

ApaVital S.A.

Reduction of daily water losses by over 800 m³

ApaVital S.A. is the largest regional utility in northeastern Romania and one of the largest in the country. It was founded in 1992 and now manages a drinking water network of over 4,900 km as well as a 2,000 km sewage network. It serves more than half a million inhabitants in over 90 locations, and manages 12 treatment stations, approximately 200 pumping stations, 226 storage tanks, and 550 DMAs.

Challenge

ApaVital’s objective was to reduce non-revenue water (NRW) to comply with leakage thresholds mandated by the revised European Drinking Water Directive (DWD). Thus, the Romanian utility needed to optimize its network and to detect and prevent leaks. The implementation of an advanced water loss management system was essential to automate operational processes and workflows, and to facilitate decision-making while enabling efficient information processing.

Solution

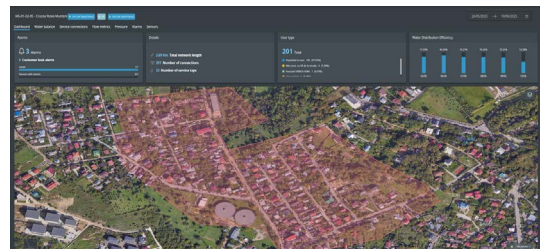
The implementation of the **Xylem Vue** platform and several of its applications helped ApaVital to tackle the problem of water loss and to improve operational efficiency by detecting leaks, fraud and theft in real time. This required analyzing Minimum Night Flow (MNF), as well as continuously monitoring multiple parameters, including the total volume of water supplied, metered consumption, average daily flow, pressure deviations, and remote meter readings. The Xylem Vue platform processes these data points by leveraging artificial intelligence to identify abnormal patterns that may indicate leaks or unauthorized consumption. Thus, it enables proactive detection and more efficient water loss management across the network.

In addition, Xylem Vue’s Asset Management application was deployed to enhance infrastructure planning. The solution simulates pipe replacement plans based on available budgets, tracks critical KPIs, and provides information on project timelines. Moreover, the Unified Network Management application has enabled the utility to digitize and monitor different assets, such as treatment plants, pumping stations, and reservoirs, via custom dashboards, synoptic views, and 3D-guided tours of the facility.



Program highlights

- Daily water losses reduced through multiple parameter monitoring.
- Water injection volume reduced by 44%.
- Asset and operational data centralized in a single platform.
- Infrastructure planning enhanced.



Real-time leak alerts and KPIs to monitor and optimize water network performance

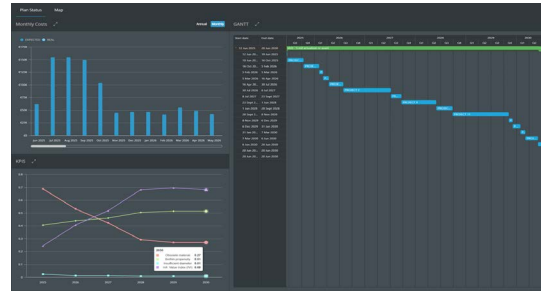
Results

This project, framed within a larger initiative funded by the European Bank for Reconstruction and Development (EBRD) has delivered measurable improvements. In one district (DMA), the MNF fell from 36 to 16 cubic meters per hour within just four months. In another DMA, this figure dropped from 45 to 16 cubic meters per hour in a six-month period. These reductions resulted in daily water savings of approximately 800 cubic meters. Overall, the volume of water injected into the network has decreased by 44% (from 1,611 to 900 cubic meters per day), significantly lowering operational costs and improving network performance.

Xylem Vue helped ApaVital assess the condition of its linear infrastructure across the Iași network. The platform generated detailed replacement plans, Gantt charts, and cost estimates, while dashboards provided insights into network length, leak density (currently at 4.13 breaks/km), criticality of failure, likelihood of failure and break distribution by material and age.

The platform has also centralized operational data from assets in a single view, from water balance and customer consumption to hydraulic efficiency, thus replacing the need for multiple platforms and paperwork. The intuitive user interface simplifies new user onboarding, and the dedicated support page ensures that any issues can be solved quickly to keep everything running smoothly.

In short, the implementation of the Xylem Vue platform has helped ApaVital to streamline its workflows and processes, thus providing a more sustainable water supply.



Follow-up on renewal plan progress using KPIs and maps

“This is exactly what we needed for our department to manage all the assets and monitor the network.”

Ing. Cristian Chirica,
Head of Asset Management Department

“ApaVital has set high standards for service quality and resilience. We have an integrated vision of what we need to do as a company and where we need to go in the coming years. We have built an organization where skills and technological innovation intertwine to bring progress.”

Dr. Ing. Mihail Doruș
General Director