Telefónica

The water cycle, connected from start to finish

IoT sensors and smart meters, connectivity and data that track every drop, from collection to its return to the environment.

Every stage of the water cycle generates data: flow rates, pressures, consumption, and water quality. Telefónica Tech turns this information into decisions, helping public and private water operators to anticipate leaks, optimise distribution, improve operational efficiency, and ensure more sustainable management of this resource.

The five stages of the water cycle



1. Water abstraction

Availability data

Real-time monitoring of levels, flow rates, and environmental variables at abstraction points (dams, reservoirs, wells, and watercourses), facilitating the management of the concession with the River Basin Authorities.

2. Treatment

Guarantee of water treatment

Monitoring and telemetry of physico-chemical parameters at Drinking Water Treatment Works (DWTWs) and desalination plants (IDAMs), ensuring regulatory compliance prior to water entering the distribution network.

3. Distribution and Smart Metering

Network monitoring at the supply and consumption levels and remote meter reading

Intelligent sectorisation of networks using flow and pressure sensors to locate hidden leaks. Installation of smart meters with NB-IoT connectivity to obtain accurate data on the flow delivered to the end customer and to detect abnormal consumption or fraud.

4. Sewage

Sensor installation in the sewerage network

Telemetry in stormwater and wastewater collectors (historically under-sensored) to control overflows, anticipate blockages and comply with new regulatory requirements.

5. Water Treatment

Treatment, discharge, and reclaimed water

Monitoring of parameters at Wastewater Treatment Works (WWTWs) to control the quality of the final discharge into the natural environment or to manage tertiary treatment processes for the reuse of water in irrigation and urban services.

"A closed cycle where water returns to the natural environment with the highest environmental safeguards and maximum efficiency in terms of data."

The technology behind every drop

Smart sensors and meters

These measure flow, pressure and water quality, enabling real-time monitoring via the HES platform.

Single management point

Tools and a platform that integrate infrastructure, commercial operations and fieldwork.

NB-IoT connectivity

Low power consumption and extensive coverage, even in manholes and underground.

AI and Big Data

Detects anomalies, forecasts demand and prioritises investments.

Case studies

We support public and private organisations in the digitalisation of their water infrastructure through comprehensive solutions for smart metering, IoT connectivity and advanced data analytics. Large-scale projects are proof of our operational expertise in the sector:



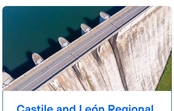
Emasesa (Seville)

Deployment and integration of remote meter reading and hourly monitoring via an NB-IoT network for advanced management of the meter fleet.



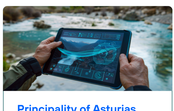
Aguas de Cádiz

Digital transformation project for the automation of meter readings and consumption monitoring using NB-IoT meters.



Castile and León Regional Government / SOMACYL

Digitalisation of the urban water cycle in the region through the large-scale roll-out of 175,000 smart meters connected via NB-IoT.



Principality of Asturias

Creation of a data lake and implementation of artificial intelligence models for unified analytical water management, enabling the prediction of water resource trends and the anticipation of extreme events.

Technology for more efficient water management

Connecting the entire water cycle is not just about fitting the network with sensors; it is about providing your organisation with the visibility and control needed to reduce unaccounted-for water, optimise operating costs and ensure the sustainability of the resource.

Transform water management in your local authority or network by using our advanced IoT capabilities, low-power connectivity, Big Data and AI.