CASE STUDY

Implementation of AutoSave Change Management at The Water Corporation (Australia)

In implementing the AutoSave Change Management Solution, The Water Corporation of Australia leads the Water Industry in controlling risk of customer service disruption and reducing safety risks to employees associated with unmanaged control system changes.

The Background

As the principal supplier of water, wastewater and drainage services throughout the state of Western Australia, the Water Corporation continually seeks innovative methods to ensure uninterrupted water service, no matter where the customer is located. With service to 300 cities and towns and the operation of 105 wastewater treatment plants, this poses a significant challenge. In order to ensure consistent process optimization and efficiency, Water Corporation uses over 16,000 programmable devices to configure the processes related to collecting, treating and distributing water. These assets undergo continual development due to growth, climate change and community expectation resulting in frequent adjustment to software programs to ensure continuous operations. Significantly improving the management of control system software changes became an executive priority within Water Corporation in order to reduce risk to customer services and increase staff safety.

The Challenge
Tracking program changes in an environment with over 750 makes and models from 180 different manufacturers, programmed by 150 different software packages and versions, with 24 district teams and over 150 field staff.

The Solution
The Water Corporation and MDT Software collaborated to create a change management solution to provide effective change control not only in large plants but also in highly dispersed field sites.

The Result
The Water Corporations' field staff, some of them located thousands of kilometers away from Perth metro, now have a fully supported, standardized change management application across all intelligent assets with access to a centralized repository for thousands of device configurations in more than 3,000 sites.

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Challenge

The programmable devices in use by Water Corporation span multiple generations of control system technology, with some up to 30 years old. Water Corporation has over 750 makes and models of hardware from 180 different manufacturers, programmed by 150 different software packages and versions, with 24 district teams and over 150 field staff. The challenge of tracking each programming change is truly immense. Good control system practice requires that each time an adjustment is made to one of these programs a new program version should be created and kept on file. An existing system was in place at Water Corporation, called Process Control Web, though it was old and lacked the ability manage field software deployment.

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Solution

A Change Management System (CMS) provides a common central repository of all program changes so when Water Corporation replaces or adds hardware, the correct software program is available to be easily and quickly downloaded into the device. Water Corporation also modifies site/scheme control regularly to optimize the process and needs reliable access to current program versions.

Once Water Corporation decided on implementing a CMS, they formed a multidisciplinary team including engineers, IT specialists and end users. Their challenge was to select a CMS that would effectively control program versions not only in their large plants but also in their highly dispersed field sites.

Water Corporation selected the AutoSave Change Management Solution because of the capabilities of the core product and the willingness of MDT to engage in a collaborative effort to add some required enhancements. AutoSave already provided the version control, archival backups, change detection, historical tracking, secured user access and automatic change notification required for the treatment plants, but enhancements were required to provide better change control of the non-networked automation assets in Water Corporation's numerous small sites in remote locations.

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Water Corporation, having a very thorough understanding of the constraints when working remotely, collaborated with MDT to develop and test innovative technical and operational enhancements to AutoSave to make it suitable for the specialized operational demands in the field. The resulting product, AutoSave v6, includes a new client interface extending AutoSave's protection to non-networked devices by enabling users to make changes to programs in the field, then analyze and sync all changes to the server upon returning to the office.

Other benefits include:

- Track changes in non-networked devices in treatment plants

- Enable System Integrators and off-site development teams to work on programs without providing direct access to the device

- View a history of changes performed on each device

- Compare the program running in the device to the program on the engineer's laptop

- Copy programs to create new programs in the field.

AutoSave's simple steps for managing changes in the field

In only three steps, users can ensure that program changes are tracked, saved and protected.

1. *Identify the programs to be managed.* In the office, the Field Technician identifies programs of interest and AutoSave downloads copies to the engineer's laptop using the AutoSave Program Manager tool.

2. *Make changes.* Use the AutoSave Client for Non-Networked Devices to make changes to the program.

3. **Synchronize changes.** Compare local files with server and send/receive updates.

Situation after Implementation of Solution

Water Corporation's General Manager Planning and Capability, Ashley Vincent, said that in implementing the AutoSave Change Management Solution, Water Corporation leads the water industry in controlling risk of customer service disruption and reducing safety risks to employees associated with unmanaged control system changes.

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"With the implementation of AutoSave, Water Corporations' field staff, some of them located thousands of kilometers away from Perth metro in Western Australia, now have a fully supported, standardized change management application across all intelligent assets with access to a centralized repository for thousands of device configurations in more than 3,000 sites," he said

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Other benefits realized:

- Every technician has the same Standardized Operating Environment (SOE): software is deployed to all users, version control is enforced, and no local administration accounts are required.

- Better inventory database due to AutoSave structure

- All configuration changes can now be initiated from AutoSave with a single master database accessible from anywhere

- Improved inventory of control system devices: better asset management and maintenance planning.

- Excellent workforce acceptance

Applicability to Other Industries

The successful enhancements made during the multi-year collaborative effort between the two companies have now been folded into the core product to improve ongoing support and are now available to all organizations that have similar needs.