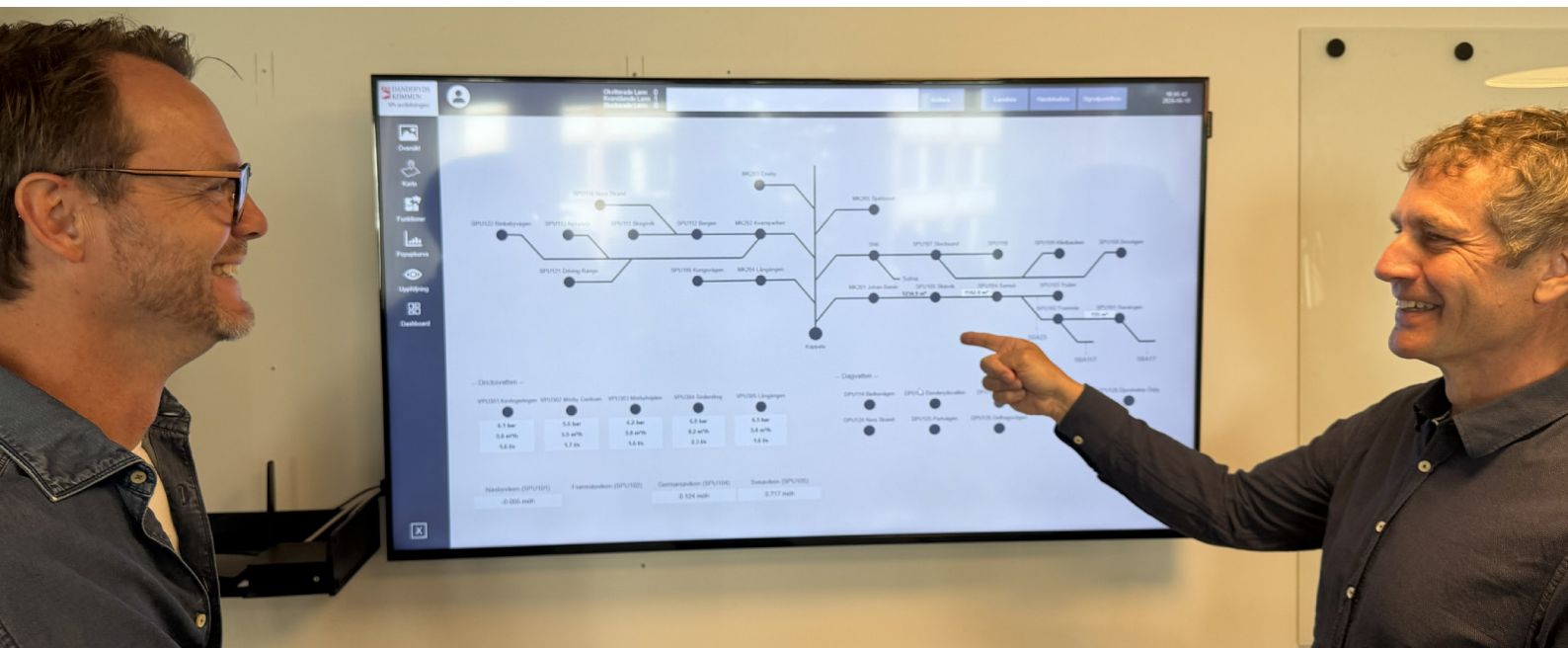


Verified data and open architecture with zenon

Danderyd modernizes water management to improve control

Reliable monitoring is essential for managing water and wastewater systems where conditions can change rapidly due to rainfall, inflow, and seasonal variations. Without accurate data, it becomes difficult to assess events, respond effectively, and ensure stable operations. To address these challenges, Danderyd Municipality in Sweden modernized its SCADA environment using the zenon software platform from COPA-DATA.

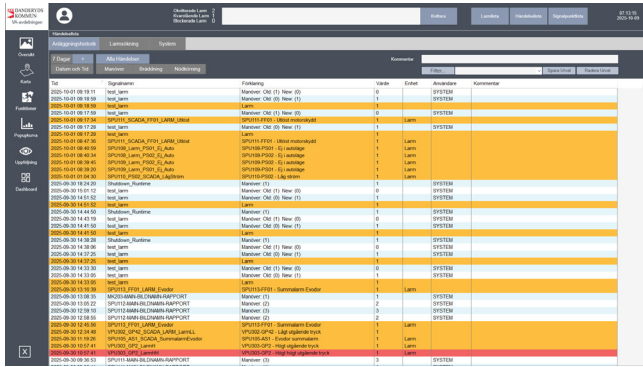


Danderyd Municipality, located in the Stockholm region of Sweden, provides essential public services to approximately 33,000 residents. Its water and wastewater operations manage critical infrastructure such as pumping stations and distribution networks. To ensure reliability and efficiency, the municipality continuously invests in modernizing its automation and monitoring systems. To support this development, Danderyd Municipality partnered with VA-it, a Swedish system integrator specializing in automation and digital solutions for the water and wastewater sector. VA-it supports municipalities and infrastructure operators throughout the full project lifecycle, from system design and engineering to implementation and operational support.

LIMITED VISIBILITY AND UNRELIABLE DATA

Before the implementation, the municipality faced several operational challenges. The existing system provided limited visibility into actual operating conditions, and measurement data and alarms could not always be trusted. This made it difficult to assess events such as rainfall, inflow, and system behavior over time.

“The biggest challenge was that we didn’t know what was actually happening. We couldn’t measure volumes or rainfall properly,” explains Peter Wahl, Wastewater engineer and Projectleader at Danderyd Municipality.



Event list with alarms

As a result, operations were often reactive. Without reliable historical data, it was difficult to validate incidents or make informed decisions.

"We had no way of knowing if it had rained 100 millimeters or 10," he adds.

UNIFIED SCADA PLATFORM WITH ZENON

To address these challenges, VA-it implemented zenon as a centralized SCADA platform across the municipality's facilities. Several alternatives were considered, but zenon stood out due to its licensing model, flexibility, and long-term cost efficiency. Another decisive factor was that the municipality would own the complete solution and avoid dependence on a closed system structure.

The new architecture connects zenon with multiple control systems across facilities and communicates directly with PLCs and field equipment. Communication is secured through encrypted VPN connections, ensuring reliable and protected data exchange.

The solution includes a zenon Supervisor with approximately 8,000 tags as well as Smart Server functionality for web-based visualization, providing a clear and accessible overview of operations.

A key part of the project was the systematic verification of all incoming signals. VA-it reviewed each installation to ensure that values, signal mappings, and alarm settings accurately reflect real-world conditions. This created a reliable foundation for monitoring, analysis, and decision-making.

"Now we have control over everything. We can go back and check what actually happened," says Peter Wahl.



Overview of a pumpstation

The platform leverages zenon’s extensive protocol library to integrate seamlessly with existing PLCs and field devices across the municipality’s heterogeneous infrastructure. This enables standardized communication without requiring major hardware changes.

In addition, the architecture is designed with a distributed approach. Local components can continue to handle alarm management and operations independently if central systems are unavailable. This increases system resilience and ensures continuity of operations.

FROM REACTIVE TO PROACTIVE OPERATIONS

With improved data quality and system configuration, daily operations have become more efficient and proactive. False alarms have been significantly reduced, leading to fewer unnecessary callouts, particularly during nights. At the same time, improved measurement accuracy has reduced the need for manual intervention.

Operators can now anticipate and manage situations such as heavy rainfall, snowmelt, or seasonal variations based on reliable system data.

"We can see what's happening and act before it becomes a problem," explains Wahl.

The system has also become an integral part of everyday operations. It is used for monitoring, coordination, and decision-making across the organization, improving both responsiveness and collaboration.

“ Now we have control over everything.
We can go back and check what actually happened. ”

PETER WAHL, DANDERYD MUNICIPALITY

LEXIBLE SYSTEM FOR FUTURE DEVELOPMENT

The flexibility of the platform allows users to work with both real-time and historical data while adapting the system to different operational needs.

“You can get almost everything out of the system. It can be adapted to what you need,” says Robert Berginc, Senior Automation Engineer with VA-it.

This flexibility enables continuous improvement and ensures that the system can evolve alongside the municipality’s requirements.

Today, Danderyd Municipality operates a more stable and transparent SCADA environment with verified process data and improved alarm handling. The new solution provides a scalable and future-ready foundation for ongoing development.

HIGHLIGHTS:

- ▶ Reduced false alarms and fewer callouts
- ▶ Verified and reliable process data
- ▶ Improved operational visibility across facilities
- ▶ Direct communication with PLCs and field devices
- ▶ Secure data exchange via encrypted VPN connections
- ▶ Approximately 8,000 tags in zenon Supervisor
- ▶ Web-based visualization with Smart Server
- ▶ Distributed architecture for increased resilience
- ▶ Reduced manual work and improved efficiency
- ▶ Scalable and future-proof system architecture