

OpenFlows™ SewerSight®

Real-time Insights and Capital Planning
for Sewer Network Operations

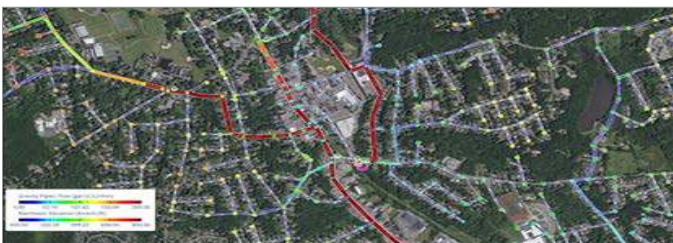
OpenFlows SewerSight simplifies smart operations by federating siloed data into true digital twins, placing key wastewater insights at your fingertips. It combines SCADA, IoT, GIS, hydraulic modeling, and customer information into a single, interoperable dashboard, creating a continuous and consistent digital representation of all assets. The application's secure cloud-based portal provides an easy framework for visualizing and communicating with stakeholders from any device. Your entire team, including engineers, non-engineers, modelers, and non-modeler experts, can make more-informed decisions and drive high-quality, consistent, and cost-effective solutions that assure or improve service levels and asset performance while minimizing cost and risk.

VISUALIZE AND ANALYZE ASSET PERFORMANCE

Powered by a single wastewater infrastructure digital twin, operators are no longer limited by the number and accuracy of sensors. The application provides alerts about nonperforming assets or anomalous network conditions, as well as the efficient analysis of present, historic, and forecasted performance for every asset. You can also virtually test and simulate response measures for emergency situations such as pipe blockages and pump shutdowns, as well as demonstrate the impact of actions to service levels and customers throughout the network.

Infiltration/Inflow and Overflows: Identify and reduce infiltration and inflow based on real-time or historic precipitation data to prevent potential sanitary sewer or combined sewer overflows before they happen. Protect water resources, avoid penalties, preserve water utility social reputation, and reduce treatment costs by reducing wastewater treatment plant loads.

Energy Efficiency: Minimize the energy needed for pumping while maximizing system performance by leveraging real-time analyses for each pump. These analyses indicate when pump performance is outside of service thresholds and quantifies energy inefficiency costs.



View a real-time simulation of your network.

Maximizing Value from Capital Investments: Use flexible and customizable rules by querying across multiple datasets to support the best capital planning decisions. Calculate the likelihood and consequence of failures and create and compare different risk scenarios.

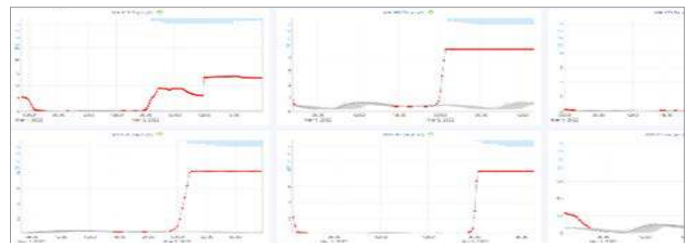
Optimizing Operations and Predictive O&M: Visualize current data in the context of historical trends. Investigate real-time and future performance for each asset using an embedded hydraulic model continually updated with sensor data. Evaluate and assess system capacity and receive alerts for potential blockages to plan cleaning and flushing activities.

Early Warning and Emergency Response: Integrate accurate weather forecast predictions to simulate future network conditions. Get notified of and prepare for important system impacts before an intense rainfall event happens. Evaluate what-if actions when quick decisions are needed in the event of a pipe blockage or a pump shutdown.

Elevate Engineering and Operations Efficiency: Optimize sewer network operations by connecting all data sources into a single interoperable solution. Remove barriers created by traditional engineering and operating functions so that your organization can track, share, and collaborate on network data efficiently.

TYPICAL QUANTITATIVE BENEFITS OF OPENFLOWS SEWERSIGHT

- ◆ 20% reduction in operational costs
- ◆ 50% reduction in sewer collapses
- ◆ 20% increase in energy efficiency in pumps
- ◆ 40% improvement in sewer and service connection requests



Side-by-side view – monitor in real time flows and depths and the impacts of severe weather conditions.

SYSTEM REQUIREMENTS

MINIMUM: 720 x 480 resolution, Windows 8.1 or higher, internet connection

RECOMMENDED: 1920 x 1080 resolution, Windows 10

BROWSER COMPATIBILITY: Current version of Google Chrome, Mozilla Firefox, or Microsoft Edge

OpenFlows SewerSight At-A-Glance

NETWORK MONITORING

- ◆ Provide real-time monitoring of flow, level, and other measured data
- ◆ Navigate in the timeseries history
- ◆ Clean up of raw data
- ◆ Use trend charts to show measurement points overlaid upon expected behavior and patterns
- ◆ Demand forecasts of up to one week in advance
- ◆ Compare trend charts side-by-side for multiple sensors

PUMP PERFORMANCE AND WET WELLS

- ◆ Evaluate individual pump and total pump station performance in terms of best operation point, energy efficiency, and energy cost
- ◆ Compare pump operation over historical time periods
- ◆ Observe trends in wet wells operation, including level alerts

EVENT MANAGEMENT

- ◆ Generate automatic alerts on user-defined rules for blockages, illegal discharges, meter failures, or intense rainfall
- ◆ Get notifications through e-mail
- ◆ Use real-time precipitation data to forecast system performance
- ◆ Infiltration and inflow volumes and duration calculation
- ◆ Update status and category, and make comments to events
- ◆ Simulate the impact of events such as pipe blockages and pump shutdowns

REAL-TIME SIMULATIONS

- ◆ Automate background run of a hydraulic model using real-time boundary conditions from SCADA and weather forecasts
- ◆ Create graphical, thematic display of modeling results such as flow, velocities, depth, surcharged status, and comparison with measured results
- ◆ Develop a hydraulic model for offline analysis

ISSUE RESOLUTION

- ◆ Raise issues about any data displayed in the application
- ◆ Track and manage issues such as assignments, comments, status updates, and image attachment

CAPITAL PLANNING

- ◆ Define aspects that can drive the likelihood of failure (LOF) and consequence of failure (COF)
- ◆ Create queries across multiple datasets, including logic-based decision tree interface
- ◆ Calculate risk by combining LOF and COF in a risk matrix
- ◆ Create and compare different risk scenarios
- ◆ Generate graphical and map display of the assets based on risk grades
- ◆ Combine risk with asset performance to drive capital planning decisions
- ◆ Create and compare different action plans

EASY ADMINISTRATION

- ◆ Set alerts for anomalous conditions
- ◆ Incorporate new sensors, pumps, or wet wells to the system
- ◆ Upload GIS data and numerical models
- ◆ Refresh and modify links to external data
- ◆ Customize general settings
- ◆ Manage users and access the cloud application
- ◆ Deliver user-customizable reports using PowerBI