



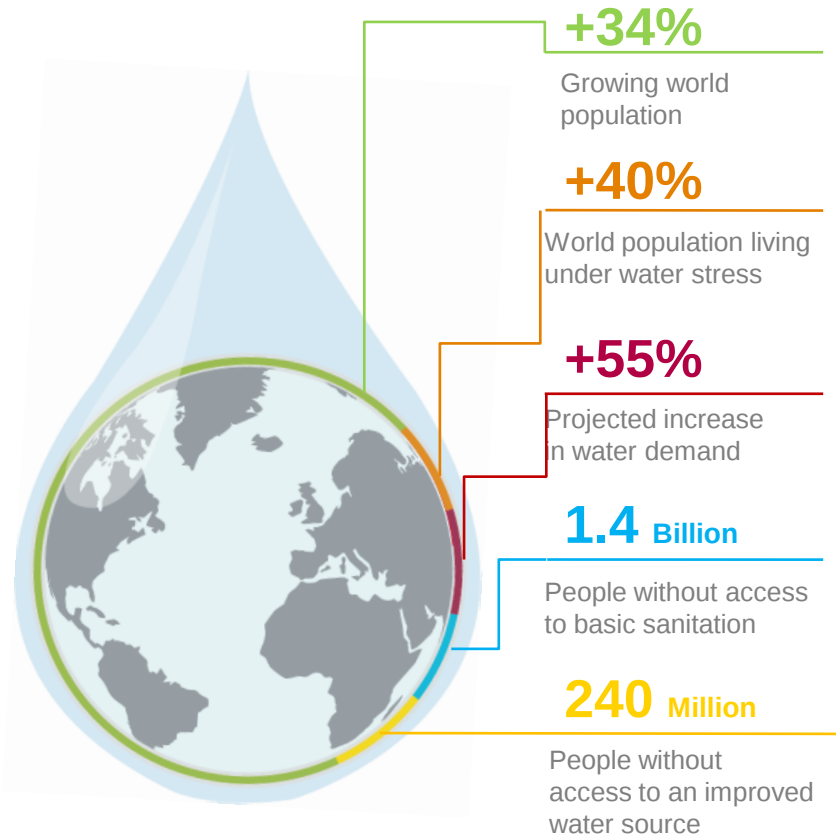
Solutions for Water

Smart Water Solutions technology leader enhancing key processes and applications across the water cycle

Presented by: Stephen Granr

By 2050, the world will be a different place...

Critical and growing need for access to water



Source:OECD (2012)

Top long term trend: Water wastewater is a growth market

> 50%

Amount of Europe's surface water
below good ecological status

200M

Population that could be
supplied with water lost daily

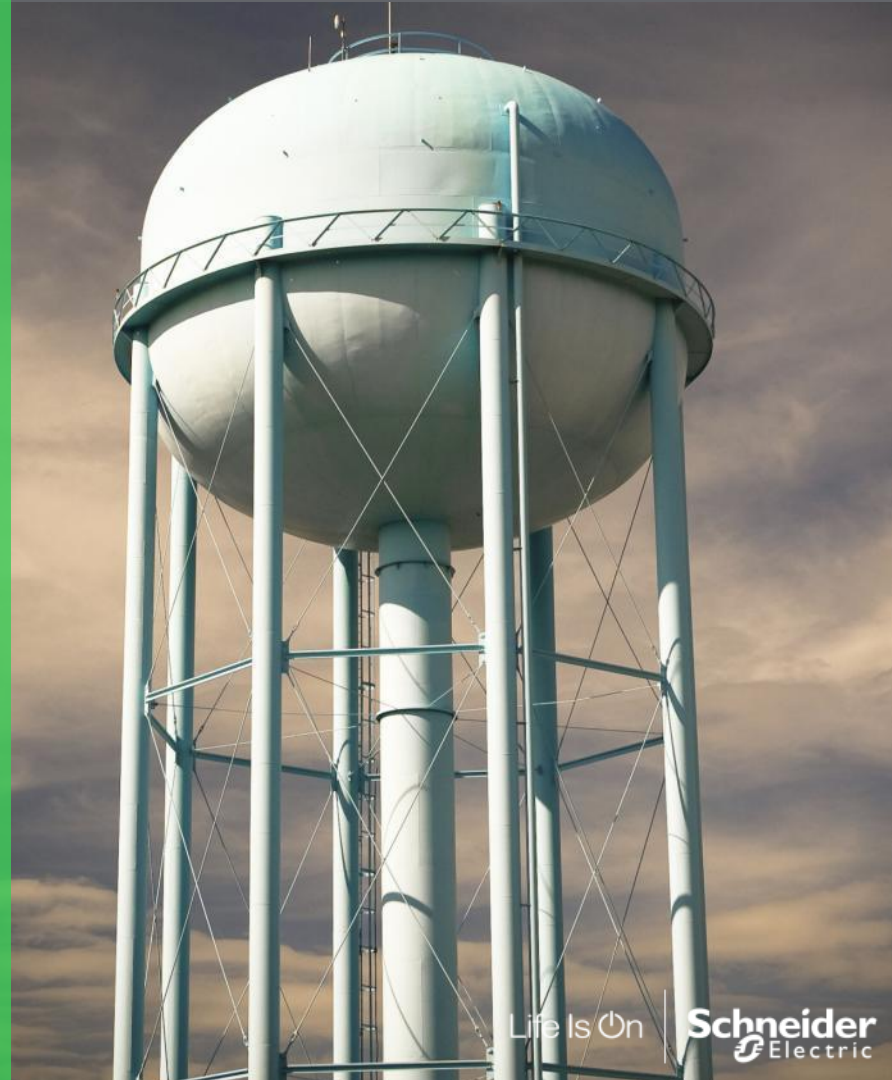
5-10

TW of power generated is spent in
water that is either leaked or not paid
in USA



Main challenges faced by industrials & municipalities

- Ageing infrastructure
- Increased regulation
- Business factors (CAPEX decrease/
OPEX increase)
- Conservation and efficiency
- Energy costs
- Ageing workforce
- Environmental impact
- Climate change
- New water sources, recycle and reuse
- Infrastructure and cyber security



Life Is On

Schneider
Electric



At Schneider Electric

Through our innovative smart water technologies and services, we help make water safe, reliable, sustainable and efficient across the entire water cycle.

Three ways we help Water and Wastewater customers



Optimize energy consumption:
Up to 30% energy savings

- Energy management solutions from field to dashboard
- Efficiency planning services
- Strategic energy procurement services
- Energy savings performance contracting
- Energy saving variable speed drives and control systems
- Advanced process control for plants and networks



Increase Operational
Efficiency: Up to 25%

- Solutions to achieve and maintain low nonrevenue water levels
- Ensure safe and reliable operations
- Help achieve regulatory compliance
- Integrated information management to reduce operational costs and enable better decision-making and response times



Reduce total cost of
ownership (TCO): Up to 20%

- Proven integrated solutions with tested, validated, documented architectures
- Operation and maintenance services to extend asset life and make infrastructure more reliable and sustainable
- Global expertise with local proximity
- Innovative best-in-class products designed for integration with third-party and legacy systems, and ease of migration and upgrades
- End-to-end asset management capabilities



Energy is the base of life.

Life Is On

when energy is on.....

We ensure energy is on by making it

- Safe
- Reliable
- Efficient
- Connected
- Sustainable

Connectivity from field to dashboard

- Get data from energy-intensive equipment, consolidate it, and act on it for **complete energy** management—from energy meter to the energy management dashboard.
- Our solutions are **open, customizable, and easily integrated** with third party and legacy systems.
- We translate the data generated during control and operation into **actionable business information**.
- **Reduce TCO** with **consistent Services** throughout your installation life cycle and **technology integration** of both Schneider and customer technologies into existing IT infrastructure.



Efficiency solutions applied to the entire water cycle

- Optimize both **energy and process efficiency**
- Make **informed, accurate decisions**
- **Simplify planning** and drastically shorten time to market
- We work with worldwide customers and partners to innovate, design and install **customized smart water solutions**



Safety and Reliability

- **‘Best in class’ product quality and reliability.** Our products are innovative, safe, reliable and optimized
- Site security (video, access control) and cyber security solutions **keep your site and data secure**
- **Tested, validated solutions lower risk,** save design time and secure your implementation
- **Ensure reliability of water supply** through non-revenue water (NRW) reduction and loss prevention
- Arc Flash mitigation solutions **ensure the safety of your staff**



Promoting sustainability at all levels

Solutions enabling **sustainable water management** within the plants and across the networks

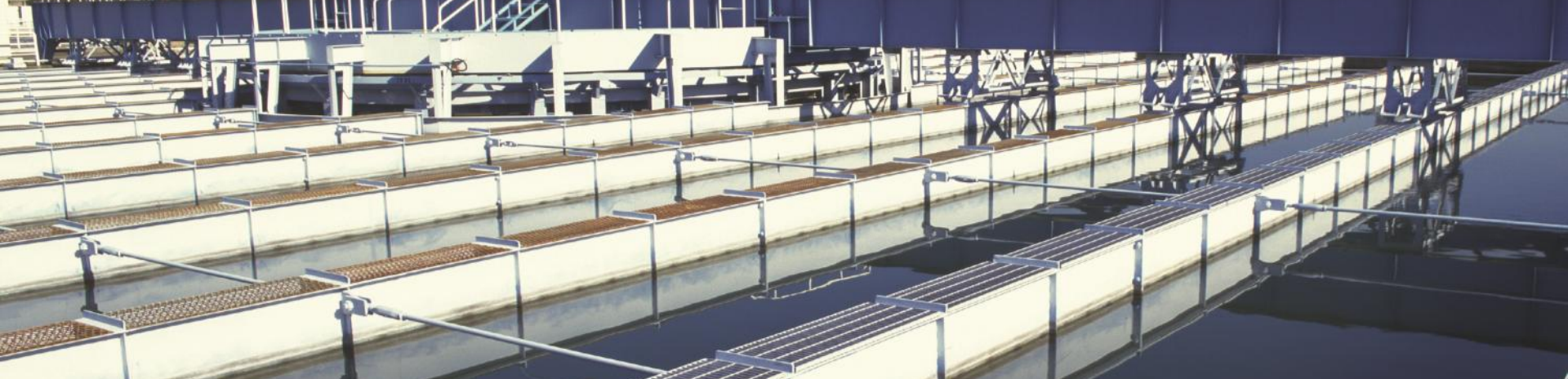
Business Intelligence tools for **advanced performance monitoring**

Visibility and collaboration across stakeholders

- enabling smooth systems integration
- share information across the organization
- interconnecting all utility departments around a relevant issue
- presenting results as needed by each department

Schneider is a reliable partner committed to **long term relationships and continued solution development.**





A global Water and Wastewater leader

- Global water and wastewater capabilities include over 300 dedicated industry specialists
- Global smart water R&D Center Struxurelab
- 5 Regional Solution Centers and 17 Zone Solutions Centers
- 100+ countries with Schneider solutions installed
- Over 36,000 total water and wastewater installations worldwide
- Schneider Electric automates and manages water systems in some of the world's largest cities including London, Barcelona, New York, Sydney, Rio de Janeiro, Shanghai and Las Vegas

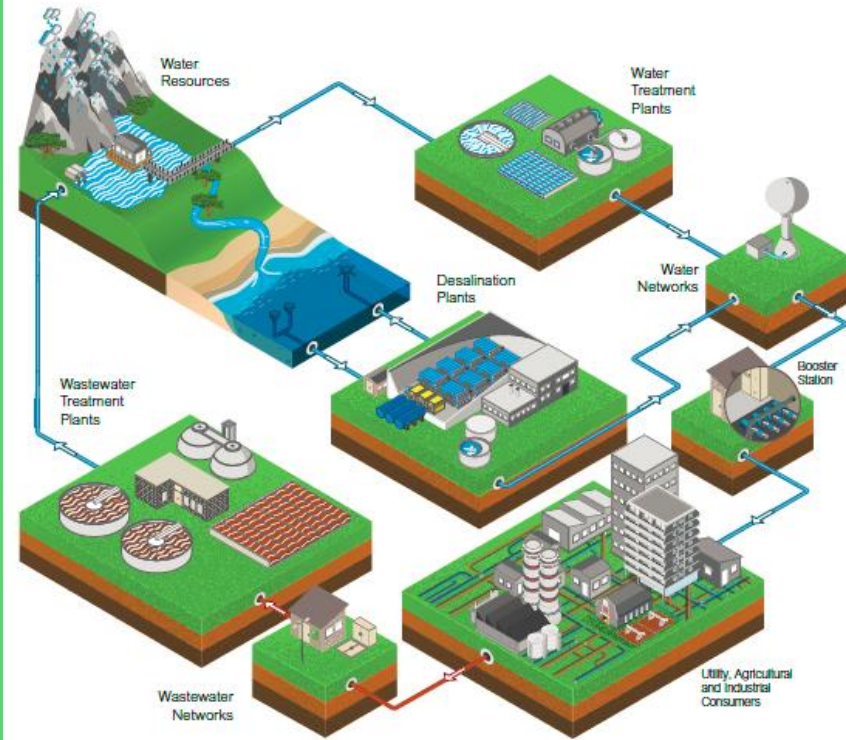


Schneider Electric is a founding member of SWAN (Smart Water Networks Forum)



And, we are the Smart Water Solutions technology leader through acquisition of best-in-class brands and industry thought leadership.

We deliver efficiency across
the entire water cycle.



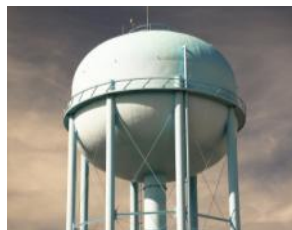
Life Is On

Schneider
Electric

We support key processes and applications within Water and Wastewater



Water resources: Enhance irrigation and water resource monitoring and management processes through a combination of telemetry, industry-leading weather services, and other intelligence enabling technologies.



Water networks: Minimize leakage, reduce operational costs, and maintain service quality through advanced asset management, network optimization, and water loss management technologies.



Water treatment: The most comprehensive portfolio of automation, electrical, security, and plant optimization products and services for integrated solutions to ensure continued treatment and production of clean drinking water.



Wastewater networks: Achieve improved efficiency within wastewater lift/pump stations and collection network processes through our remote telemetry, intelligent power, and pump optimization solutions.



Desalination: Reduced risk for our customers by providing safe, reliable and efficient electrical distribution and automation solutions working with the top EPC's.



Wastewater treatment: The most comprehensive portfolio of automation, electrical, security, plant optimization and energy management products and services for advanced process control and up to 30% reduction in overall energy costs.

Solutions for Water Resources



1 River Basin Monitoring



2 Network Management



3 Pump Optimization



4 Automation & Telemetry



5 Electrical Distribution



6 Safety & Security



7 Services



Nearly ¾ of the water resources in the U.K. and Spain are managed through Schneider Electric solutions

We help customers improve operations and decision-making through a combination of telemetry, industry-leading weather services, and other intelligence-enabling technologies.

1. River Basin Monitoring: Mitigate the risk and impact of floods, drought, and other extreme events through proactive detection and improved planning and coordination.

2. Network Management: Smart Water solutions improve the efficiency, longevity, and reliability of network infrastructure through collecting and enabling actionable data.

3. Pump Optimization: Combining VFD's and remote monitoring technologies for pumping efficiency and energy savings within pump stations.

4. Automation and Telemetry: Our telemetry solutions enable efficient management of geographically dispensed remote operations and transform field data into business intelligence.

5. Electrical Distribution: Safe and intelligent power solutions enable better control of electrical distribution within pump stations. Secure power solutions ensure reliable power supply to critical equipment.

6. Safety and Security: Our video security, access control, and cyber security solutions and services ensure end-to-end asset protection.

7. Services: Our services, from field maintenance to weather information services to energy management, extend the life cycle of assets.

Why Water Resources customers partner with Schneider Electric

As the leader in both weather information and supervisory control and data acquisition (SCADA), with established solutions in electrical distribution and drive systems for pumping applications, Schneider Electric has the technology and partnerships to help provide a reliable and continuous water supply.

Life Is On

Schneider
Electric

Solutions for Water Treatment Plants



1 Smart Water Exclusive Solutions



2 Plant Optimization



3 Plant Management



4 Automation & Telemetry



5 Electrical Distribution



6 Safety & Security



7 Services

Our integrated process control and energy management approach enables up to 30% in energy savings and keeps plants running efficiently to ensure continued treatment and production of clean drinking water.

- 1. Smart Water Exclusive Solutions:** Integrated hardware, software, and services improve the efficiency, longevity, and reliability of infrastructure.
- 2. Plant Optimization:** Reduce TCO and energy consumption through pump asset monitoring and optimization solutions.
- 3. Plant Management:** Make better decisions through business intelligence software solutions to manage information, workforce, power, quality, and energy.
- 4. Automation and Telemetry:** Tailored, tested, and validated Ethernet-based automation architectures, software libraries and fully integrated process and power devices improve reliability, efficiency, and productivity.

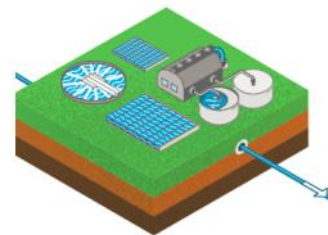
- 5. Electrical Distribution:** Safe and intelligent power solutions enable better control of low-/ medium-voltage (LV/MV) electrical distribution. Secure power solutions ensure reliable power supply to critical equipment.

- 6. Safety and Security:** Video security, access control, and cyber security solutions and services to ensure end-to-end asset protection.

- 7. Services:** Our services, from project management to field maintenance to energy management, extend the life cycle of assets.

Why Water Treatment Plant customers partner with Schneider Electric

With local water industry expertise and a global support network, plus experience partnering with the leading EPCs, pump and water process OEMs, private operators, utilities, and local system integrators, we are trusted to secure, power, and automate Water Treatment Plants around the world.



From the Taurage water station in Lithuania to the Xijiang WTP in China, Schneider Electric solutions are delivered at lower risk, minimize downtime, and ensure scalability for future supply demands.

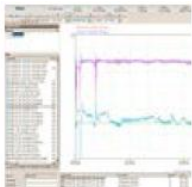
Life Is On

Schneider
Electric

Solutions for Desalination Plants



1 Plant Optimization



2 Plant Management



3 Automation & Control



4 Electrical Distribution



5 Safety & Security



6 Services

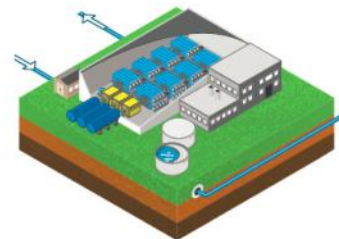
We reduce risk for our customers by providing safe, reliable, and efficient electrical distribution and automation solutions working with the top EPCs.

- 1. Plant Optimization:** Reduce TCO and energy consumption through pump asset monitoring and optimization solutions.
- 2. Plant Management:** Make better decisions through business intelligence software solutions to manage information, workforce, power, quality, and energy.
- 3. Automation and Control:** Tailored, tested, and validated Ethernet-based automation architectures and software libraries and fully integrated process and power devices improve reliability, efficiency, and productivity.

- 4. Electrical Distribution:** Safe and intelligent power solutions enable better control of LV/MV electrical distribution. Secure power solutions ensure reliable power supply to critical equipment.
- 5. Safety and Security:** Video security, access control, and cyber security solutions and services to ensure end-to-end asset protection.
- 6. Services:** Our services, from project management to field maintenance to energy procurement to strategic planning, extend the life cycle of assets.

Why Desalination Plant customers partner with Schneider Electric

Our dedicated global Water and Wastewater team's experience partnering with leading EPCs and consultants on some of the world's largest desalination plants allow us to provide integrated solutions and enable efficient project delivery for our partners and OPEX reduction for operators and utilities.



50% of the world's top desalination plants are powered or automated by Schneider Electric solutions

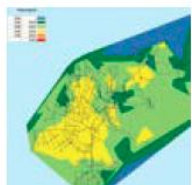
Life Is On

Schneider
Electric

Solutions for Water Networks



1 Smart Water Exclusive Solutions



2 Network Management



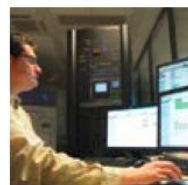
3 Plant Optimization



4 Automation & Telemetry



5 Electrical Distribution



6 Safety & Security



7 Services

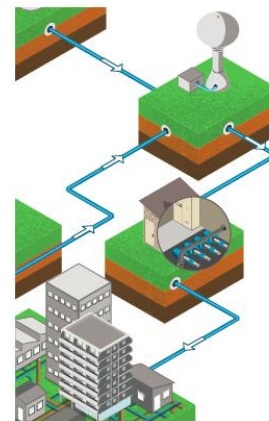
We develop strategies and implement Smart Water networks to improve the efficiency, longevity, and reliability of the network infrastructure and maximize ROI.

- 1. Smart Water Exclusive Solutions:** Improve control of the distribution network and enhance revenue through innovative, operator-friendly solutions for water loss management and online network optimization.
- 2. Network Management:** Improve the efficiency, longevity, and reliability of network infrastructure through collecting and enabling actionable data.
- 3. Pump Optimization:** Combining VFDs and remote monitoring technologies for pumping efficiency and energy savings within pump and booster stations.
- 4. Automation and Telemetry:** Our telemetry solutions enable efficient management of geographically dispersed remote operations and transform field data into business intelligence.

- 5. Electrical Distribution:** Safe and intelligent power solutions enable better control of electrical distribution within pump stations. Secure power solutions ensure reliable power supply to critical equipment.
- 6. Safety and Security:** Video security, access control, and cyber security solutions and services ensure end-to-end asset protection.
- 7. Services:** Our services, from field maintenance to energy management, extend the life cycle of assets.

Why Water Networks customers partner with Schneider Electric

With a dedicated Smart Water R&D center and as a founding member of SWAN (Smart Water Network Forum), our capabilities and expertise have resulted in customers experiencing up to 20% water leakage reduction and up to 25% increase in operational efficiency, with some customers experiencing up to 15% reduction in network operating costs.



Schneider Electric automates and manages water distribution in many of the world's largest cities, including London, Barcelona, Sydney, Rio de Janeiro, Shanghai, and Las Vegas.

Life Is On

Schneider
Electric

Solutions for Wastewater Networks



1 Network Management



2 Automation & Telemetry



3 Plant Optimization



4 Electrical Distribution



5 Safety & Security



6 Services

Our remote telemetry, intelligent power, and energy management solutions help our customers achieve improved efficiency within wastewater lift/pump stations and sewer collection systems.

1. Network Management: Smart Water solutions improve the efficiency within wastewater life/pump stations and sewer collection systems.

2. Automation and Telemetry: Our telemetry solutions enable efficient management of geographically dispersed remote operations and transform field data into business intelligence.

3. Pump Optimization Combining VFDs and remote monitoring technologies for pumping efficiency and energy savings within remote lift/pump stations.

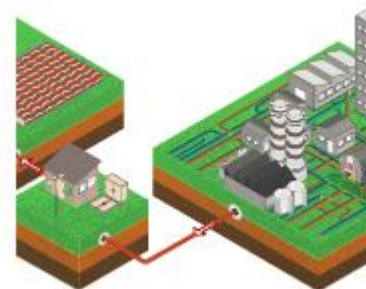
4. Electrical Distribution: Safe and intelligent power solutions enable better control of electrical distribution within pump stations. Secure power solutions ensure reliable power supply to critical equipment.

5. Safety and Security: Video security, access control, and cyber security solutions and services to ensure end-to-end asset protection.

6. Services: Our services, from field maintenance to weather information services to energy management, extend the life cycle of assets.

Why Wastewater Networks customers partner with Schneider Electric

We have global experience enabling process awareness through advanced monitoring and control solutions. The scalability and flexibility of our telemetry solutions enable compliance with local requirements for remote lift station locations, and energy-reducing solutions optimize wastewater pump/lift stations of various sizes.



Schneider Electric telemetry solutions enabled a 66% reduction in faults reported (eight months after going live) and 80% reduction in external support costs at Yarra Valley Water (Australia).

Lee County Utilities (U.S.) 600 lift station network reduced cellular communication costs by 70% through DNP3-enabled telemetry solutions.

Life Is On

Schneider
Electric

Solutions for Wastewater Treatment Plants



1 Smart Water Exclusive Solutions



2 Plant Optimization



3 Plant Management



4 Automation & Control



5 Electrical Distribution



6 Safety & Security



7 Services

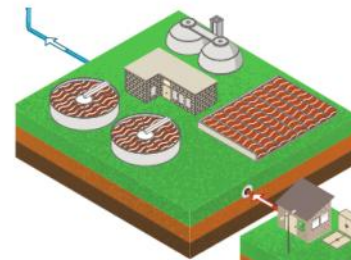
Our automation, power, and plant optimization solutions help customers reduce energy consumption/costs up to 30% and ensure regulatory compliance.

- 1. Smart Water Exclusive Solutions:** Integrated hardware, software, and services improve the efficiency, longevity, and reliability of infrastructure.
- 2. Plant Optimization:** Reduce TCO and energy consumption through pump asset monitoring and optimization solutions.
- 3. Plant Management:** Make better decisions through business intelligence software solutions to manage information, workforce, power, quality, and energy.
- 4. Automation and Control:** Tailored, tested, and validated ethernet-based automation architectures and software libraries and fully integrated process and power devices improve reliability, efficiency, and productivity.

- 5. Electrical Distribution:** Safe and intelligent power solutions enable better control of LV/MV electrical distribution. Secure power solutions ensure reliable power supply to critical equipment.
- 6. Safety and Security:** Video security, access control, and cyber security solutions and services ensure end-to-end asset protection.
- 7. Services:** Our services, from project management to field maintenance and modernization to energy management, extend the life cycle of assets.

Why Wastewater Treatment Plant customers partner with Schneider Electric

We are a contributor to the Water Environment Federation's (WEF) Net Zero Energy Roadmap and we have a comprehensive portfolio of electrical and automation equipment and software. We help develop strategies for managing increasing costs within energy-intensive processes.



Schneider Electric solutions help power, automate, and monitor some of the largest WWTPs in the world.

Life Is On

Schneider
Electric



Anglian Water, UK

Water Loss Solution detects leaks for system reliability and operational efficiency

Customer Challenge

- Maintain position as leading innovator in leakage control and water resource protection
- Detect leaks quicker and improve response times
- Reduce the cost of outsourced leak detection
- Regulatory compliance
- Reduce the cost of ownership

The Solution

- Water Management Suite
- Struxureware SCADA Expert ClearSCADA

Customer Benefits

- Improved decision-making
- Improved water loss management
- More efficient and effective operations

The Results : Life is On with...

500,000

connected telemetry data points

25 years of data to inform decision-making



Struxureware SCADA Expert ClearSCADA



Water Management Suite

“Telemetry is incredibly important to us. We’ve got a very large geographical area...and several thousands assets spread across that and we have to monitor them and to make sure they are working and working effectively”

Chris Boucher
Dir. of Information Services, Anglian Water

Life Is On

Schneider
Electric

Sydney Water, Australia

Increased operational efficiency, saves 1500MWh per month

Customer Challenge

- Design and implement complete, highly interoperable, smart system for electrical, automation and energy management
- Apply the desalination process control system and integrate components seamlessly

The Solution

- Plantstruxure™ Process control system designed and implemented, quickly and seamlessly by Schneider Electric Service experts
- 24-hour technical team to support the critical installation including SCADA/PLCs /VSDs/transformers and switchgear

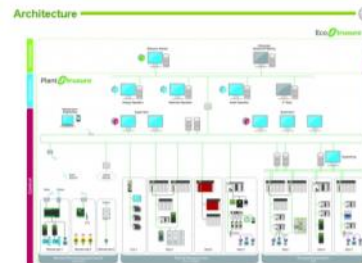
Customer Benefits

- 2010 GWI award for Public Water Agency of the Year

The Results : Life is On with...

1500 MWh energy savings

1.5 million people get their drinking water from Sydney Water



Bespoke process control system using Plantstruxure™



24-hour service expertise for critical installation of SCADA, PLC's, VSD's, transformers and switchgear

Life Is On

Schneider
Electric

Life Is On



Schneider
Electric