



Smart Water Network: New Technologies for Intelligent Urban Water Infrastructure







Challenges for Water Managers

- Growing population, mostly in cities
- Rising water demand
- Investment deficits and aging infrastructure
- Endangered water quality
- Changing climate patterns
- Rising energy costs
- Regulation increasingly complex







Identify challenges in water & wastewater business













Learn about Smart Water Solutions

A better understanding of Smart Water solutions gives **rapid rewards** from **Small, incremental changes**. The transition to smart water solutions does not necessarily involve complex systems.



Intelligent equipment

Definition

Equipment, system and solution capable of self-optimization insitu for enhanced performance – incl. meters, pumps, mixers, treatment and sensors

Value for water managers:

Reduces time and effort needed to monitor and maintain critical technologies



Smart networks

Definition

Network collecting information across a number of equipment to provide exhaustive real-time status information of an overall system

Value for water managers:

Enables remote and continuous monitoring of operations and realtime reactive management and maintenance



Digital solutions

Definition

Solution combining historical and current data with algorithmic decision support to provide datadriven forecast of the status of an overall system

Value for water managers:

Enables preventive adjustments to operations and proactive management of the system based on data-driven decisions





Intelligent Equipment

- Accurate data is the base for decision making
- Maintenance free or low maintenance
- Built for longevity
- Prepared for or with integrated communication









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Smart Network

- Utility-grade, reliable communication
- Maintenance free or low maintenance
- Able to reach hard spots
- Built for battery operation
- Integrated communication where possible
- Real time where necessary, near real time where sufficient









Digital Solutions

- The power lies in combining multiple data sources
- User-friendly interfaces
- Real time, near real time and frequent data can be combined to assist in decision making
- Hosting allows for lower maintenance in IT





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Advanced Water Treatment A broad range of reliable treatment solutions including disinfection, oxidation and filtration

Treatment Process Optimization Water quality sensors combined with advanced algorithms to optimize the treatment processes

Treated Water Quality Monitoring Comprehensive real-time water monitoring and reporting solutions to support regulatory compliance

Preventative and **Predictive Maintenance** Connected equipment and

maintenance solutions to reduce downtime and failures of critical equipment

Ecosystem Monitoring Remote sensor solutions to monitor and report on a variety of water resources parameters

Operation:

Water Network Management

In-situ and algorithmic solutions provide monitoring of network pressure, failures, and overall asset condition

Reduce Non-Revenue Water

In-situ and algorithmic solutions to identify, monitor, and address real and apparent water losses

Meter and Billing Management Smart metering solutions to improve billing accuracy and

enhance customer service

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Stormwater management and flood relief

Comprehensive range of dewatering solutions for all stormwater and wastewater flood events

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Integrated treatment to enable potable and non-potable reuse of wastewater and stormwater

Wastewater and Stormwater relise

Advanced Wastewater Treatment

A broad range of reliable treatment solutions including disinfection, oxidation, filtration, and biological treatment

Treatment Process

Optimization Water quality sensors combined with advanced algorithms to optimize the treatment processes

Treated Water

Quality Monitoring Comprehensive real-time water monitoring and reporting solutions to support regulatory compliance

Remote

Management 1-way and 2-way communications platforms to deliver real-time operations management

Wastewater Network

Management

Management In-situ and algorithmic Intelligent equipment solutions provide and real-time analytics monitoring of network to prepare for and pressure, failures, and prevent sewage and overall asset condition stormwater overflows

Combined

Sewer Overflow

Preventative and **Predictive Maintenance**

Connected equipment and maintenance solutions to reduce downtime and failures of critical equipment

Meximize

Equipment Efficiency

Intelligent pumping and mixing equipment adapts to conditions for maximum reliability and operations efficiency

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Solving water challenges with Smart Water solutions...





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Examples of implementations

Thames Water **smart network** reduces water consumption by **13%** United Kingdom Smart network saves \$260 000 of water losses to Borough of Monaca, PA United States





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Examples of implementations

Digital solution fulfills wastewater collection needs across 2**500 pump stations**, Netherlands Digital solution at Milan municipality finds and fixes previously undetected leaks, Italy









Let's talk about Smart Water



The Smarter Water Manager SMART WATER SOLUTIONS FOR A RESILIENT WATER FUTURE

xylem

At Xylem, we're leading the water industry's migration to smart infrastructure...

Through strategic acquisitions and innovations centered on energy management and process optimization, Xylem has established itself as a leading provider of smart water solutions that address the industry's most persistent challenges.

...and we're committed to guiding water managers through this transition.

Xylem's latest contribution to the global water dialogue is 'The Smarter Water Manager - Smart Water Solutions for a Resilient Water Future' – a tool to educate and support water managers in the transition to smart water.





Xylem Overview







- Commercial 11%
- Residential 6%





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Sensus' Top 10 numbers

Sensus is a **global leader** in innovative technology solutions that enable **intelligent use** and **conservation** of critical **energy** and **water** resources.



Sensus is **smarter**, talk to us about a tailor-made solution.

www.sensus.com





Vielen Dank



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Discover Xylem Smart Water & Wastewater Solution Map

		1	Monitor	Treat	Transport	Decide
	Water manager daily challenges	Xylem's solution	CWTWD=- mjk//	BANTAPRE REPORT	godwin@	sensus () emnet
ntelligent Equipment	Ecosystem monitoring	Remote sensor solutions to monitor and report on a variety of water resources parameters				
	Remote operations management	1-way and 2-way communications platforms to deliver real-time opera- tions management	۵ ک		۵ 😔	(j) (i) (i) (i) (i) (i) (i) (i) (i) (i) (i
	Preventative and predictive maintenance	Connected equipment and maintenance solutions to reduce downtime and failures of critical equipment	۵ ک		۵ ک	۵ 🔄 🌒
	Treatment process optimization	Water quality sensors combined with advanced algorithms to optimize the treatment processes		۵ ک	۵ ک	
Digital Solution	Treated water and wastewater quality monitoring	Comprehensive real-time water monitoring and reporting solutions to support regulatory compliance	۵ ک	۵ ک		
	Advanced water and wastewater treatment	A broad range of reliable treatment solutions including disinfection, oxida- tion, filtration, and biological treatment				
	Wastewater and stormwater reuse	Integrated treatment to enable pota- ble and non-potable reuse of waste- water and stormwater				
	Maximize equipment efficiency	Intelligent pumping and mixing equipment adapts to conditions for maximum reliability and operations efficiency		۵ ک	۵ ک	
	Stormwater management and flood relief	Comprehensive range of dewatering solutions for all stormwater and wastewater flood events			۵ ک	
	Combined sewer overflow management	Intelligent equipment and real-time analytics to prepare for and prevent sewage and stormwater overflows			۵ 😔	۵ ک
	Reduce non-revenue water	In-situ and algorithmic solutions to identify, monitor, and address real and apparent water losses				۵ 🔄 🌒
	Water and wastewater network management	In-situ and algorithmic solutions pro- vide monitoring of network pressure, failures, and overall asset condition			۵ 🐵 📵	۵ ک
	Meter and billing management	Smart metering solutions to improve billing accuracy and enhance customer service				🎯 😁 🌒

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