

PUB's Digital Twin and Smart Sensors — Singapore Cuts Water-Pipe Leaks to 5 per 100 km a Year

AI in the Public Sector · Good practice · Singapore

Quality score: 67/100

Evidence strength: Moderate

Summary

Singapore's water agency PUB paired acoustic leak sensors with digital-twin and machine-learning analytics, scaling from a 2017 pilot on 70 km of mains toward 500 km, and now reports about 5 pipe leaks per 100 km a year, among the lowest rates worldwide.

Key dimensions

Dimension	Score
Evidence of impact / measured public value	2/3
Transparency, fairness & accountability	1/3
Transferability / demonstrated replication	3/3
Scalability beyond pilot	2/3
Governance, capability & sustainability	2/3

Evaluated by C-NAPSE

Data sources

C-NAPSE web research — accessed 2026-09-04

PUB, Singapore's National Water Agency — accessed 2026-09-04

Smart Water Magazine: PUB adopts smart tools to detect and pre-empt pipe leaks — accessed 2026-09-04

Echologics case study: City-wide leak detection deployment in Singapore — accessed 2026-09-04

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