

# DIGITISING UNITYWATER'S PERMIT-TO-WORK SYSTEM

Case Study –  
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Unitywater

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# Digitising Unitywater's Permit-to-Work System

This case study presents a summary of Unitywater's experience in digitising its Permit-to-Work system using the Go2Asset platform.

In the past two years, Unitywater has completed more than 4500 permits using the Go2Asset platform. This has resulted in Unitywater having much greater control and real-time visibility over our networks. It has also saved considerable administration hours by eliminating Excel and paper-based processes and has led to significant productivity, financial and efficiency gains.

## About Unitywater

Unitywater is the Northern SEQ Distributor-Retailer Authority formed under the South-East Queensland Water (Distribution and Retail Restructuring) Act 2009. Unitywater provides water supply and sewage treatment services to the Moreton Bay Regional Council, Sunshine Coast Council and the Noosa Shire Council local government areas.

Unitywater operates and maintains sewerage and water supply assets to service more than 755,000 customers across an area of 5223 square kilometres. These assets include 6012 kms of water mains, 5789 kms of sewerage mains, 104 water reservoirs, 784 sewage pump stations and 17 treatment plants.

Unitywater operates and maintains \$3.4 billion of essential services infrastructure in one of the fastest-growing regions of Australia. Unitywater has a responsibility to its growing communities to innovate and continuously improve in order to meet and exceed service expectations and drive operational excellence. Leveraging new and emerging technology is key in achieving this.

## The Challenge: Replace a paper-based permit system with a digital solution

Permits-to-Work are required by utilities to assess jobs and their predicted impacts on the operation of a water and/or sewerage network. This allows utilities to coordinate work, ensure safety and minimise those impacts. Permits-to-Work allow utilities to ensure that the person working on its assets has the required training and qualifications. They also notify utilities of when they will be working on the infrastructure, and what the impact on the network will be, in order to take the appropriate actions.

Unitywater faced many challenges in the manual way it previously managed permits-to-work across its water and sewer networks. The permit-to-work system was paper-based, with individuals storing information on their desk or in inaccessible spreadsheets. The planning process was overly complicated and without visual representation. In some instances, permits by third-party contractors were not up to the same standard as others. These issues resulted in a permit-to-work system that was inconstant, inefficient and a major cause of ineffective communication between Business Units and third-party contractors.

Unitywater's Network Operations team needed the capability to view what was happening in real time within the network and to be able to provide detailed analytics to teams across Business Units to increase productivity and to streamline operations.

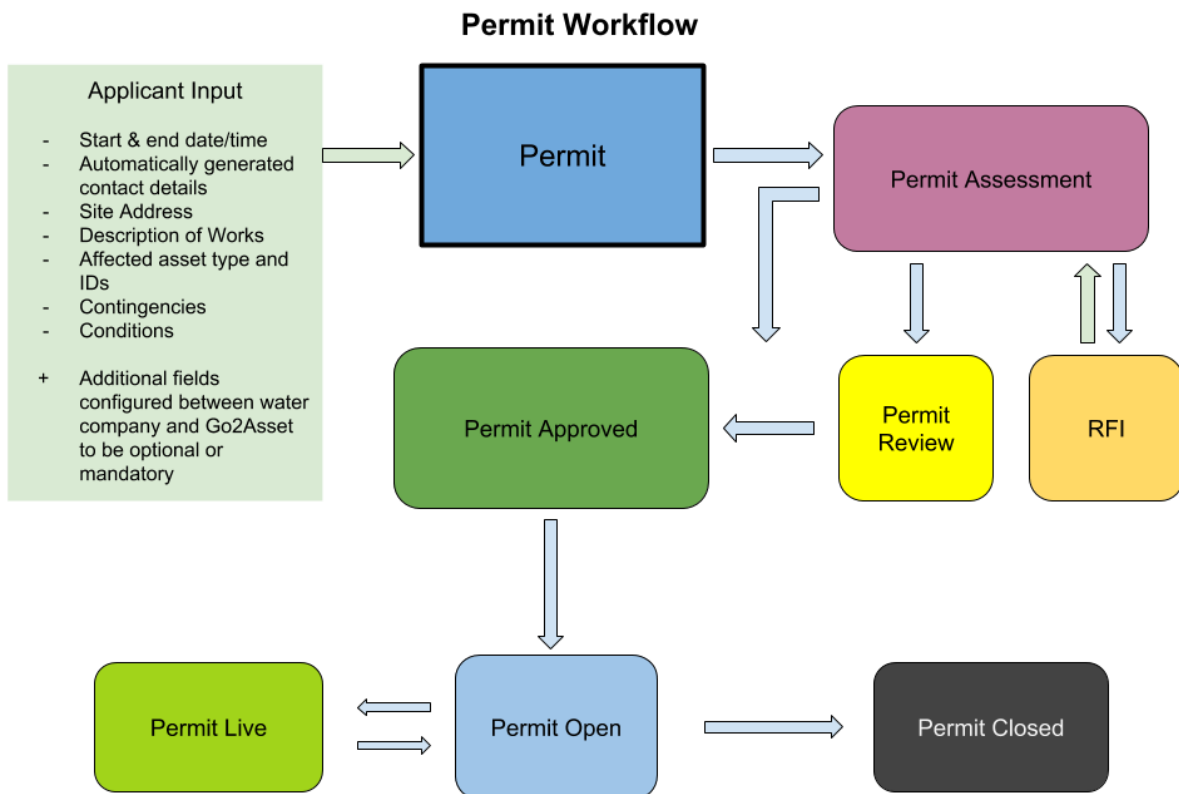
In 2017, Unitywater decided to improve permit management across its \$3.4 billion worth of assets with the goal of making the management of permit-to-work applications visible in real time and on any device.

## The Solution: Go2Asset Permit-to-Work platform

Unitywater needed a Permit-to-Work system that was reliable, secure and managed the entire Permit-to-Work process from application to completion. The system was required to be auditable to enable work to be reviewed. External contractors needed to be able to enter and manage their own permits and project managers needed to be able to easily see Business Unit workload and key tasks.

Unitywater engaged Go2Asset, which has more than 12 years' experience developing software for the utility industry. More than 15% of Unitywater's contractors were already familiar with the Go2Asset platform from experience with neighbouring water utility providers.

Go2Asset was selected for its ability to manage all stages of permit management for Government, utility providers and corporations managing large infrastructure, requiring frequent access by staff and approved contractors.



**Figure 1:** Go2Asset standard workflow.

Unitywater and Go2Asset's teams collaborated to configure the Go2Asset Permit-to-Work platform to meet Unitywater's specific operational processes and requirements. Unitywater

needed to increase the effectiveness and efficiency of the paper-based system by reducing/eliminating the need to perform manual tasks such as making phone calls, printing, scanning, emailing and issuing calendar invites.

Unitywater and Go2Asset also worked to integrate its Enterprise Service Bus (ESB) system to enable data to flow freely and securely from Go2Asset into other approved enterprise software.

The Go2Asset Permit-to-Work platform allows cross-organisational visibility into Unitywater's operational workload within internal Business Units in real time, creating a single source of truth for the entire organisation.

Go2Asset allows each Business Unit to rapidly and accurately assess their own schedule, workload and then identify key tasks whilst maintaining visibility across the network. The platform also includes a document management system, robust reporting and an extractable analytics component allowing senior management to track, monitor and report the progress of each Business Unit's workload and operational requirements in real time.

## The Outcome: Results

Unitywater has achieved a unified, fit-for-purpose platform for its Permit-to-Work process by using Go2Asset, allowing employees to approve and manage water and sewer access permits 24 hours a day, 365 days a year from any location, on any device with confidence and security.

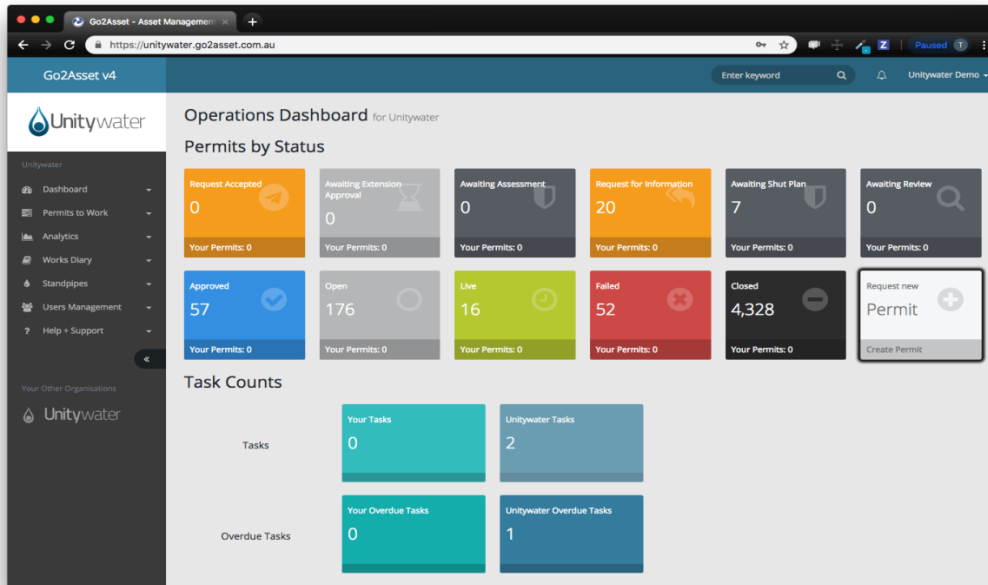
Unitywater has realised a dramatic improvement to its network operations due to real-time network visibility, reporting and analytical tools, and from having a single source of truth that the Network Operations team can rely on.

Previously, Unitywater staff were responsible for ensuring that contractor permits were correctly completed and managed. The onus is now on the permit holder (or contractor) to ensure that the permit is submitted correctly and that the right approval and type of permit is sought.

The reduction in phone traffic and administration hours from using the previous system has meant that one full-time planning position has been reallocated internally. Team leaders are now able to focus on managing process, conflicts, continuous improvement and other projects rather than managing a paper-based system for processing permits.

Smaller projects that previously were not practical to be included in the permit process, can now quickly and easily be applied for due to the productivity gains realised through the adoption of this digital platform.





**Figure 2:** Example of Unitywater Operations Dashboard.

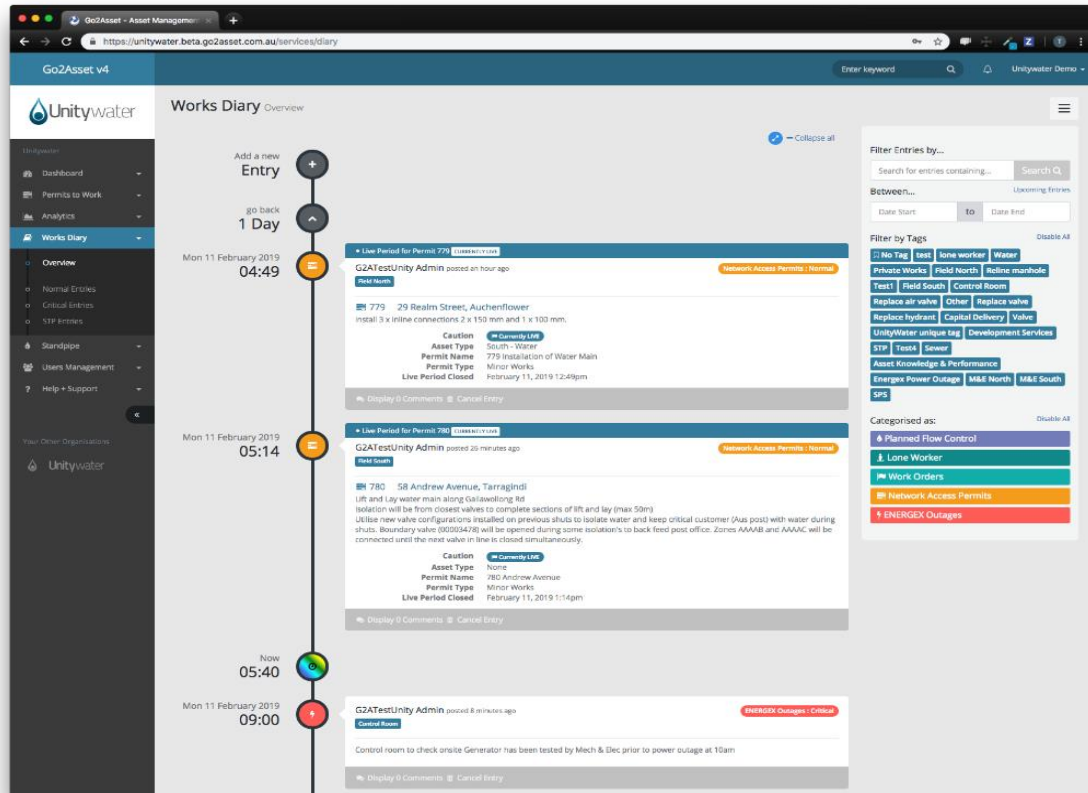
Large project programs with high permit processing workloads can now be easily managed in advance reducing delays with permits and lost communication / information, such as valve and hydrant replacement programs, and mains cleaning programs.

Visual mapping of real time permit work scopes can also be seen in a single-page view. – the benefit of this is being able to quickly identify issues caused by planned works i.e. pressure, water quality, internal surcharges.

Permit open times have reduced from 30 days to only the work hours required to complete the job. This maintains robust control of network through improved network visibility.

In two years, Unitywater has seen more than 4500 permits completed with much higher quality of data including real-time analytics and reports. The permit success rate has increased from 75% to 96.8% due to improved permit quality by applicants and operational staff having more time to properly review and plan works.

All active work on Unitywater assets is recorded in the Works Diary. Unitywater uses this feature to gain a snapshot of the immediate priorities of the Control Room and additionally logs Energex outages and other critical events that impact Unitywater systems.



**Figure 3:** Example of a works diary.

Please note: The above image is from a test environment and is for illustrative purposes only.

Unitywater now has a visual representation of future works, which permits need to be prioritised and which permits need the attention of management.

We can now appropriately schedule crews without delay, reduce downtime, avoid conflicting work, and see in real-time which permits are currently being worked on and where, and what future work is planned.

The reduced processing time has also resulted in increased accuracy as permits are now actioned in real-time reducing lost communications.

The implementation of the Go2Asset platform now means that Unitywater can process more permits with accurate information, utilising fewer resources.

Unitywater now classifies the Go2Asset platform as a critical infrastructure system.

## Usage Statistics

Joined Go2Asset: 2017  
Employees: 600

- 4500+ Permits
- 25,000 Permit Views per month
- 5500 Live Periods
- 2250 Tasks

## Unitywater Savings

The Go2Asset implementation has proven to be cost-effective, saving an estimated \$500,000 per year through online permit productivity gains and less administration time. Eliminating downtime of scheduled crews will further enhance the savings over time.

## Implementation

The implementation was managed with full support of the Go2Asset implementation team, Unitywater's Network Operations and Information Technology staff. Activities included:

- Developing work instructions
- One-hour training sessions
- Developing super users (change champions, team leaders, project managers)
- Targeting high volume permit users
- Seeking input from high volume users
- Soft changes throughout the process, using manual changes prior to implementing into digital system

## Next Steps:

In keeping with Unitywater's drive for operational excellence, Unitywater will focus on continuous improvement by:

- Maintaining reduced permit processing times
- Improving permit success rate
- Reducing unactioned permits (ensure all permits have a live period)
- Quality assurance

Further to this, Unitywater will also focus on:

- Conflicting work scopes
- Extending the platform across Business Units
- Implementing Go2AssetTP in Sewage Treatment Plants and Go2AssetSP for Standpipe management.

## Further Information

For more information about Unitywater's implementation of Go2Asset, please contact:

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