COPIA

CASE STUDY

Large Canadian Water Authority Uses **Copia Automation** to Centralize OT Code Governance Across a Multi-Site Water Network

Overview

A large Canadian water authority, based outside one of the country's major metropolitan areas, delivers water and wastewater services to roughly half a million residents. Its network spans approximately 100 wells, 15 wastewater treatment plants, and 7 pumping stations. The operation runs continuously, and unplanned downtime carries direct consequences for public infrastructure and service reliability. Managing automation code across that footprint, with multiple engineering teams and a mix of internal technicians and external consultants, had historically depended on manual processes and Versiondog, a third-party version control platform, that could no longer meet the authority's needs.

When Versiondog failed to support a new generation of PLC firmware the authority was actively deploying, the newly formed OT team evaluated alternatives. They selected Copia's Source Control and DeviceLink™ to establish a centralized, standardized foundation for OT code governance across its water operations, with wastewater services planned for a subsequent phase.

The Challenge: A Platform That Couldn't Keep Pace

The water authority had relied on Versiondog to manage PLC programs and related project files across its network. When the authority began deploying PLCs running a firmware version no longer supported, the gap between its operational needs and its tooling became impossible to bridge.

Rather than adopt Versiondog's replacement product, which attempted to consolidate multiple functions into a single platform and, in the OT team's assessment, executed none of them well, the authority evaluated alternatives.

The authority had recently merged water and wastewater operations under a unified OT function, which meant the solution they selected would need to serve both environments and scale accordingly. The risks the OT team needed to address were straightforward, but consequential:

- **No centralized version control.** PLC programs and associated project files were managed locally and inconsistently, with no single repository tracking changes across sites.
- **Manual backup dependency.** Keeping code current required OT team members to perform exports manually, introducing gaps and uncertainty about whether the most recent version of any given program was actually preserved.

Through its evaluation, Copia stood out for its OT-specific focus and its ability to serve as a single source of truth across both water and wastewater environments.

The Solution: Centralized Backup and Version Control Built for OT

The authority implemented Copia's DeviceLink™ and Source Control across its water network, with approximately 200 devices provisioned for automated backup. The deployment mirrored the folder structure and naming conventions the OT team had established in its previous platform, grouped by service area. Repositories were structured to reflect how the OT team actually works: each site's documentation, drawings, and PLC code stored together in a single location.

Automated Device Backups with DeviceLink™

A central driver of the authority's move to Copia was eliminating the manual backup process entirely. DeviceLink automates the extraction of code snapshots directly from PLCs on a defined schedule, without requiring a team member to initiate the process or be present at a site.

For the authority's environment, this means weekly automated backups running across all connected sites without manual intervention. Because Copia manages storage in the cloud, the OT team is no longer constrained to keeping only a fixed number of versions, as they had been previously. The full commit history is preserved, giving the OT team access to any prior state of a program without the need to manage storage manually.

DeviceLink's change detection adds a further layer of governance. When a backup runs and finds that a device's code differs from what is in the repository, the system flags it immediately as modified and notifies the responsible engineer. This gives the OT team visibility into untracked changes anywhere across the network without requiring active monitoring.

Git-Based Source Control and Change Traceability

The authority's engineering workflows involve both internal technicians and external consultants, each of whom may make changes to automation code at different points in a project's lifecycle. Copia's Source Control provides a structured record of every change: who made it, when, and exactly what was modified. Visual diffs allow the OT team and engineers to review changes at the logic level, comparing versions of a program without digging through raw code.

Role-based access controls extend that governance to external collaborators. Consultants and contractors working with the authority can be granted targeted access to specific repositories without exposure to the broader network, and access can be removed immediately when a project engagement ends. The OT team can also segment access by operational area, ensuring that water and wastewater engineering staff see only the repositories relevant to their work.

> ***"Managing automation code across a network of this size is a real governance challenge. Copia gives us the traceability and backup reliability we need to stay on top of it."***
>
> —SCADA Specialist at water authority

Results: A Governance Foundation for a Multi-Site Public Utility

The authority's move to Copia addresses a set of risks that had accumulated over years of decentralized, manual code management across a geographically distributed network. The centralized platform gives the unified OT team a consistent operational foundation for both water and wastewater environments.

- **Faster, more reliable recovery.** When a device failure occurs, engineers can restore to a verified restore point without manually searching for the right file version. Recovery time drops from a multi-hour process to minutes.

- **Traceability across a consultant-heavy workflow.** Source Control gives the OT team a complete, searchable change history across all connected sites, including visibility into modifications made by external contractors, with access controls that limit what those contractors can see and modify.

- **Immediate visibility into untracked changes.** DeviceLink's change detection flags any modification made directly to a device that has not been formally committed to the repository, giving the team a real-time signal when code on a live device diverges from the source code.

What's Next: Scaling Governance Across the Full Network

For a water authority serving roughly half a million people across a metropolitan service area, with 100 wells, 15 wastewater treatment plants, and 7 pumping stations, the risks associated with fragmented code management are not theoretical. A missing backup, an untracked change, or a failed recovery at the wrong moment translates directly into extended downtime and operational disruption for critical public infrastructure.

Copia gives the authority the version control, automated backup, and change traceability capabilities its environment requires, built around OT workflows rather than adapted from IT tooling. As the authority continues to expand its deployment and integrate wastewater operations, Copia provides the centralized foundation to scale governance consistently across the full network.

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Ready to level up your OT resiliency and code governance?

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