but its operations were run using multiple non-interconnected platforms and databases. Data silos and the use of local applications and computers made knowledge transfer and greater efficiency difficult.

The aim of the utility was to implement a single platform capable of storing all types of data and formats to be used transversally by operators.

The consortium was also looking to improve data visualization and, therefore, decision-making, and to increase the consortium's water and energy use efficiency.

The solution

CAT implemented the <u>Xylem Vue</u> platform and its Smart Water Engine to solve this problem and boost water and energy efficiency. The Unified Network Management application was implemented to provide a single control center for CAT's drinking water treatment assets, regardless of their geographical location.

The project included the setup of an agnostic data ingestion system, information storage in the new data lake, and the unification and standardization of information in the Domain Master Data (DMD). All data from sensors were centralized in the platform, and a single, holistic dashboard was developed.



Program highlights:

- Integrated business decisionsupport system
- Management of updated and reliable information from different areas
- Easy access and exchange of information between stakeholders
- Enhanced control of water quality issues
- Greater adaptability to water demand at all times
- Cost reduction and time saving



Turbidity prediction in the catchment and collected flows in the Ebro river.

xylem & vue

The Xylem Vue platform uses artificial intelligence to predict the quality of the water collected and factors in data from weather forecasts, the real-time status of water in rivers and treatment processes in the drinking water treatment plant to optimize processes and reduce costs. The platform also enables data scientists to develop their own machine-learning algorithms based on the data collected.

The results

The project has helped CAT to enhance the service it provides to its clients via the implementation of a holistic visualization and reporting system that displays global management indicators. These include information related to energy costs and consumption, finance, billing, budgets, drought monitoring, asset management, and operations and maintenance.

The new business decision-support system, built out of the integration of different systems, has provided many benefits, such as greater water security and the early detection of water quality issues.

The project includes specific training for operators in the use of the Xylem Vue platform.



Dashboard of the drinking water treatment plant.

"Our first thought was to set up a digital twin and AI tools. However, we realized that first we had to improve our data integration, as the information came from different sources which were not always reliable or accurate.

This was the first step we needed to take before we were able to move forward in our digital transformation process. The implementation of the Xylem Vue platform has made this possible".



Andreu Fargas, Innovation, Technology and Energy Manager at CAT





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