

# Metering & Sustainability

Telemetry retrofit for durable, sustainable resource management.

**How do we use our resources?** Are our lifestyles and infrastructures sustainable for our communities and for our planet? We are all increasingly preoccupied by these questions as demand for fundamental resources increase. But how are we adapting to meet these challenges? Are we missing opportunities to improve?



## Water use & waste challenges



# 126

Billion cubic meters

Water lost annually to infrastructure leaks

*"In some regions, up to **30%** of the total water supply is lost before it reaches consumers."*

Global Water Crisis: Leaks & poor infrastructure lead to massive losses, GSN, Amina Bahati, 2 Aug 2024

**Every region faces challenges of water availability** as our public utilities strain under growing demand. It's already crucial to understand water use and loss.

Much of our infrastructure lags behind this reality. Deterioration of material and poor management conspire to increase waste.

In many regions we turn a blind eye to the challenge because **we lack the data** to guide modernization and incentives to reduce waste.

## Getting data to guide change

Re-inventing the water distribution infrastructure is too costly and slow to meet today's challenges.

On the other hand, **retrofitting with smart sensors can provide the data** we need rapidly, securely and cheaply.

Waiting for the opportunity to redo the infrastructure only allows the problem to grow, but IOT innovations allow us to understand and act wisely, today.

IoTize shows how this can be done with **AquaMeter...**



**AquaMeter is a cost-effective, secure telemetry retrofit** that can easily be added to hundreds of millions of legacy mechanical water meters. It helps utilities and consumers understand consumption patterns, and gain insights into water use & loss.

## Secure, Remote Metering that Lasts

AquaMeter is a smart wireless sensor that periodically wakes up, reads a water meter's display, encrypts the data, and transmits it to a supervisory platform for analysis.

Unlike other approaches, AquaMeter combines tamper-resistant **image recognition capability** with **low-power wireless technology**. Its power-efficient approach allows it to **collect and send data for up to 20 years** on a single 3.6V AA battery.

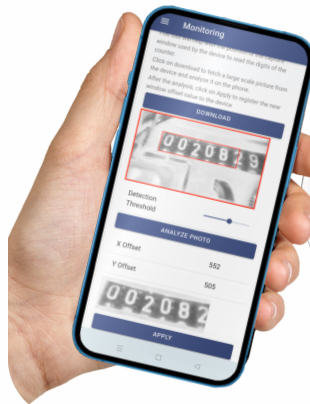
End-to-end encryption also ensures data privacy, making AquaMeter a highly secure and cost-effective telemetry solution.

## Easy, Efficient Retrofit

AquaMeter fits a wide range of water meters with **minimal hardware adaptation and user expertise**.

An adapting collar - the only piece specific to a meter type, is placed on the meter. AquaMeter's body clips to that and is fixed in place with a tamper-protection seal.

The technician then configures the installation with an app. Approaching a smartphone to



Commissioning app with Near Field Communication



LPWAN telemetry equipped water meter



LPWAN sensor module

AquaMeter automatically launches the app which guides the technician in the setup, allowing them to **adjust the sensor, test the installation, and confirm the installation** on the supervisory platform.

To protect privacy, **all data is tracked using only the AquaMeter's unique identifier**. Even if the transmissions are intercepted and decrypted, the data are completely anonymized.

# AquaMeter Telemetry Retrofit

*Secure data collection for legacy water meters.*



## Specifications

<b>LPWAN</b>	<b>LoRa (LoRaWAN) Sigfox, Wireless M-Bus (EN- 13757-4)</b>
<b>On-site Connection</b>	<b>Near Field Communication</b>
<b>Cycle Time</b>	<b>18 seconds</b> (photo capture to transmission)
<b>Power Supply</b>	<b>2600 mAh</b> (Lithium-Chlorure Thionyle) AA format battery
<b>Standby Consumption</b>	<b>800 nA</b> (at 25° C)
<b>Active Consumption</b>	<b>400 mA</b> (9000 cycles per 1000 mAh)
<b>Service Life</b>	<b>20 years</b> (at 2 cycles per week)