

A Data-Focused Approach to a Water Utility's In-house Survey Program

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SUMMARY

Water utilities face ongoing fiscal challenges due to ageing infrastructure, rising costs, and the need to respond to climate change. TasWater provides water and wastewater services across the state of Tasmania, Australia. The TasWater Survey Program was designed with consideration for data democratisation and discoverability concepts and uses a data-focused paradigm to increase financial sustainability and efficiency.

The TasWater surveying system combines reality capture, conventional surveying, field-to-finish workflows, and 3D printed tools and accessories to efficiently survey complicated water and wastewater assets. Integration of the reality capture and conventional surveying data, combined with a field-to-finish system is used to generate CAD deliverables, including 3D modelled underground services. The CAD deliverables contain data structures and attributes to enable translation into GIS native formats.

A library of reality capture survey data is made available company wide, allowing users to virtually visit sites across Tasmania and inspect assets, take measurements, and collaborate on projects. This library of accessible data saves on travel costs, as well as reducing requests of the Survey Program. Efficiency is increased further by operating with a data-focused paradigm. Requested survey projects are still undertaken, but surveyors also identify other assets with inadequate spatial data in the vicinity and survey those as well, reducing future travel costs for both the surveyors and all other users of that data.

This approach has been very effective, with many examples identified where the opportunistic surveying of assets has removed the need for site visits, improved project scoping, or enabled projects to move to design more rapidly by using the existing survey data. The development of a

library of reality capture data, currently containing over 550 sites, also places TasWater in a good position to take advantage of future technology, such as the use of LiDAR in mobile devices, as such data can be georeferenced against the existing reality capture data.

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