

SeSys and Southern Water Visual Assurance System

Mobotix technology used to improve water-sampling procedures at 100 sites for Major UK water utility as part of a multi-million pound programme to ensure quality drinking water

Problem

Southern Water supplies fresh, quality drinking water to households across Sussex, Kent, Hampshire and the Isle of Wight. The company inspects the quality of its drinking water every week at locations across its regions via a manual sampling process that includes a critical sequence of actions to ensure that the sample reaches the highest standards.

This process is actually outsourced to a third party company and takes place at hundreds of sites across the region. If a water sample is found to be below legal requirements, a retest has to be arranged and if that second sample is deemed below acceptable standards, Southern Water is required by law to inform the Drinking Water Quality Inspectorate and take immediate action to remediate the situation. The testing procedure needs to be exact in its methodology to avoid a “false positive” which could cause expensive retesting or potential disruption to the water supply due to a small testing error.

Solution

To ensure that the samples are properly carried out and verifiable, Southern Water began a project to install a high resolution Digital CCTV system which alerts its main control centre and records the entire sampling process. This footage is available in real-time and also archived for a minimum time period, in line with Data Protection requirements. Many of the water sampling locations are relatively isolated and are often within hostile climates where excessive heat, extreme cold and moisture are present. So a key criterion for any CCTV installation was a high IP rating and low maintenance requirement.

Also, many of the testing sites have minimal power and communication infrastructure and are unattended for most of the time which requires a CCTV system to be very efficient in sending back images with the ability to still record if communication infrastructure is unavailable.

In late 2009, Southern Water created a framework based tender to find a solution, which met these exacting requirements and a partner with expertise within the utilities sector. Following several demonstrations, Southern Water selected a solution from SeSys, which included a Mobotix camera. SeSys are a specialist in digital IP and networked video who has worked with major utility providers including Yorkshire Water, Northern Ireland Water and Scottish Water for several years. The firm is well known within the industry for innovative, bespoke projects- especially within challenging outdoor, subterranean and haz-chem environments.

Most sites use Mobotix's Q24 hemispheric camera to provide a 360° all-round view able to capture an entire sample collection area and locally store the video footage. Each Mobotix camera is also connected by either ADSL or MPLS to allow the Southern Water Control Centre to view each sample collection process and to archive video footage if required. SeSys then implemented an innovative method of using the Mobotix event based recording when the camera at each site detected a change in light, for example when a light switch was turned on or a door was opened. This trigger also sends an alert to the Southern Water control room to notify a test is taking place and to allow external staff to monitor the test procedure.

Benefits

The "Visual Assurance System" created by SeSys has proven extreme reliability with good Mobotix image quality while the Mobotix built-in record-to-flash capability allows Southern Water to deploy only a minimal amount of equipment on each site. The system goes beyond the Drinking Water Quality Inspectorate (DWI) guidelines and is part of an ongoing commitment by Southern Water to ensure safe and clean water supply to over 1 million households across southern England.

The project with Southern Water has proven itself as both a safety asset and cost saver. With visual verification, Southern Water can confirm when and how the sample collection was conducted, providing a valuable audit record and the opportunity to reinforce good practice and training. The installed Mobotix cameras have proven extremely reliable and have had no failures at over 100 sites they have been installed at for Southern Water.

SeSys are in discussion with several other water utility companies across the UK to deliver similar solutions as the return on investment for the system is relatively short if you take into account the cost of re-tests and the operational impact of 'false negatives', which trigger a significant amount of work due to the stringent DWI requirements. The innovative use of CCTV is helping to stop a small issue turning into a major problem.

Contact Halcyon Day for further information.

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