PUB's Anomaly Leak Finder — Singapore's AI Digital-Twin System for Underground Water-Pipe Leak Detection

AI in the Public Sector · Good practice · Singapore

Quality score: 73/100

Evidence strength: Strong

Summary

PUB's Anomaly Leak Finder uses AI, machine learning and a daily-recalibrated hydraulic digital twin to detect and localise hidden pipe leaks across four major water networks. Live since January 2024, it has confirmed two leaks, each localised to under 1km.

Key dimensions

Dimension	Score
Evidence of impact / measured public value	2/3
Transparency, fairness & accountability	2/3
Transferability / demonstrated replication	2/3
Scalability beyond pilot	3/3
Governance, capability & sustainability	2/3

Evaluated by C-NAPSE

Data sources

C-NAPSE web research — accessed 2026-08-13

PUB, Singapore's National Water Agency — accessed 2026-08-13

PUB press release: Keeping Singapore's potable water pipe network in good order — accessed 2026-08-13

Bentley Systems: High Fidelity Digital Twin-enabled Anomaly Detection in Singapore — accessed 2026-08-13

H2O Global News: Singapore enhances transmission main leak detection — accessed 2026-08-13

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