Water Treatment Watch

CGI

Secure your remote Water Treatment infrastructure and reduce costs with Smart Asset Management from CGI

Water companies have a large number of remote and unattended sites, many unmonitored by traditional SCADA (supervisory control and data acquisition) systems. Without visibility of the operating state of these sites, teams can be dispatched to the site unnecessarily or when there is an incident without the necessary equipment. Both increase the operational costs and risks associated with an incident. CGI's Water Treatment Watch service provides a unique insight into the operation of such sites, eliminated wasted visits and alerting to events that need intervention.

BUSINESS AND MARKET CHALLENGES

Water Companies own and operate hundreds of Waste Water Treatment Works, many of which are not regularly attended by their operational teams. When an issue occurs, such as equipment breakdown, exceptional weather or unauthorised intrusion on a site, it may not be detected until an incident of accidental spill or odour has happened.

Traditional SCADA monitoring solutions can prove cost-prohibitive, especially at smaller and more remote sites. Operator visits to these sites are also costly, particularly if the visit results in no need for intervention. Conversely a missed event can be extremely costly, as it may result in a loss of service or a pollution incident and reputational damage.

Without accurate and up-to-date insight into the status of plant, asset owners cannot predict challenges or make timely repair or replace decisions.

CGI SOLUTION

CGI's Water Treatment Watch is a cost-effective means of monitoring remote and unattended sites. Machine Vision uses deep neural net AI technology to interpret images and video and machine learning to recognise expected activity and events on the edge.

Water Treatment Watch is highly scalable and can be deployed onto embedded Internet of Things (IoT) devices. Data is processed on the

Key Success Factors

- Cost effective, secure insight on operational processes and site assets.

- Machine learning ensures that changing patterns and unexpected events are managed proactively and effectively.

- Enables water companies to maintain a 24/7 'watch' on remote, unmanned plants.

edge with events sent to our SensorInsights360 IoT platform, which is easily integrated into existing operational solutions. Integrated with CGI's IoT platform, SensorInsights360, notifications and alerts can be actioned in real-time and other data ingested and combined. Water Treatment Watch provides digital 'eyes on the ground'.

Water Treatment Watch can also monitor distribution arm revolutions on a filter bed and identify where this deviates from acceptable tolerances. Imagery can provide insight as to the possible cause of the incident e.g. debris from tree.

BUSINESS BENEFITS

CGI has designed Water Treatment Watch as a cost-effective deployment in distributed locations, typically smaller sites, which may experience low communications bandwidth. The key advantages include:

- Solution can use existing video feeds where cameras are already installed at a site
- Uses a low cost micro-controller on the Edge device for low power, long life operation
- Provides interface for training of AI to recognise and identify issues
- Supports communications method of your choice
- In low bandwidth environments, carries out processing at the remote Edge, with modest data upload requirements
- Pre-integrated to CGI's SensorInsights360 IoT platform for dashboards, alerting and analytics

Water Treatment Watch allows water companies to maintain 24/7 monitoring of unmanned sites, identify potential root causes and take appropriate incident response decisions; a virtual, real-time presence at all remote sites.

The solution supports the realisation of environmental and pollution incident reduction targets. It allows water companies to reduce operational costs by quickly and accurately dispatching teams to incidents with the necessary information and resources.

CGI and Welsh Water have completed a successful pilot of this solution. This enhanced Welsh Water's existing sensor-based alerting systems to provide early identification of problems and to expedite resolution. This provided 'eyes on the ground' for Welsh Water's maintenance operators.

Real-time monitoring of remote sites, determine incident root-causes and respond appropriately

About CGI

Founded in 1976, CGI is among the largest IT and business consulting services firms in the world. We are insights-driven and outcomes-based to help accelerate returns on your investments. Across 21 industry sectors in 400 locations worldwide, our 77,000 consultants provide comprehensive, scalable and sustainable IT and business consulting services that are informed globally and delivered locally.

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