

A framework for smart water operations

In the next AMP period, Ofwat expects water companies to “really stretch and challenge themselves to deliver more for their customers”.

Companies can combine smart operations data and smart metering with an understanding of customer impact or with customer analytics to improve service delivery to customers. At the same time, companies can encourage customers to be active participants in delivering the best services.

There is currently a proliferation of new sensors and monitoring devices. Some water companies are introducing smart metering. There is a blurring of the IT/OT boundary. The Internet of Things allows water companies to take advantage of these trends to improve business performance.

Working smarter will allow water companies to deliver improved services and increase resilience. It will also help reduce operating costs and keep bills affordable.

CGI'S SOLUTION

A smart water company makes informed decisions by unlocking the value in all of the available data sources. Combining multiple data sources, internal or external, provides a richer information set. Predictive analytics allows the company to understand what is about to happen before it happens, and respond in a timely manner. The proliferation of new sensors and smart meters brings more data still to add to the picture. IT/OT integration brings its own opportunities and challenges, not least of which from the cyber threat that lies in this interconnected world.

The CGI smart framework, combined with our system integration expertise, allows water companies such as yours to grasp these smart opportunities: to improve customer service; increase resilience, and reduce operating costs.

WHY CGI

Here is a list of common use cases that our solution can help you with:

- **Predictive maintenance** — “fix before fail”. This requires better analytics to understand asset health/condition, criticality and risk. It also needs an ability to monitor the leading indicators that point to imminent asset failures.
- **Leakage reduction** — use smart metering and information from other loggers to understand better where water is flowing round the network. Smart meters can identify customer-side leaks. Real-time analytics and event recognition to recognise anomaly flows and predict likely bursts.
- **Sewer flooding** — use sewer flow loggers, rainfall forecasts by area, EA flood forecasts and analytics based on sewer network models/ground saturation levels, etc. to predict sewer flooding.



WHY YOU SHOULD BE TAKING ACTION NOW

The water industry has a number of challenges all coming together at the moment. These highlight the need for a “smart” answer.

Climate and demographic changes are stretching our water resources, with some of our regions seeing signs of water stress. Conversely, we can expect more of the extreme weather events that have caused the severe flooding of recent years. The industry is supported by a portfolio of critical assets of differing ages and condition. These assets are often remote and underground which presents water companies with a monitoring and management challenge. The Water Act of 2014 adds a new duty to water companies to further the resilience objective for the industry.

This range of challenges demands a smart solution to ensure that operators can make informed decisions and increase resilience. Water customers have increasing expectations of the service they should receive from their water company. The bar is set by the service that they receive from other suppliers in other industries.

- **Customer service levels** — monitor network/asset performance and customer service levels such as interruptions to supply, water discoloration, taste complaints or poor pressure. Predictive analytics to identify potential service failures and situational awareness to identify the correct response.
- **Customer consumption** — provision of information to help customers to change their consumption behaviours and encourage water efficiency. This in turn will help them reduce their bills.
- **Energy reduction** — all water companies are major energy consumers. Optimisation of pumping assets and water production processes will help reduce energy, and hence carbon costs.

ABOUT CGI

Founded in 1976, CGI is a global IT and business process services provider, delivering business consulting, systems integration and outsourcing services. With 70,000 professionals operating in 400 offices in 40 countries, CGI fosters local accountability for client success while bringing global delivery capabilities to clients' front doors. CGI applies a disciplined and creative approach to achieve an industry-leading track record of on-time, on-budget projects and to help clients leverage current investments while adopting new technology and business strategies. As a result of this approach, our average client satisfaction score for the past ten years has measured consistently higher than nine out of ten.

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