



## High Fidelity Ground Truthing of Smart Sensor Signals

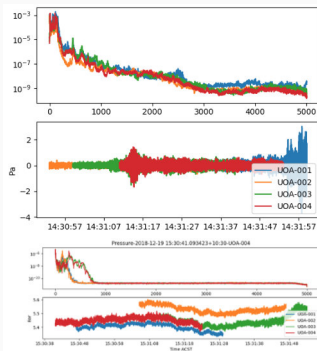
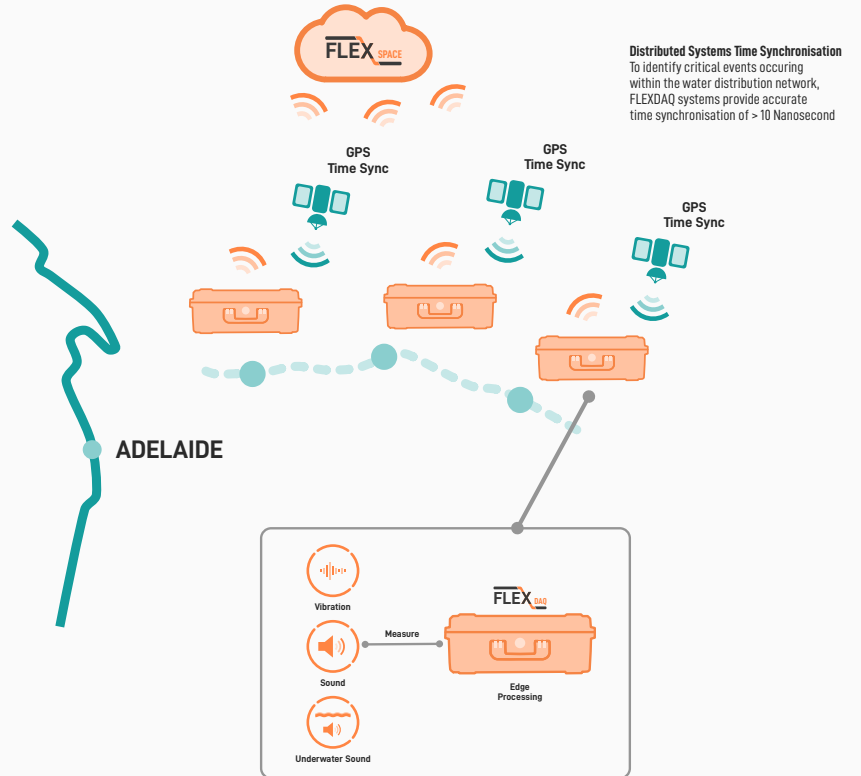
The RESONATE SYSTEMS developed DATAFLEX monitoring solutions was implemented and tailored to support SA Water's Smart Network development.

At the core of the solution, the field remote data acquisition system FLEXDAQ provides sample accurate time synchronisation across distributed systems, regardless of their location.

FLEXDAQ systems acquire signals from multiple sensor types and this information is used to provide a "Ground Truth Reference" to support the wide scale deployment of smart IoT sensors across the Adelaide metropolitan network.

The tight temporal correlation provided by the systems allowed SA Water internal analytics capability and academic partner to advance their understanding of the physical mechanism behind pipe leak acoustic signatures.

Edge device processed metric values (1 Hz) are automatically uploaded to the FLEXSPACE cloud service in batches every 2 - 3 Minutes.



Typical Data Outputs available on the FLEXCLOUD service

FLEXDAQ Edge device captures raw waveforms at 2kHz and calculates metrics in real-time. Both raw waveforms and processed metrics are stored locally. Alert limits can also be set by end-users with SMS messaging direct from the FLEXDAQ unit to nominated stakeholders.

RESONATE SYSTEMS collaborative approach to the project and close partnership with the University of Adelaide pushed the system R&D to achieve the level of system refinement required for field work.

Additionally, the data acquired via the DATAFLEX solution continue to provide a wealth of raw data supporting the University's PhD studies.



### RESONATE SYSTEMS

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