



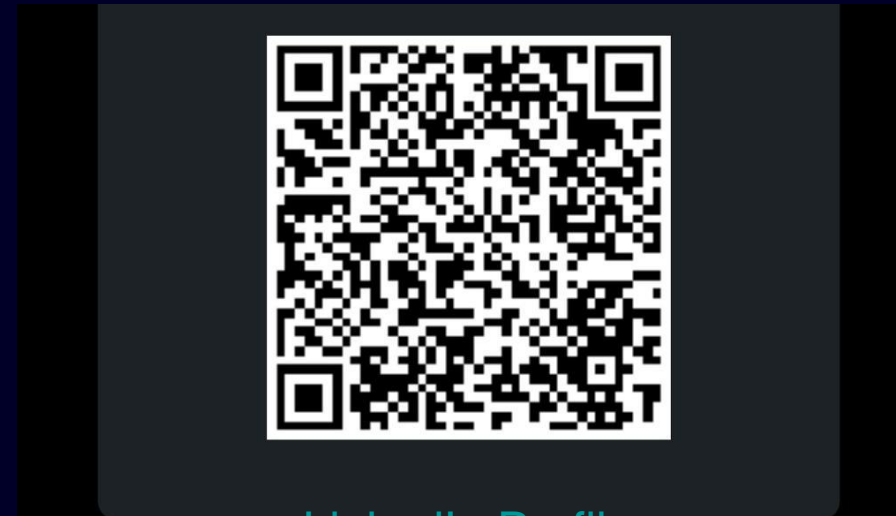
Digital Transformation on water networks

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Agenda

- Introduction
- SIWA- Siemens Water Applications Suite
- SIWA Network Optimizer
- Case Study, Deyal -Greece

6 CLEAN WATER AND SANITATION

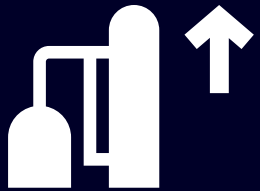


Ensure availability and sustainable management of water and sanitation for all

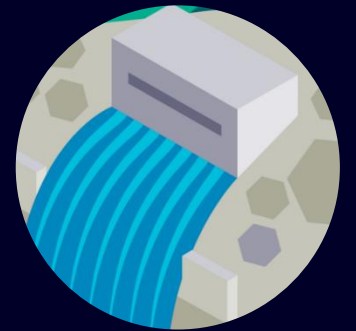
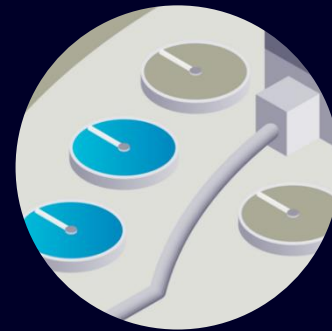


Access to water is the **most basic human need** and a declared **human right!**

But ...

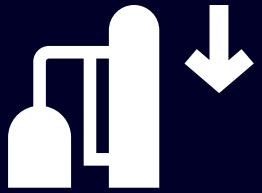


... siloed knowledge ...





Achieving sustainable, resilient and equitable
access to water requires a shift



... to integrated water management based on digital technologies.





Our comprehensive SIWA suite helps water utilities to become more efficient, resilient and sustainable by utilizing real-time optimization software

SIWA Leak Finder

Leverage real time monitoring to detect leaks and other anomalies (e.g., failure of assets) in the water network

SIWA Quality Inspector

Proactively manage your network water quality to provide customer satisfaction

SIWA Network Optimizer

Achieve the optimal interaction of all assets for energy-efficient and reliable water supply

SIWA Pump Monitor

Real-time pump station monitoring, allowing predictive maintenance

SIWA Meter Data Management

Utilize meter data to optimize operation issues (e.g., anomalies) and commercial losses reduction

SIWA Usage Viewer

Analyze the end uses of distributed water based on consumption (e.g., washing machine)

SIWA User Connector

Enable consumers to see their consumption and compare it with similar consumers and to create consumption alerts

SIWA Blockage Predictor

Evaluates combined sewer overflow behavior to identify sewer blockages

SIWA Pump Optimizer

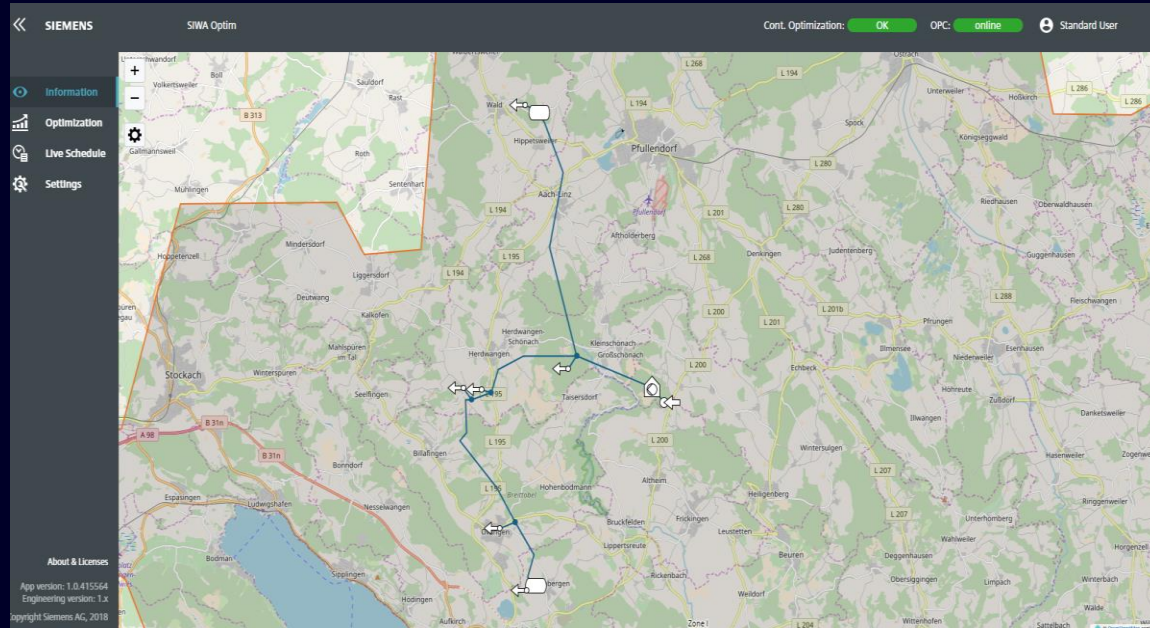
Utilize hydraulic modeling to optimize efficiency of the pump station based on specific load curves and efficiency factors

SIWA Sewer Optimizer

Real-time prediction of control interventions to reduce spill overs of untreated water



How SIWA Network Optimizer application can assist to increase resiliency for critical demands on water distribution operations

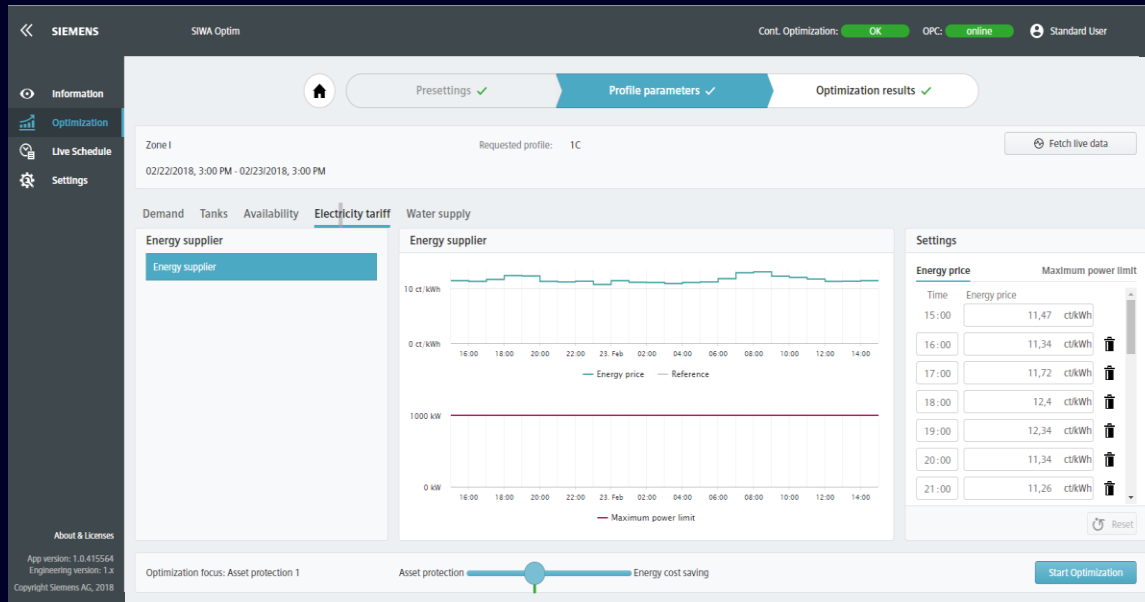


Improved utilization of existing assets, consumption optimized controls of pumps and valves

- Better utilization of existing assets by consideration of consumption patterns (daily/seasonally)
- Sustainable application of assets and resources in service by simulation “what if” scenarios
- No investment in new hardware necessary as existing tanks are fully utilized within the possible filling limits



How SIWA Network Optimizer application can assist to incorporate increasing market volatility

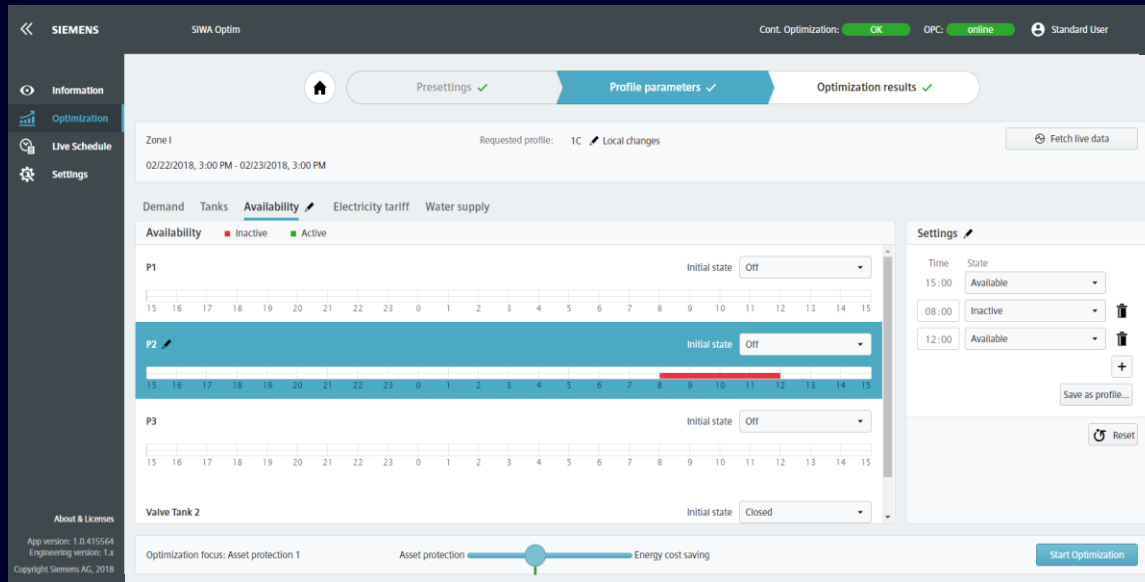


Systematic inclusion of input variables into planning and decision-making

- Intelligent cross-linking of all input parameters (filling levels, supply models, electricity rates, planned downtimes etc.)
- Operation within the framework of adaptive capacity considering variable input parameters



How SIWA Network Optimizer application can assist to lower downtimes

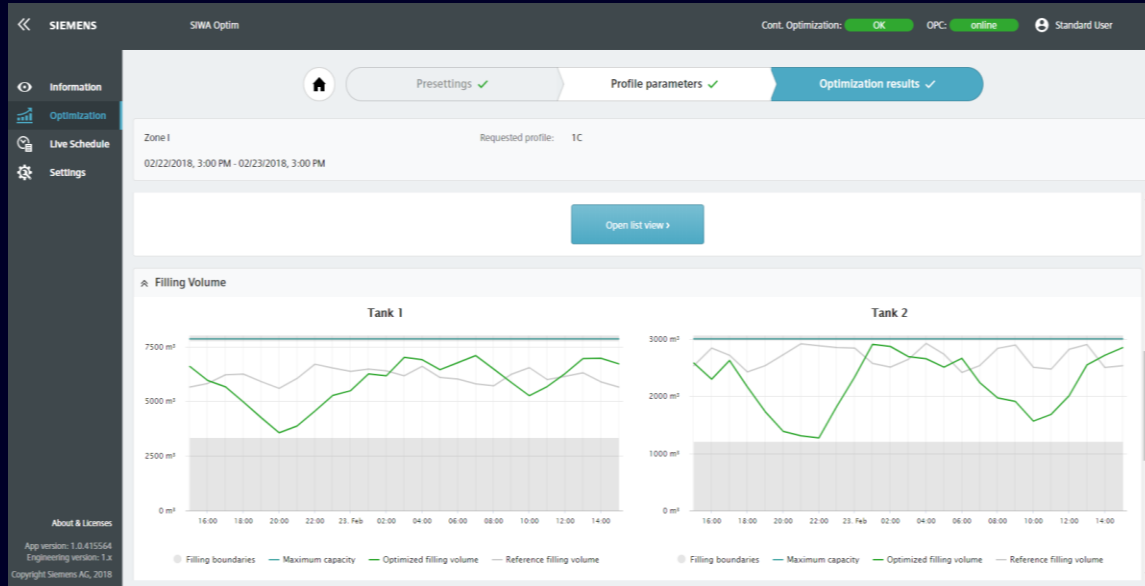


Virtual optimization of maintenance and repair scenarios as well as Implementing results into reality: “first time right”

- Identifying and estimating optimization opportunities and risks based on the simulation of the system and fed with actual operating parameters
- Implementation of optimized, secured procedures into the real world (act real)
- Monitoring and comprehensible view of the complex water network operation



How SIWA Network Optimizer application can assist to secure sustainable supply

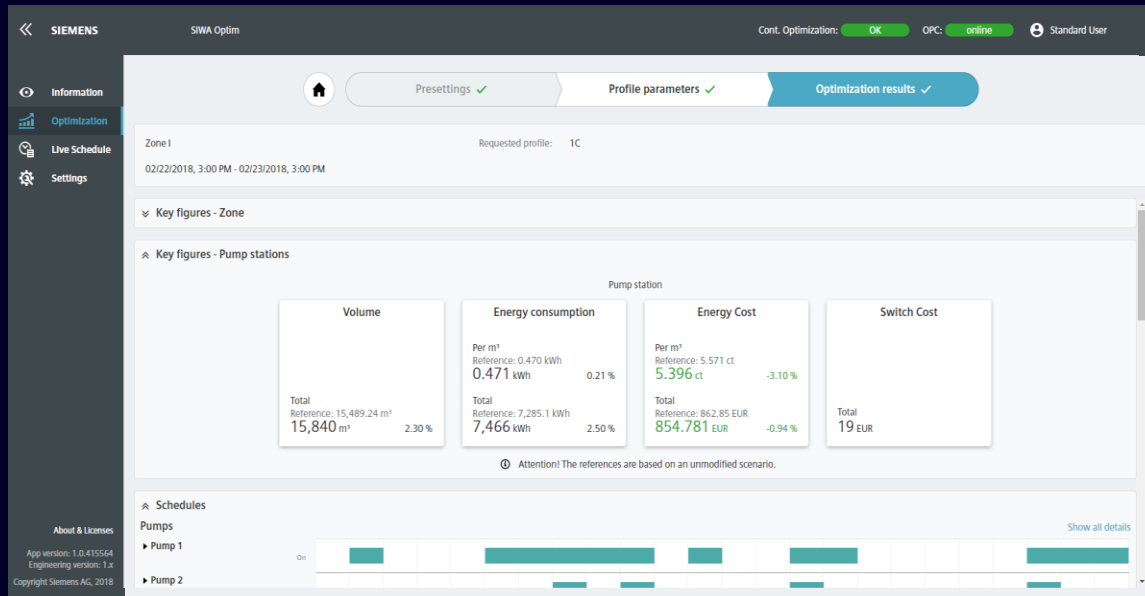


Early simulation of influence into the security of supply

- Receive valid data 24/7 for decisions by information processing
- Identification of potential outage times based on real-time data of filling levels and deviations of water consumption
- Simulating states of operation or cross-linking supply clusters to ensure the water supply



How SIWA Network Optimizer application can assist to create transparent overview

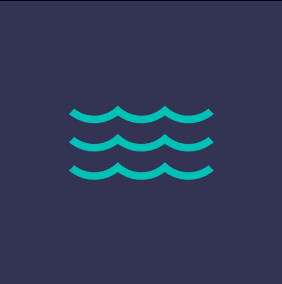


Summary of KPIs on an easy-to-handle user interface

- Resource consumption/utilization is made transparent for optimization
- Data contextualized and correlated for better decision-making
- Integrated energy parameters for a better overview



Our intelligent algorithms are cross-linking all relevant input parameters



Early simulation of influence to **secure the supply of water**



Improved utilization of existing assets **to save resources**



Systematic inclusion of input variables into planning and decision-making to **handle market volatility**



Virtual optimization of maintenance and repair scenarios **to lower downtimes**



Optimization of operation with improved planning of relevant levers **to optimize costs**

Smart water management for the Greek city of Larissa

Deyal municipal water company, Greece

Customer challenge



To pump, transport and supply clean water to 300 000 citizens in greater Larissa urban area, treat wastewater and operate irrigation networks.

Solution



- Automation solutions based on SCADA for an efficient operation of 18 pump stations for irrigation of ca. 3 700 acres of farmland with Simatic technology
- Cost optimized pump operation with SIWA Network Optimizer application
- Efficient process control system Simatic PCS 7 of the wastewater treatment plants incl. 15 pump stations
- Measurement instrumentation for water flow, level, and pressure and monitoring of chlorine and PH levels ensuring safe, high-quality drinking water

Customer benefit



- Maximization of operational efficiency
- Reduction of operational costs and save resources using optimized pumping schedules
- Decrease of water and energy consumption by 50%



50%

Reduction in energy & water use

More information: [Link](#)

Reference Video

