

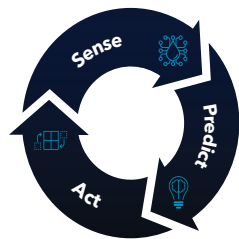


# Treatment System Optimization

UNLOCK DATA TO OPTIMIZE WASTEWATER TREATMENT PLANT PERFORMANCE

Xylem's Treatment System Optimization solution provides wastewater treatment plant managers with real-time intelligence so they can more efficiently identify and remove operational roadblocks, reduce risk and increase system reliability – all while maintaining regulatory compliance.

## Our Approach



By leveraging real-time digital monitoring and modeling to deliver optimized **operational recommendations, predictive capabilities** and **decision-making support**, Xylem helps utilities ensure continuously optimized plant performance.

**Sense** –Continuous data acquisition from operation technologies (SCADA), along with weather, energy consumption, lab and other relevant data sources.

**Predict** – Real time plant data is continuously integrated with digital twin model and optimized, with thousands of predictive scenarios run to forecast future conditions, determine optimal outcomes and recommended operational controls.

**Act** – Take action based on the control recommendations, either manually or with autonomous control, which frees operators for other critical tasks.

## Client Partnership

The journey to unlocking your system's full capabilities and achieving extraordinary outcomes begins with the formation of a **true partnership between your utility and Xylem's team** of former utility leaders, decision science professionals, engineers and hydroinformatics experts.



### Support Throughout

From problem assessment to implementation and training, technical and delivery experts are there every step of the way.



### Domain Knowledge & Partner Intimacy

Our water experts have the experience needed for a true partnership with your team - working together to meet your specific system goals.



### "High Touch" Delivery

Consistent communication and training ensures leadership and operators are engaged and maximizing operational efficiency.

# What to Expect from Your Treatment System Optimization Project

## Discovery

**1 Plant Evaluation**  
An evaluation of a detailed plant schematic and the existing sensor locations in your plant.

**2 Data Retrieval & Review**  
Online and laboratory data is collected and reviewed.

**3 Supplementary Instrumentation/Sensing**  
After our plant evaluation and data review, additional sensors may be necessary. Xylem can help procure and deploy these as needed.

**4 Complement Existing Data with Supplementary Data**  
If supplementary data is collected, the existing data and collected data are combined for an initial evaluation.

**5 Overview of Potential Benefits**  
Xylem will provide a roadmap to address methods of prediction.

**6 Define the Optimization Objective/Target**  
After collaboratively reviewing the results of the discovery phase, the roadmap is finalized with agreed upon plant optimization goals.

## Deployment

**7 Construct the Model**  
The data collected is used to build a digital twin for target optimization.

**8 Configure the Optimizer**  
Xylem and utility teams partner to couple the model with an optimizer to continuously run thousands of potential scenarios and select the one which provides the best outcome.

**9 Connect to Plant SCADA**  
The digital twin is connected to SCADA and screens are developed on which the data can be displayed.

**10 Go Live & Deliver Recommendations for Operator Acceptance**  
Treatment System Optimization will recommend setpoints within your system. During this time your operators will approve those recommendations and apply them to your system via SCADA.

## Post-Deployment

**11 Automated Recommendation Implementation in SCADA**  
When operators are ready for the next step, operational recommendations can be automated by allowing them to connect to your SCADA system.

**12 Continuous Improvement Through Retraining**  
Xylem continues to provide updates to improve performance. This service is provided through a service contract partnership.