AQUAMETER

A durable, economical solution for telemetry retrofit of water networks

Discover…

- **The environmental** & **societal** challenges associated with water management
- **An innovative solution based** on AI & IoT technologies
- **A disruptive approach designed** to be accessible, evolutive & economically viable

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Water Management – A Crucial Environmental and Economic Challenge

Managing our water resources is now more than ever a critical challenge for municipalities and utilities. Today, the majority of communities still rely on manual or semi-automated approaches to meter reading, such as walk-by or drive-by reading using wireless technologies. These methods allow only a few readings per year, which means leaks can go undetected for months—leading to significant water loss and substantial costs for both consumers and utilities.

MODERNIZE WITHOUT REPLACING EVERYTHING

Given this situation, the transition to wireless Advance Metering Infrasture (AMI) is inevitable. However, this shift raises several challenges:

- **High cost of completely replacing installed meters**
- **Complex installation procedures that often require service interruptions**
- **Integration of meter reading data into billing platforms**

Aquameter is a telemetry solution that addresses all of these challenges.

AQUAMETER ADVANTAGES

- **Cost-effective** – Mounts on existing meters
- **Universal** – Compatible with all models of meters
- **Eco-friendly** – Upgrades existing meters, replaceable battery, recyclable
- **Easy installation** – No need to shut off the water supply
- **Autonomous** – 7,000 cycles, or up to 20 years at one reading per day
- **Connected** – LoRaWAN or LTE-M communication
- **Upgradable** – Firmware can be updated remotely

An Innovative & Universal Solution

Aquameter is a housing that mounts on mechanical water meters. It contains electronics that, at a configurable frequency, capture a photo of the meter's display, recognize the digits in the image, and transmit the data via a low-power, long-range wireless network (LPWAN).

The electronics also include an NFC interface, allowing a nearby mobile phone to configure the device, read the meter status, and take manual readings — all without consuming any energy. A lithium battery ensures a service life of up to 20 years (7,000 cycles).

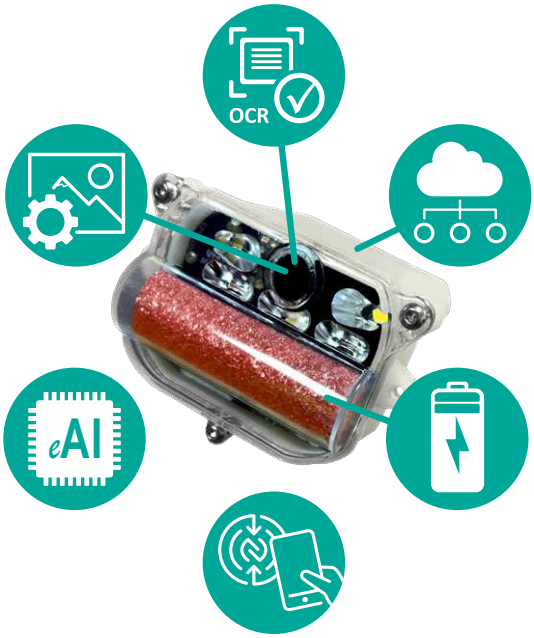
Mechanically, the housing is designed to be watertight. Modification of its adapter ring makes it compatible with all brands and models of meters. It is fixed in place with an anti-tamper seal.

Applications

Aquameter is designed for the remote reading of mechanical water or gas meters. It can also be applied to other types of mechanical meters or machinery — particularly in cases where the equipment is isolated and an electrical power supply is not readily available.

Technologies

Aquameter's electronics implement the following components and technologies:



A camera that photographs the meter's dial. Two LEDs provide appropriate lighting to take a photo of the left digits and another of the right digits. These two photos are combined to form a single image for analysis and data extraction.

A processor running an Optical Character Recognition (OCR) **algorithm** to read the meter's index. This algorithm is optimized for very low power consumption, and a decoding reliability of 100%.

An LPWAN communication interface that can be configured for open protocols such as LoRa, SigFox, Wireless M-Bus, etc.

An NFC interface for interacting with mobile phones during installation set up and configuration. It can also be used to manually retrieve the meter's data or the captured image of the meter's index.

An optimized management of the cycle of tasks that minimizes the consumption of energy, ensuring optimal life span of the device's battery.

Deploymets & Outlook

Currently in the pre-production phase, Aquameter is attracting strong interest from actors in both the public and private sectors, particularly in Africa and Latin America. Several hundred units are being tested by water utilities in four countries, which together represent a potential market of 10 million devices. Aquameter's simplicity, reliability, and cost effectiveness make it an ideal solution for kickstarting the digital transformation of water networks.

For more information...

IoTize offers utilities and local authorities a complete solution for conducting field trials with Aquameter. To learn more or request a price quotation, contact us today at:

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Aquameter Brochure - EN, v 0.3, July 2025
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