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# Smart Infrastructure And IoT Integration In The Global Water Industry

Source: [Aquana](#)

As the world addresses increasing concerns regarding water scarcity, climate change, and aging infrastructure, integrating smart infrastructure and IoT technologies in the water industry is becoming a more prevalent topic. Smart water management involves the use of advanced technologies such as sensors, data analytics, and remote-control systems to enhance water utility operations. These systems provide real-time data and insights, allowing for more efficient water usage, improved conservation, and better disaster preparedness.



## The Global Adoption of Smart Water Technology

Around the world, water utilities are increasingly adopting smart infrastructure and IoT solutions to tackle these challenges. For instance, regions like North America and Europe have seen significant investment in smart water management systems. Smart city data tracker, Kurrent, highlighted the growth of smart water tenders in Europe, the Middle East and Australia. In June 2024, approximately 23% of the 283 smart city tenders included smart water technologies. Notable projects include the deployment of smart water meters by Landis+Gyr in Auckland, New Zealand, and the partnership between SUEZ and Northumbrian Water Ltd. to develop the Hydro Powered Concentric Smart Meter Project. As world issues affecting the water sector continue to grow, utilities may need to embrace smart infrastructures and IoT solutions for continuous advancement.

## Water Conservation and Sustainability

One of the primary drivers for adopting smart water infrastructure is the need for water conservation and sustainability. Smart valves and meters can detect leaks and monitor water usage patterns, enabling utilities and property managers to reduce water waste significantly. Advanced pressure management systems and real-time data analytics help optimize water distribution networks, ensuring that water is used efficiently and sustainably. Some valves, like [Aquana's AquaFlex™](#) actuator serial valve, feature not only a fully closed position, but also multiple reduced flow positions that can be useful for regulating water distribution during seasons of intense drought.

## Disaster Preparedness and Resilience

Smart water systems play a crucial role in disaster preparedness and resilience. During natural disasters like floods or hurricanes, remote-controlled smart valves can quickly shut off water to prevent infrastructure damage and water contamination. Systems like [Aquana's AquaControl™](#) cloud platform and [AquaFlow™](#) smart valve, also allow for better coordination with emergency response teams by providing real-time data on water system status and potential vulnerabilities.

## Energy Efficiency and Cost Savings

Implementing IoT in water management can lead to significant energy savings and cost reductions. By optimizing pump operations and reducing energy consumption, utilities can lower their operating costs. Smart infrastructure also enables predictive maintenance, reducing the likelihood of costly breakdowns and extending the lifespan of water management equipment. The multi position [AquaFlow™](#), captures water consumption, and uses flow analysis to provide automated shutoff before considerable damage occurs.

## Aquana's Expansion

In line with these global trends, [Aquana](#) is expanding its footprint by introducing its smart water technology to new markets in the Middle East and the Caribbean. By leveraging IoT and smart infrastructure, Aquana aims to help these regions enhance their water management practices, improve sustainability, and increase resilience to environmental challenges.

## Looking Ahead

The integration of smart infrastructure and IoT in the water industry is poised to grow. As more [utilities](#) and [property managers](#) recognize the benefits of these technologies, the adoption rate will likely accelerate. Continuous advancements in sensor technology, data analytics, and cloud computing will further enhance the capabilities of smart water systems, driving innovation and efficiency in water management across the globe. Additionally, European Union funding programs such as Cohesion Fund, LIFE Programme and Horizon Europe seek to encourage smart technologies in water management and infrastructure projects.

For more information on smart water management and to explore Aquana's innovative solutions, visit our [website](#).

## References

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