



Leak Detection & Revenue Protection for Municipal Utilities

Helping your system save water, control costs, and improve customer trust.

Why Leak Detection Matters for Utilities

Water lost due to leaks, meter inaccuracy, theft, or unbilled consumption is a silent drain on utility finances. Even a modest leak rate (5–15%) can equate to tens or hundreds of thousands of dollars annually in lost revenue. Fixing leaks reduces pumping, treatment, and distribution costs. This saves on energy, chemicals, and operations, as well as reducing costs for all stakeholders. Lower losses also reduce the pressure on future capital investment (e.g. expanded capacity) and help meet sustainability / ESG goals.

How Metron Helps Prevent Leaks

Metron's solution combines hardware + software + analytics to give utilities dynamic water intelligence.

High-resolution measurement

Metron's meters record water usage data at one-minute intervals, enabling rapid detection of anomalies, as well as usage signature analysis.

Automated alerts & anomaly detection

The WaterScope® platform monitors for patterns that indicate leaks (continuous flow, recurrent flow) and flags them in real time.

Integration with maintenance teams

It's easy to convert WaterScope's leak reports into work orders for maintenance teams, which they can view and update with the WaterScope Field App.

How Metron Pinpoints Leaks

- With minute-level flow data coming every 24 hours from all Metron meters, WaterScope can identify the precise start and stop times of abnormal usage.
- For larger leaks (e.g. mainline or distribution pipe leaks), patterns such as sudden surges, sustained high flow, or divergence from expected usage can highlight the compromised zone or asset group.
- Utilities can dispatch field crews to the suspected zone (rather than widespread "leak hunts") to validate and repair.

Potential Savings: Real-World Examples & Estimates

- Over one billion gallons of water have been saved by Metron’s network of smart metering and analytics.
- One municipality’s water losses dropped from as much as 30% to 4% after deploying Metron meters ([City of Bryant’s Water System Overhaul with Metron Metering](#)).
- Another utility’s water losses dropped from 37% to 20% after the first phase of Metron metering rollout ([Mount Clemens Pivoted to Metron Ahead of Major Water Infrastructure Overhaul](#)).
- In rural or small-utility contexts, case studies show that switching from aging systems to smart meters helped cut water losses (e.g. [Abra Water cuts loss rate by over 50% after switching to Metron](#)).

Specific Considerations: Rural Towns vs. Large Cities

Metric	Assumed Value	Calculation	Annual Impact
Total Billed Volume	5B Gallons		
Leak/Loss Ratio	10% (500M Gallons)		
Marginal Cost (treatment and pumping)	\$1 per 1k Gallons	500k x \$1	\$500k
Added Billing Revenue (if 80% of losses are recovered)	400M Gallons	x (retail water rate e.g. \$3/1k Gal)	\$1.2M
Net Savings and Incremental Revenue		\$500k + \$1.2M	\$1.7M

Rural / Smaller Municipalities

- Lower customer density means leaks in distribution lines can go unnoticed longer. Smart monitoring helps detect leaks early in remote or low-traffic zones.
- Legacy metering may be outdated or absent; transitioning to cellular/AMI metering can represent a leap in capability and coverage.
- Capital budgets may be tighter, so projects often need to show a strong, short-term payback.
- A phased deployment is often prudent — prioritize high-loss zones or critical mains first.

Large / High-Density Cities

- Greater volume means even small percentage improvement yields big absolute savings.
- More complex networks (loops, zone isolation, pressure zones) afford sophisticated analytics.
- Integration with GIS and asset management systems becomes vital.
- Leak hunting with traditional methods (acoustic, tracers) is expensive at scale; focusing crews based on analytics saves time and money.

How Leak Prevention Saves Money & Improves Customer Satisfaction

- **Reduced Operating Costs:** less pumping, property damage and maintenance due to lower wasted volume.
- **Improved Revenue Recovery:** capturing water that would otherwise go unbilled or under-billed.
- **Lower Rate Pressure:** slower growth in operating costs can reduce the need for frequent rate hikes.
- **Enhanced Customer Trust:** fewer surprise high bills, fewer complaints, more transparent billing.