



# Digital Transformation of Water and Wastewater Systems

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Wonderware West

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## Assessment Scope

Can range from assessing the entire water cycle to an individual water sub-segment:

- Digitalization of Utility
- Enterprise Asset Performance Management
  - + Real-time Condition-based Work Order Generation
  - + Digitalization of Mobile Operator Rounds
  - + Predictive Analytics for high valued assets

Utility sub-segments can include:

### Water Distribution Network:

- + Enhanced network monitoring, control and optimization
- + Water Leak management systems
- + Supervision and decision support

### Water Treatment Plants:

- + Pump monitoring & control
- + Energy savings
- + Automation, Instrumentation and Control
- + Asset management and optimization
- + SCADA & supervision
- + Plant Security

### Wastewater Treatment Plants and Collection Systems:

- + Pump monitoring & control
- + Energy services
- + Asset management and optimization
- + Automation, Instrumentation and Control
- + SCADA and supervision
- + Advanced Process Control

## Digitalization of Water Wastewater Controls Systems

### A Transformation Assessment Workshop

Water and Wastewater utility executives know that they need to transform their utilities to meet current economic, operational, and regulatory challenges.

These challenges are not exclusive to an area, but they span across the 5 common activities from planning, to operations, maintenance, commercial and utility management.

The mix of existing technology and new technology trends, such as Internet of Things (IoT), Cloud Computing, Big Data/ Predictive Analytics, provide a basis for transformation.

But where and how do you begin? How do you prioritize? And what is the most effective roadmap for a utility? How do I bridge my operational technology and information systems? Can I leverage current investments in infrastructure? And most importantly, how does all this relate to my utility's specific problems and challenges? These are all valid questions.

At Wonderware West, we believe in the potential of technology to *empower people and transform businesses*. We focus on creating the most *innovative* and *reliable* industrial *solutions that* empower organizations like yours to execute against your most critical business imperatives.

Our **Digital Transformation Assessment Framework** is purpose built to help you create a vision and roadmap for Smart Water across your entire water cycle.

Digital Transformation Framework:

- + Strategic Objectives
- + Operational Architecture
- + Operational Excellence
- + Solution Roadmap

We provide a Digital Transformation Roadmap that guides you from current state to a more mature future state delivering a Technology Vision & Strategy increasing value to the utility.

The Digitalization of Water (Smart Water) can bring real, tangible value to your business creating efficiencies and savings that can be used elsewhere to address your business needs. End to end energy management solutions from field to dashboard can produce up to 30% energy savings by optimizing energy consumption. Digitalization efforts can also help with operational efficiency, increasing it by up to 25% and can help reduce total cost of ownership by up to 20% using a combination of best-in-class products, proven integrated solution architectures and operation and maintenance services.

## Digitization

Enables closed loop solutions that span from monitoring and control of individual assets to improved operation of key processes and enterprise wide decision making information.

- + **Connect:** To Plant and City-Wide Systems and Sources (IoT+)
- + **Collect:** Capture high-fidelity process, production and equipment information on premise or in the cloud.
- + **Analyze:** Apply machine learning, advanced pattern recognition and rules-based logic for asset monitoring.
- + **Act:** Provide actionable, meaningful data, mobility and enterprise collaboration of people, processes and equipment
- + **Visualize:** Display the information to the right person, at the right time through the appropriate channel



Operations Monitoring, Analysis And Reporting



Water Network Optimization



Improved Energy Savings



Regulatory Compliance



Improved TCO and Knowledge Management

## Enterprise Asset Performance Management

- + Bridges the IT/OT gap and contextualizes the increasing amount of industrial Big Data
- + Enables you to reduce unscheduled downtime, increase asset availability and extend equipment life
- + Enables comprehensive EAM and workflow connecting people, processes and assets

## Digitalization of Water

### A Transformation Assessment Workshop

The use of digital solutions and data-driven technologies is helping address some of the industry's most pressing challenges:

#### Improving Efficiencies:

- + Plant and network operators alike are constantly seeking ways to optimize all aspects of their operations
- + Smarter solutions enable greater efficiency, helping to achieve cost savings on the supply side through:
  - reductions in energy use,
  - chemical consumption
  - and non-revenue water
- + They can also lead to improved customer services that give utilities and their customer's access to more detailed information about their water usage and quality.

#### Reducing Costs:

- + Smart solutions for improved monitoring, automated control, extension of critical assets' life, and non-revenue water (NRW) reduction can lead to huge cost savings.
- + Key benefits include:
  - lower energy consumption,
  - reduced chemical use
  - and saved labor costs
- + The growth of licensing Software as a Service (SaaS) will allow more end-users to reap the economic benefits without large upfront capital investments.

#### Ensuring Compliance:

- + Tightening regulations continue to drive spending for both the utility and industrial end-users, and smart solutions help them to ensure compliance.
- + Automated report generation is a common need across utilities and it helps facilitate and streamline the compliance process
- + These regulations push the wider adoption of digital solutions across the water sector.
- + Stricter standards for drinking water quality, water abstraction rules and wastewater discharge will drive the uptake of sensors to measure water and wastewater quality
- + They will also push utilities to improve the services offered to their customers.

# Digital Transformation Roadmap

## Workshop Process

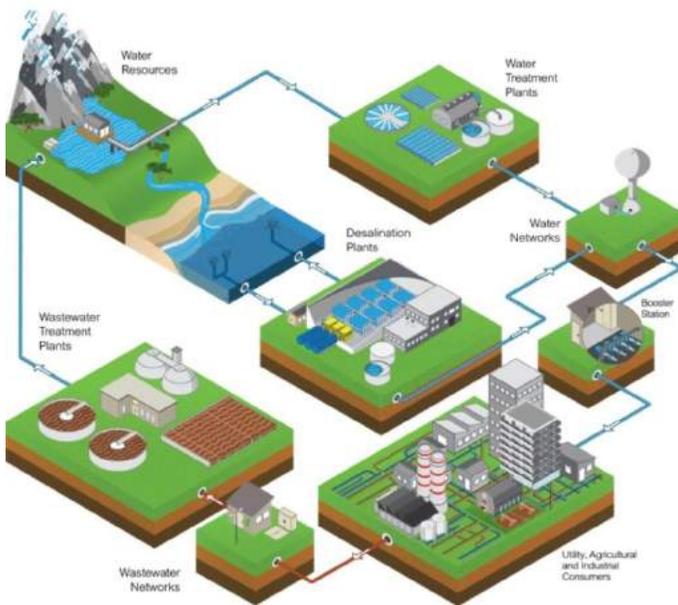
Through an interactive workshop, our team of analyst and subject matter experts along with your team will develop a high level IT/OT technology strategy and roadmap for production operations.

We will start by developing a common understanding of your strategic and operational objectives. We will review and document your existing systems and architecture. We will then jointly develop a vision for your future state system. We will document gaps between the two states and provide you with a Digital Transformation Roadmap.

Our process seeks to safeguard investments in your current infrastructure. The roadmap will include industry-leading Commercial off the Shelf technologies and solutions that promote continuous improvement and operational excellence.

## Digital Transformation

### making water safe, reliable, sustainable & efficient across the entire water cycle



### Safe and Reliable Service

- SAFEGUARD PUBLIC HEALTH**
  - + Safe Drinking Water
  - + Fire Protection
  - + Water Pollution Control
- ENSURE CUSTOMER SATISFACTION**
  - + Adequate and Reliable Supply
  - + Appropriate Water Quality
  - + Appropriate Prices (*toward financial sustainability*)
- PROTECT THE ENVIRONMENT**
  - + Adequate and Reliable Supply
  - + Appropriate Water Quality
  - + Efficient Use of Supplies for Minimum Impacts (*toward environmental sustainability*)

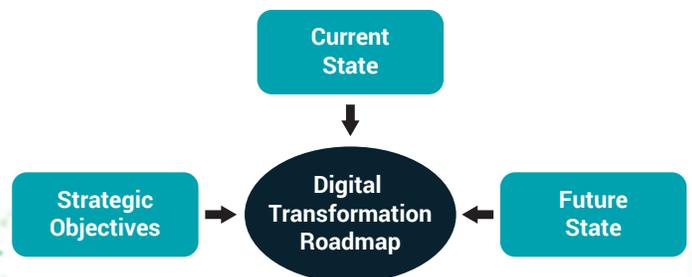
### Mission/GO



### Business Maturity

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>+ Public Perception/Trust</li> <li>+ Customer Retention</li> <li>+ NRW Reduction</li> <li>+ Operational Efficiency</li> <li>+ Process Improvement/ Energy Management</li> </ul> | <ul style="list-style-type: none"> <li>+ Asset Management</li> <li>+ Integrity/Security</li> <li>+ Compliance with Regulations</li> <li>+ Safe Supply</li> <li>+ Basic Water Supply</li> </ul> |
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### Technology Roadmap



## Digital Transformation Workshop

### Customer requirements:

Customer is responsible for providing and coordinating the following:

- + Meeting room – onsite or offsite
- + Projector/Audio Video
- + White Board

Customer will provide representation and participation from the following:

- + Executive Management
- + Operations Management
- + Quality
- + IT & OT (Business & Control Specialists)

### Duration of the Workshop:

- + One to Two Days onsite at customer facility (Workshop Execution)
- + ½ day for the delivery of the Transformation Roadmap Report and Presentation
  - Note: the report will be created offsite and delivered within 3 weeks of the workshop
- + Cost:
  - Workshop is valued at \$12,500 - \$18,000
  - Our team will deliver this at no cost

### Wonderware West:

Wonderware West will provide the following resources:

- + Workshop Facilitator
- + Industry Specialist
- + Subject Matter Experts
- + Documentation Resource

### Workshop Deliverables:

- + Digital Transformation Report and Roadmap
- + Presentation and Delivery of Roadmap

### Contents of the Report will include:

- + Workshop Overview
- + Strategic Imperatives
- + Documented Current State
- + Future State Vision
- + Gap Analysis
- + Benefits and Value of Future State
- + Future State Roadmap and Process



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