

FROM DETECTION TO DECISION

ENGINEERED TO
OUTRUN



What if the “**last mile**” starts at the first measurement?

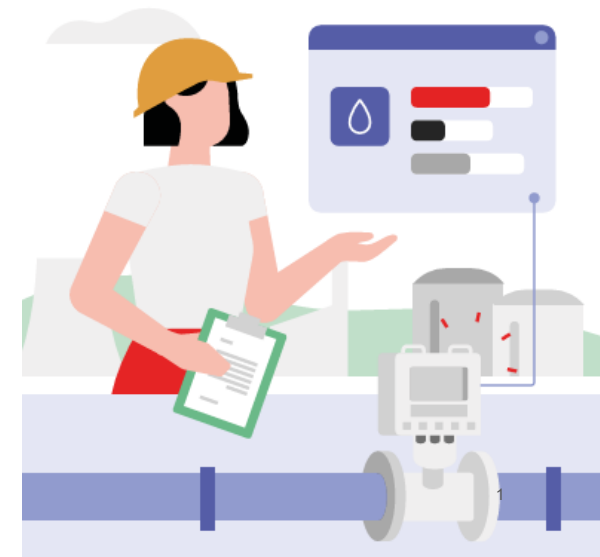
Leveraging AI and integrated data to close the 'last mile' in leakage management

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GLOBAL LEAKAGE SUMMIT | LONDON | 2026



Krishna Prashanth H (KP)



I spend my working life at the point where

Water Networks Meet Measurement

WATER X INSTRUMENTATION

Global Segment Manager Water & Wastewater, BL Instrumentation

Global Product Line Manager – Electromagnetic Flowmeters

RESEARCH → FIELD

Working with ABB research, product and utility teams
on high-resolution flow data and leakage intelligence

One question increasingly interests me:

What more can an instrument know?

**ENGINEERED
TO OUTRUN**

MAY 2025 — THIS ROOM

**“Is automation aiding better decisions —
or just collecting better evidence of water loss?”**



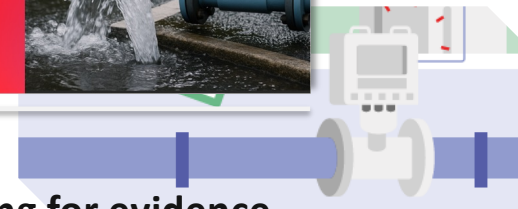
2025

**Field devices are becoming
DECISION-MAKING AIDES**



2026

**We went looking for evidence
in the network.**



This year: less proposition. More data.

Same network. Same night. Three different answers.



Different representations. Different conclusions.

Averaging doesn't just remove detail.

It can change what we believe the minimum is.

If MNF informs leakage assessment, data resolution can influence the leakage conclusion.

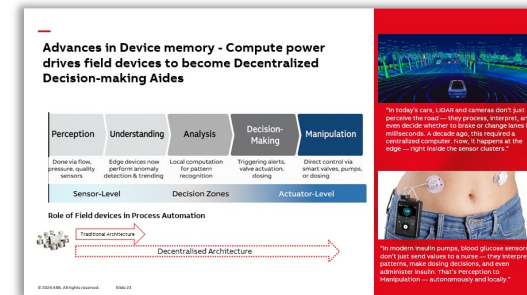
Illustrative reconstruction of the data-resolution effect described in ABB Water Loss 2026 research; not measured source data.

The answer isn't necessarily to transmit more data.

The opportunity is to understand more before we transmit.

MAY 2025

We said advances in device memory and compute would move interpretation closer to the measurement.



WHAT THE INSTRUMENT ALREADY SEES

High-resolution flow samples

- short-duration events
- local history
- oscillatory behavior
- returns to the underlying minimum



Process locally.

PROCESS

LOCAL COMPUTE

Interpret the rich signal before information is discarded

- Resolve a robust MNF
- Recognise transient consumption
- Account for oscillations
- Track change / drift

Communicate selectively.

SUMMARISE

WHAT THE OPERATOR NEEDS TO KNOW

- | | |
|--------|-------------------------------------|
| MNF | Robust minimum-night-flow indicator |
| STATUS | Normal / changed |
| TREND | Stable / drifting |
| NOTIFY | Explainable event |

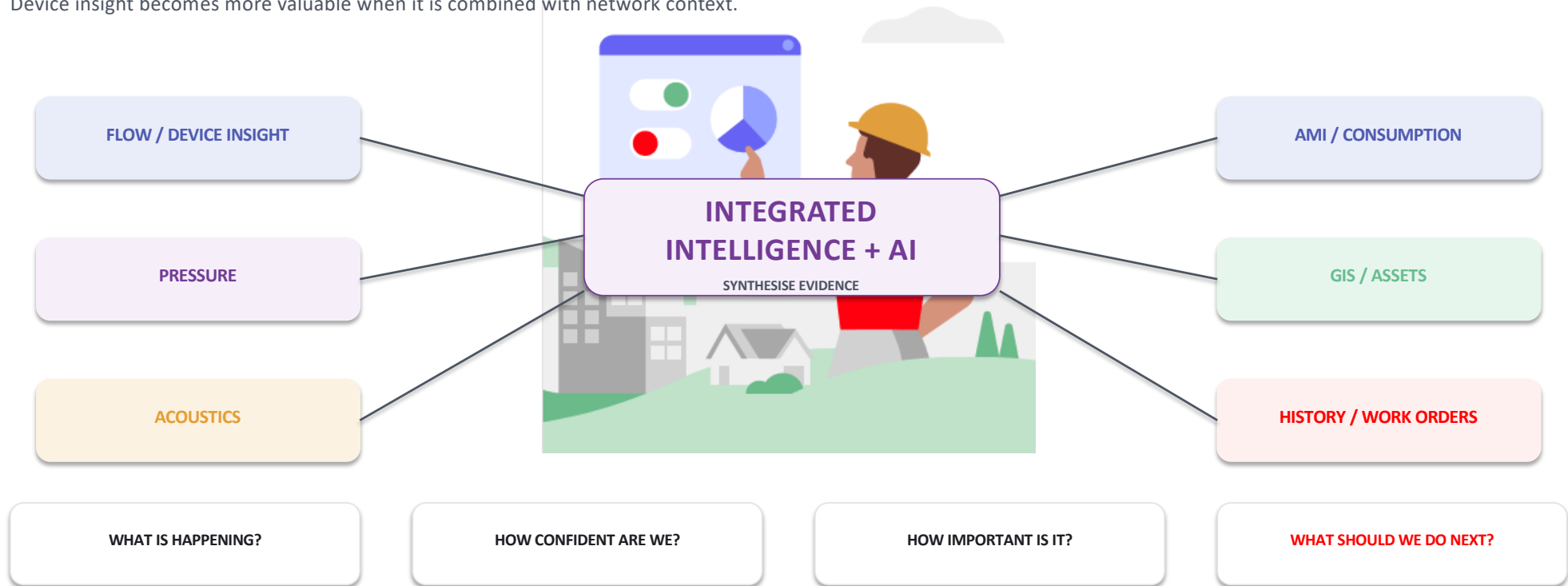
Decide faster.

The meter does not have to send every high-frequency sample to make the high-resolution information useful.

What can I understand before I send anything?

Understanding a measurement is not the same as understanding the network.

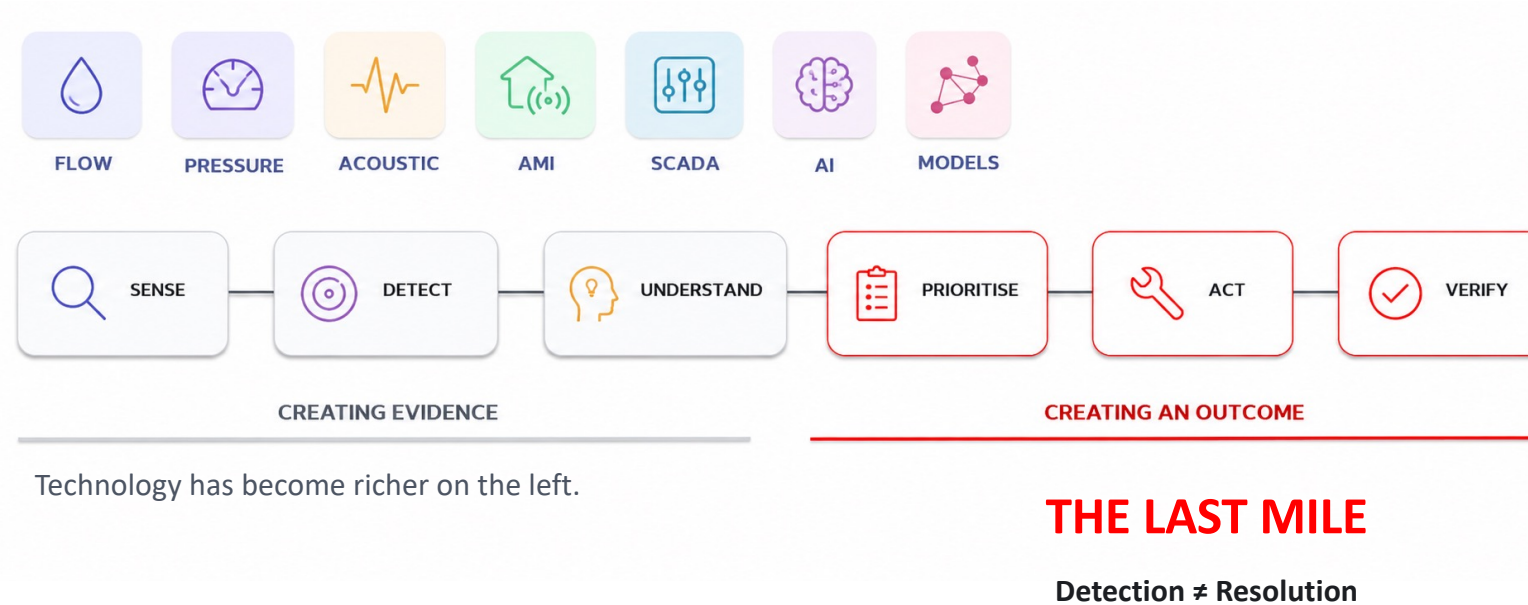
Device insight becomes more valuable when it is combined with network context.



From individual observations → network context

We can detect more than ever. But an alarm is not a decision.

The LAST Mile



Value is realized when evidence becomes trusted action — and the result is verified.

AI cannot learn from information we choose not to preserve.

AI helps most when measurement, data and context survive the journey from field to decision

Resolution

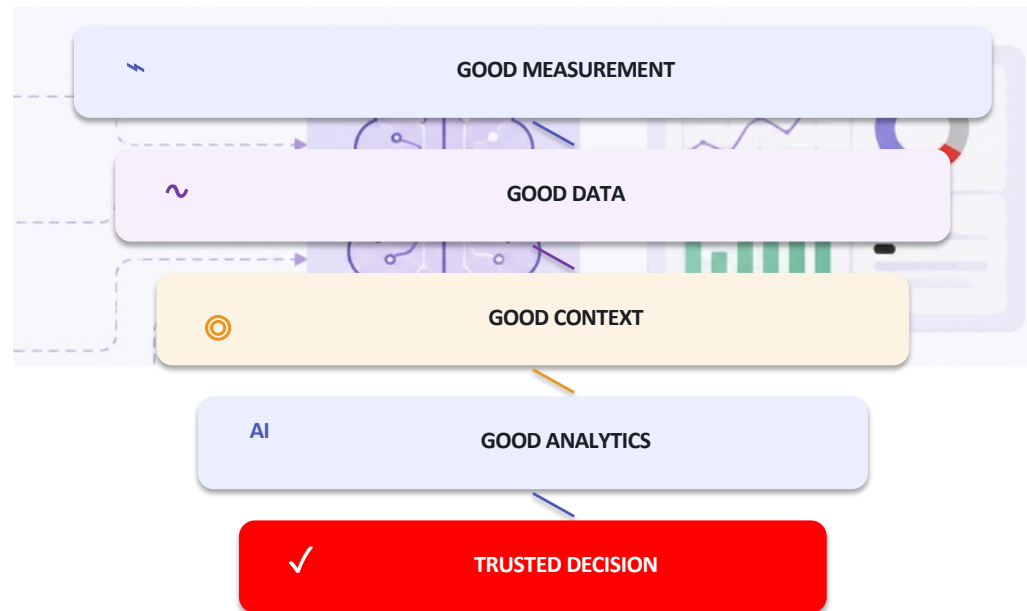
Can I see what actually happened?

Context

Can I separate network behaviour from leakage?

Trust

Can an operator understand why the system reached its conclusion?



AI

AI is a multiplier
of the evidence
we give it.

Before we ask how intelligent the AI is, ask what version of reality it received.

Outside the Power Point Slides

10 DMAs. More than one year. Real water networks.

High-resolution flow data moved the discussion from a proposition to a field evidence base.

10

DMAs

> 1

YEAR

HIGH-
RESOLUTION

FLOW DATA



SINGLE + MULTI-ENTRY

Real-world DMA configurations



ADAPTIVE

Statistics-based status classification



FLOW + PRESSURE

Pressure recorded at selected sites

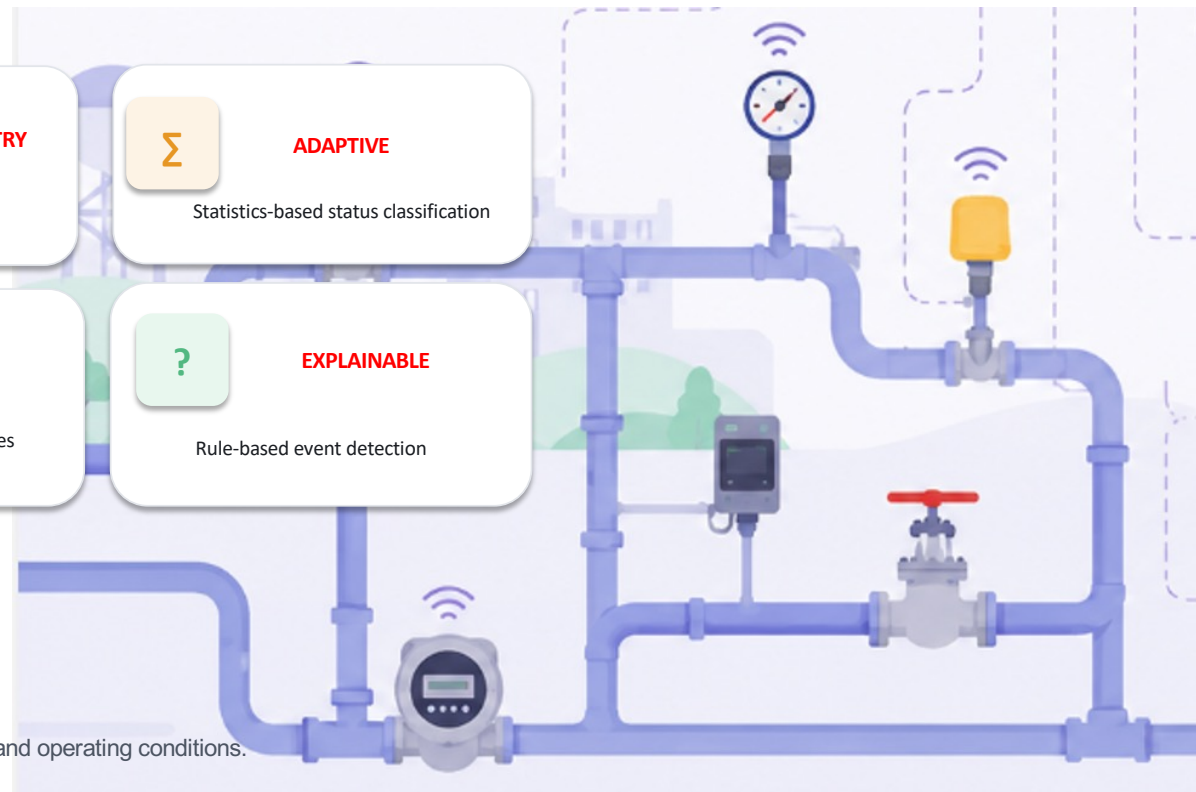


EXPLAINABLE

Rule-based event detection

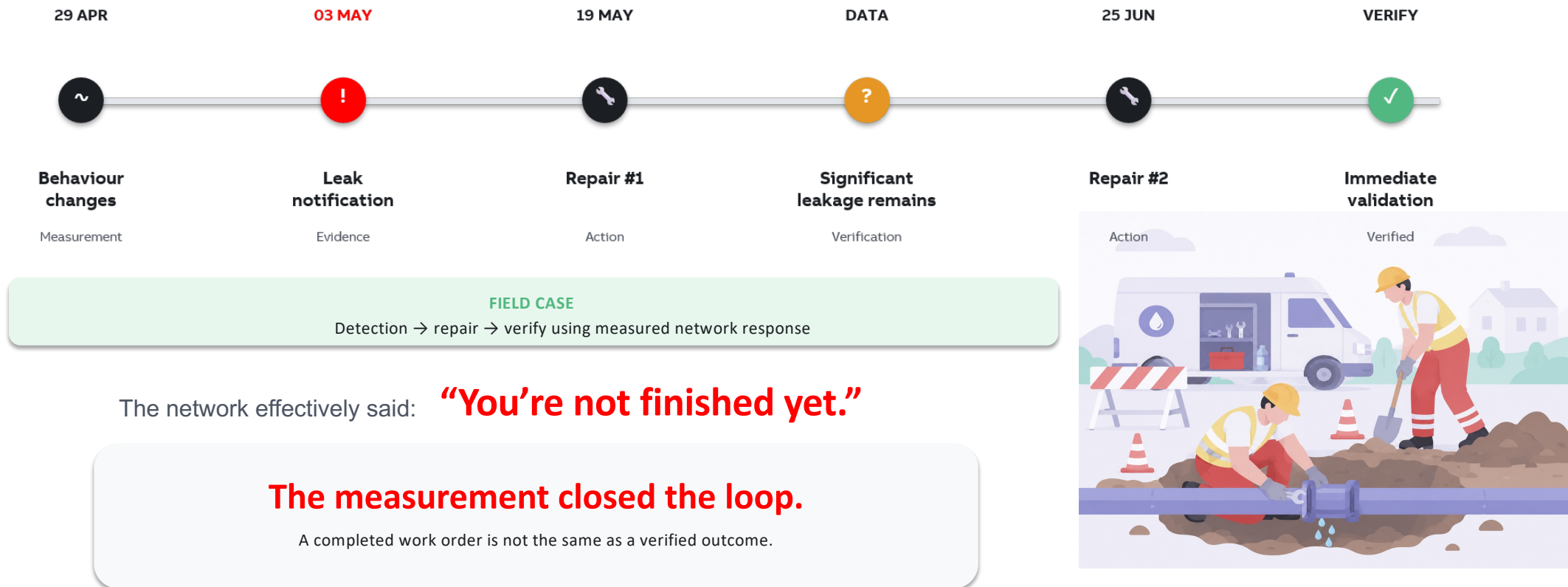
The network itself begins to define what
“normal” looks like.

The evidence base is not one perfect trace; it is repeated behaviors across real DMAs, time and operating conditions.



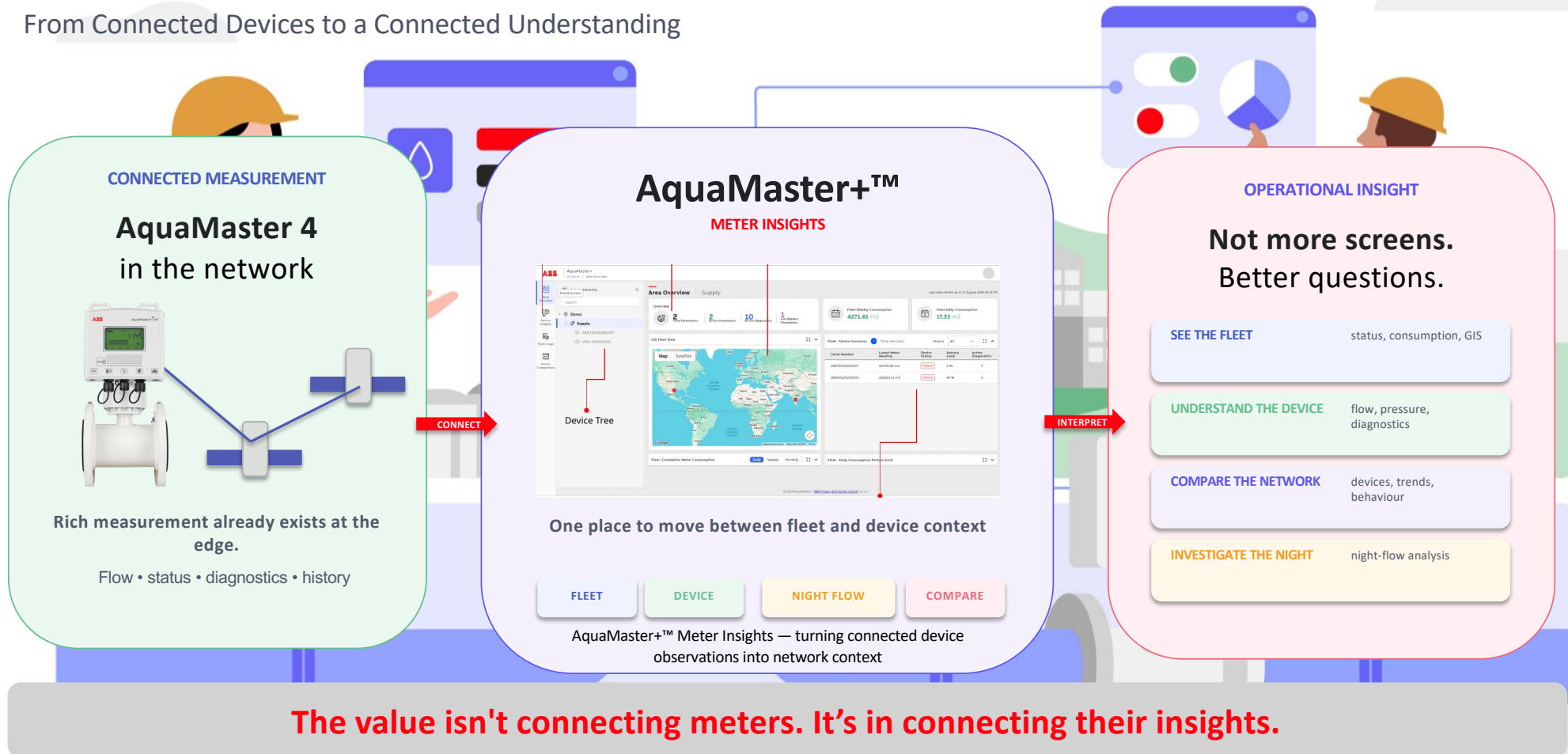
Detection wasn't the End of the Story

A Real Operational loop . leak detected, repaired and validated in the data.



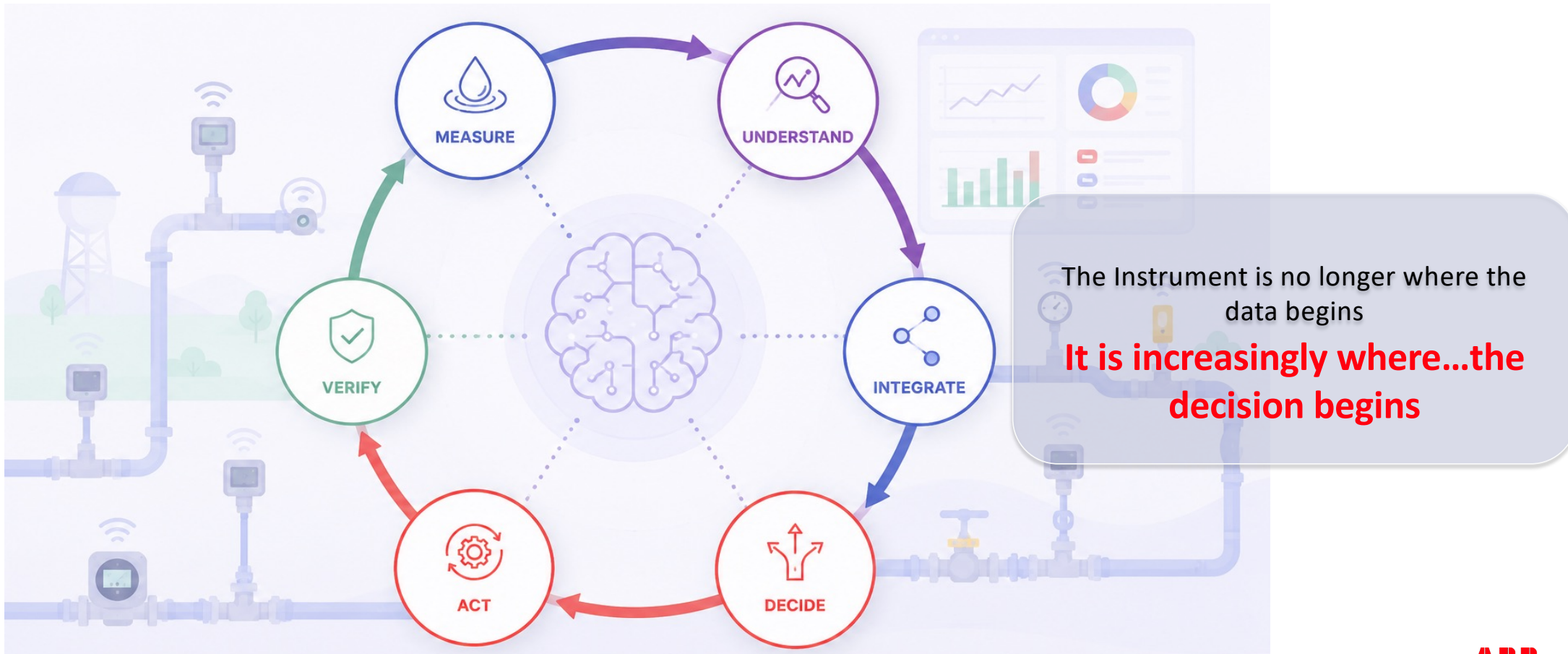
What if every meter became a source of Insight?

From Connected Devices to a Connected Understanding



The “last Mile” starts with the first trusted measurement

And it ends only when the outcome is Verified



Let's Collaborate to Solve Water's Toughest Leakage Challenges

Together, We Can:

Identify real-world pain points in **leak detection and response**

Co-develop and validate solutions for problems that persist than can be addressed with **Smarter instrumentation** and analysers

Accelerate the shift toward **predictive, decentralized water network intelligence**

Build the foundations for a truly **circular, resilient water economy**



ABB