



# Operational efficiencies flow fast for NT water

Power and Water Corporation

Find out how the Northern Territory's largest water provider delivered efficiency gains of 70 per cent in an industry-leading meter audit.

## Project overview ⊕

With Power and Water Corporation's bottom line affected by a network of aging water meters, the utility embarked on a Water Meter Replacement Program.

An advanced location-based analytics solution was used to increase efficiencies during the project, by streamlining how information was being captured and communicated.

With the solution deployed on iPads, staff and contractors were able to efficiently collect and update information in the field and upload it to an operations centre in near real-time. The data was fed and displayed onto an operations dashboard for management to understand the project's ongoing status.

Resulting increases in data reliability and accuracy, as well as the arrival of data in near real-time, saw duplication of efforts reduced and efficiency gains amplified.

Ultimately, the rate at which meters could be replaced was increased by up to 70 per cent – a compelling result from a solution which took just two weeks to deploy.



## Power and Water Corporation in focus:

Power and Water Corporation is a Northern Territory Government-owned corporation and the Territory's premier provider of electricity distribution and water and sewerage services.

The corporation is responsible for providing water, sewerage and electricity services, across an area of more than 1.3 million square kilometres.

The corporation's network is located in a tough environment with extremes in weather and climate, and faces ongoing challenges to get services 'on the ground' where they are required to meet current and future demands.

As a government-owned corporation, Power and Water is mandated to operate at least as efficiently as any comparable business and to maximise the sustainable return to the territory on its investment in the corporation.

“ We're seeing significant efficiency gains because the technology speeds up practically every step of the project, from providing the fastest route to the meter to being able to review the work remotely just minutes after it's finished. ”

Alex Godfrey, GIS Officer, Power and Water





## ► The challenge:

Each day Power and Water Corporation's aging network of meters remained untouched, revenue was flowing away from the business. In one case, an older meter that was recording \$10 usage per day, when replaced, began recording around \$85 per day. Other meters had failed completely and recorded nil usage when water was being used.

To address this, the Water Meter Replacement Program was undertaken to check and replace commercial client meters.

The project required contractors to attend meters in the field and gather information about their condition. If meters required replacement, data about the new meter was also recorded. The data was then collated at a central base, where the project manager used it to coordinate the rollout and identify any data gaps.

In the past, the data collection was undertaken using an inefficient and time-consuming manual process using printed spreadsheets, filled in by hand onsite and carried back to a central office, where the information collected was typed into a central database.

This workflow often resulted in the double-handling of information, the need for return visits, up to month-long delays in data being returned and entered into the system, loss of data and the mismatching of data to assets. These factors led to significant delays in replacing aging meters, which in turn increased costs to the utility.

Power and Water Corporation understood the need to reinvent their data collection processes, but wanted to successfully undertake a trial Geographic Information System (GIS) technology solution and build a business case for a full-scale location-based analytics implementation.

## The solution:

Power and Water Corporation implemented an advanced location-based analytics solution for the project which enabled them to collect, disseminate and analyse the replacement program's data.

This commercial-off-the-shelf (COTS) solution sped up every stage of the project, from providing the fastest route to the meter, to facilitating reviews of the work remotely just minutes after it was completed.

iPads were installed with a user-friendly application that enabled staff and contractors to capture date and location-stamped images of the work as it was undertaken, as well as link comments about infrastructure, access and other vital observations, including customer feedback about the process.

Prior to commencement of the works, records of existing meters were populated into the system so details such as the location of the meter were checked onsite and any discrepancies immediately identified and corrected.

The data was then uploaded in near real-time to the operations centre for office-based teams to work with it immediately. In particular, the project manager – who viewed the entire project's progress via a map-based dashboard – was able to identify any issues and act immediately, rather than having to wait for paper documents to be manually returned and entered into the system.

Should there be any future incidents with the meters, asset data can now be instantly accessed, enabling many issues to be resolved from the office instead of sending another contractor to the site.

## The innovations:

### Rapid ROI

The deployment of the solution took just two weeks – and its rapid adoption across the enterprise meant Power and Water Corporation saw a return on investment immediately. This was particularly evident in the replacement of assets that saw revenue per meter jump from \$10 to \$85 per day.

### Automated reporting

The solution provides all stakeholders across the organisation with quick and easy access to quality data and a real-time view of operations.

### Seamless, secure access for contractors

Contractors were given secure access to the app and are able to log updates to the central system in near-real-time. Security parameters were set giving Power and Water Corporation the confidence to allow contractors to access and use their app out in the field.

“GIS technologies enable utilities to collect, disseminate and analyse their data to ensure they are operating in the most efficient way possible.”

Mark Billing, Business Manager, Esri Australia

## The outcomes:

- + **Efficiency gains of up to 70 per cent.** Broad gains were experienced across the workflow that enabled the project to be completed much more quickly than expected. In some cases, the three months it formerly took to log data was reduced to mere minutes. Additionally, while 20–30 meters were projected to be replaced each day, in practice there was an average daily replacement of 40–50.
- + **Strengthened data integrity.** As a single-point-of-truth, the solution strengthened Power and Water Corporation's data integrity by providing a streamlined data collection process that removed the risk of misallocated data, data loss and duplicated data.
- + **Easy information access.** The system's user-friendly interface allowed the project manager and staff to make confident and timely decisions about the rollout, instantly visualise data gaps and rapidly access and analyse information pertaining to physical infrastructure and environmental assets by simply clicking their location on a map.
- + **Expansion across the business.** The success of the trial has meant that the technology will now be expanded for a new and much larger project. Based on the results and the ROI generated, the executive management team has approved the expansion of location-based analytics to the existing Retail Management System. It is also being considered for use in the strategic analysis of expansion and asset management plans in the future.

### Solution mix:

- + Collector for ArcGIS
- + Operations Dashboard for ArcGIS
- + ArcGIS Online
- + ArcGIS Desktop



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