Contribution to the EU Call for Evidence on Digitalisation of the Water Sector

Water sector – accelerating digitalisation for better management and sustainability (Initiative 17013)

Submitted by the Romanian Water Association (ARA) via the European Commission's 'Have Your Say' portal · Consultation open until 24 June 2026

1. About the respondent

The Romanian Water Association (*Asociația Română a Apei*, ARA) is the professional association representing the water and wastewater service providers of Romania — predominantly the regional operating companies that deliver public water and sanitation services across the country. ARA is the Romanian member of **EurEau**, the European Federation of National Associations of Water Services. Through its specialised technical commissions — including those dedicated to digitalisation and to water networks — ARA aggregates operational evidence from utilities across the country, and is therefore well placed to inform this initiative with field-level data from a large Eastern-European Member State.

2. General position

ARA welcomes the Commission's intention to develop an EU-wide Action Plan on the digitalisation of the water sector as a flagship initiative under the Water Resilience Strategy. We share the assessment that digital technologies — artificial intelligence, the Internet of Things, smart metering and Earth observation — are decisive enablers for water efficiency, leakage reduction and infrastructure resilience. **Our central message is one of operational realism:** the value of these technologies will only materialise at scale if the Action Plan is accompanied by predictable funding for digital (not only civil) works, by interoperable data and reporting, and by a regulatory environment that allows the costs of digitalisation to be recovered. ARA's strategic priority is the **consolidation and strengthening of the regional operators** that form the backbone of Romania's regionalised model; securing predictable financing is the decisive lever for that consolidation. Digitalisation should reinforce this trajectory, equipping financially robust regional operators to manage their networks intelligently.

3. Evidence from the Romanian water sector

Romania offers a representative picture of the challenges the Action Plan must address. The sector is regionalised and is consolidating around the regional operators; ARA's priority is to strengthen them, and EU support should be channelled to building robust, digitally capable regional operators rather than dispersed across a fragmented base. Digital maturity remains **heterogeneous**: leading regional operators have deployed SCADA, GIS, hydraulic modelling and growing volumes of telemetry, but the depth of digitalisation varies widely. Three structural realities stand out:

- **Non-revenue water (NRW) remains elevated** across much of the network. Digital leak detection, pressure management and district-metered-area analytics are among the highest-return digital investments available, yet they are capital-intensive and unevenly financed. We also note that NRW figures are not always comparable between operators or Member States because of different denominators and methodologies — harmonised, digitally reported indicators would itself be a valuable outcome of this initiative.

- **Smart metering roll-out is partial and uneven.** The Commission's own evidence (smart meters reducing water use by up to 25%, digital systems a further 5–8%, leak detection 7–14%) is compelling. The binding constraint is not ambition but predictable financing: scaling smart metering and network monitoring requires regional operators that are financially consolidated and able to invest, which is precisely where EU support is most needed.
- **Data foundations are fragmented.** Systems from different vendors rarely interoperate, making it difficult to aggregate data across operators, feed AI models, or report to EU instruments such as WISE. Common data models and open interfaces are a precondition for every other pillar.

4. Comments on the three pillars

4.1 AI-driven big data

AI delivers the clearest near-term value in leak and burst detection, demand forecasting, predictive maintenance, and process and energy optimisation of treatment. The principal barriers are not algorithmic but foundational: insufficient quality-controlled historical data, scarce in-house data-science capacity, and legal uncertainty around the use of granular consumption data. The Action Plan should therefore pair AI ambition with support for data infrastructure, skills and a clear, GDPR-compatible data-governance framework.

4.2 Large-scale IoT and smart metering

IoT sensors and smart meters are the sensory layer on which AI and Earth observation depend. Scaling them requires affordable, interoperable and cyber-secure devices, resilient connectivity, and — critically — a financing model that treats meters, sensors and the supporting data platforms as eligible, recoverable investments rather than discretionary 'soft' costs. Device interoperability standards at EU level would prevent vendor lock-in and protect public investment.

4.3 Earth observation

Copernicus and related Earth-observation services offer strong potential for basin-scale monitoring, drought and flood anticipation, and — relevant to Romania's position on the Danube and its many shared, transboundary basins — for cross-border cooperation. To be usable by operators, these data must be delivered through accessible, interoperable services aligned with the INSPIRE Directive and integrated with ground-based telemetry rather than remaining a parallel, specialist domain.

5. Regulatory and structural bottlenecks

In direct response to the Commission's request for evidence on regulatory bottlenecks that prevent the scaling-up of solutions across the EU, ARA highlights the following:

1. **Cost recovery in tariff methodologies.** National tariff frameworks do not always allow operators to recover the capital and operating costs of digitalisation (sensors, data platforms, cybersecurity, specialised staff). Without recognised cost recovery, digital investment is not financially sustainable.
2. **Fragmented, project-based funding.** Digitalisation is embedded within broad infrastructure programmes, with eligibility rules that favour civil works over software, data and skills. A dedicated, predictable funding stream for digital investment — directed at strengthening the regional operators — is missing.
3. **Public-procurement rigidity.** Lowest-price bias and long procurement cycles are poorly suited to fast-evolving digital solutions and discourage innovation procurement.
4. **Lack of interoperability and data standards.** The absence of common EU data models and open interfaces locks data in silos and obstructs aggregation, AI use and EU-level reporting.

5. **Overlapping reporting obligations across different authorities.** Operators face parallel risk-assessment and reporting duties that are not digitally coherent: the risk-based water safety planning of the recast Drinking Water Directive (reported to health/environment authorities); the all-hazards resilience risk assessment of the Critical Entities Resilience Directive (Directive (EU) 2022/2557, CER); and the cyber risk-management and incident reporting of the NIS2 Directive (Directive (EU) 2022/2555). Because the CER all-hazards assessment inherently extends to cyber-physical risk, it overlaps with NIS2, so operators report substantially similar information to **different competent authorities**. Each instrument provides for its own reporting channel; without interoperability between these platforms, digital reporting multiplies rather than reduces the administrative burden.
6. **Cybersecurity burden without proportional support.** Obligations under the NIS2 and CER Directives fall on operators that often lack dedicated budgets and specialist staff. Requirements should be matched with funding, sector-specific guidance and realistic phasing.
7. **Digital-skills gap.** Operators frequently lack data and OT/IT specialists. Capacity-building, concentrated in the regional operators, is a prerequisite for — not a by-product of — digitalisation.

6. Recommendations to the Commission

1. **Establish a dedicated, predictable EU funding stream** for water-sector digitalisation that covers software, data infrastructure, skills and cybersecurity — not only hardware — with access designed to consolidate and strengthen the regional operators that form the backbone of the sector.
2. **Encourage recognition of digitalisation costs** within national tariff and regulatory methodologies, so that digital investment is financially sustainable.
3. **Secure financing for smart-metering and network-monitoring roll-out by the regional operators**, so that deployment is delivered at scale by financially robust operators rather than fragmented across a weak operator base.
4. **Make reporting interoperable, not merely digital.** Each of the relevant Directives — Drinking Water (water safety / risk plans), Urban Wastewater Treatment, Water Framework, CER and NIS2 — provides for its own reporting platform and is overseen by a different competent authority. The Action Plan must require these platforms to be interoperable and to operate on a 'once-only' basis, so that a risk or incident is reported once and shared between authorities rather than re-entered separately. EU law already points this way — NIS2 obliges competent authorities to cooperate and to simplify reporting through technical means — and the Action Plan should make interoperability the operational default.
5. **Couple cybersecurity requirements (NIS2/CER) with funding**, sector-specific guidance and realistic timelines.
6. **Launch a large-scale capacity-building and skills programme** concentrated in the regional operators, leveraging existing professional networks and associations.

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