Managing sewer and stormwater overflows in the face of increasing intensity and frequency of wet weather events is a serious challenge for many utilities. Doing so affordably is even harder.

BLU-X™, Xylem’s innovative real-time decision support system (RT-DSS) platform, helps utilities improve wastewater network performance and capacity utilization, meeting environmental goals while saving substantially on operating and maintenance costs.

Utilizing a combination of sensors, weather forecast data and artificial intelligence to create a real-time decision support system, the BLU-X platform helps cities achieve their sewer overflow (CSO and SSO) objectives in half the time and at a fraction of the cost of traditional overflow mitigation methods by leveraging existing assets to the maximum extent possible.
Why BLU-X

• Balances and optimizes collection systems to minimize combined and separated sewer overflow volumes and activations
• A real-time decision support system gives utilities enhanced control over their collection system
• Eliminates dry weather events and decreases E. coli concentrations in watersheds
• Reduces the need for costly gray infrastructure
• Clients often see between a 5X and 20X return on investment (and occasionally as much as 100X)
• Integrates with any sensor, telemetry, SCADA, GIS, or hydraulic/hydrological modeling platform on the market

BLU-X Architecture

Xylem’s BLU-X platform utilizes a combination of sensors and weather data, along with artificial intelligence, to create a real-time decision support system that provides utilities with enhanced control over their collection system. BLU-X utilizes a Sense-Predict-Act methodology, allowing utilities to use their system’s existing capacity to better manage flow and reduce discharge, with controls that work like a commodity exchange trading floor - constantly trading system capacity back and forth via a customized dashboard that’s powered by real-time sensors and distributed computing.

Phase 1: Sense

Historically, it has been impossible to personally observe actual sewer system hydraulics, particularly during wet weather. BLU-X changes that, giving most utilities their first and best look into a real-world collection system. This insight begins with real-time data collection from a network of rain gauges, level sensors, flow meters, conductivity sensors, and other sources to provide effective maintenance and control of your urban water infrastructure. Continuous monitoring also means you always have an accurate representation of your sewer system.

Phase 2: Predict

BLU-X can host and run multiple iterations of a utility’s hydraulic and hydrological model in real time. By comparing and contrasting the model output against incoming sensor network data, BLU-X generates more accurate models that self-calibrate while integrating with hand-built physics-oriented models. Simply put, the longer you utilize BLU-X, the more effective it becomes in its predictive behavior - capturing all of the complexity and seasonal variability of your watershed.

Phase 3: Act

BLU-X allows utilities to operate their collection systems and watersheds with the same level of understanding, control, and dynamic optimization that they have at the treatment plant. Collection systems with long travel times and complex assets such as tunnels, tanks, high rate treatment plants, and inline storage facilities can now optimally and responsively self-reconfigure, allowing them to meet the unique demands created by each wet weather event, and/or provide a manually controlled decision support dashboard.