

Position Paper

2026 June

Water sector – accelerating digitalisation for better management and sustainability

Introduction

Bitkom welcomes the European Commission's call for evidence on the development of a Digital Action Plan for the water sector. We consider this initiative an opportunity to align the digital transformation with sustainable water management, resource protection, and European competitiveness. Digitalisation can help modernise the water sector by making water-related data more accessible, interoperable, and usable for decision-making. Advanced digital technologies can support more transparent consumption information, more efficient infrastructure management, automated monitoring, better forecasting and reduced administrative burdens. They can also help shift water management away from reactive approaches towards more data-based, predictive, and efficient processes. Overall, they support more efficient, data-driven, and resilient water management. We therefore recommend that the Digital Action Plan for the water sector focuses on creating the right conditions for the deployment and scaling of digital solutions across Europe.

Key recommendations for the Digital Action Plan for the water sector:

Enable interoperable water data infrastructures and digital twins

We recommend that the Digital Action Plan promotes the establishment of an interoperable water data infrastructure. Fragmented water data should be brought together through standardised interfaces, common data models and open standards to

overcome data silos and enable interoperability. Defined standards for data exchange are also key to the broad adoption of cloud-based water management solutions.

Digital twins can support data-based simulation, planning and management of water resources and infrastructure. By modelling real-world objects such as pipes, pumping stations, or wastewater treatment plants and continuously updating them with data from sensors, SCADA systems, or IoT applications, they create an almost real-time representation of reality. This allows operators and authorities to simulate heavy rainfall, floods, dry periods, or increasing demand, assess their impact on the system and plan measures such as network reinforcement, retention basins or optimised control strategies before damage occurs. By integrating data flows from different sources, digital twins provide a common data basis, reduce manual work, and facilitate data sharing between relevant stakeholders, including technicians, planners, and decision-makers. They can also be made accessible through web-based geospatial applications to support collaboration and the practical use of water-related data.

IoT-based water management and real-time monitoring

The large-scale deployment of IoT applications is a key priority for the digitalisation of the water sector. Smart water meters, digital sensors and connected systems can enable the continuous and automated collection of consumption, operational and environmental data and support practical water management. Existing market solutions already demonstrate the practical value of IoT-based water management. Relevant use cases include leakage detection in water networks, smart groundwater monitoring, heavy rainfall and water body monitoring, and digital water quality management in commercial buildings. These applications support real-time monitoring, alerts, early warning, resource protection, compliance and more efficient maintenance. The development and scaling of IoT-based applications, and, where appropriate, AI-supported analytics, should therefore be actively supported and accelerated.

Smart water metering

Transparency over water consumption is an important prerequisite for realising potential savings. A broad deployment of smart water metering can create transparency for users, provide incentives for the careful use of water and enable IoT applications for the continuous and automated collection of consumption and operational data. Where consumption is currently billed on a flat-rate basis, important incentives to save water, detect leakages or invest in water-efficient appliances may be missing. Individual consumption measurement and high-frequency consumption data can help consumers better understand their water consumption and detect unusual consumption patterns at an early stage.

The Digital Action Plan could therefore encourage and facilitate a stepwise and appropriate rollout of smart water metering, particularly in new buildings, major renovations and multi-apartment buildings. It could provide guidance

towards an EU-wide, technology-neutral understanding of intelligent water meters. Such a common understanding could be based on key functionalities such as remote readability, automated data collection, secure and interoperable data exchange, support for efficiency services such as leakage warnings and indications of unusual consumption patterns, and the provision of high-frequency consumption data through digital applications or web portals.

Earth observation and geospatial data

Earth observation should become an operational part of daily water management. Copernicus data should not only be available, but also systematically integrated into monitoring, planning and crisis management processes, including drought monitoring, flood prevention, water stress analysis, water quality monitoring and water risk management. To achieve this, georeferenced data can serve as an important connecting layer between Earth observation data and local water infrastructure data, environmental data and sensor data. This would strengthen the capacity of authorities and operators to monitor and respond to water risks.

Scaling and skills for digital water technologies

To deliver practical impact, we recommend that the Digital Action Plan support the scaling of digital water technologies across Europe. To support deployment, scaling and operation, the Digital Action Plan should consider practical barriers related to investment in IoT infrastructure, sensors, connectivity and data platforms, and help create enabling conditions for flexible financing and procurement approaches. A competitive market for digital water technologies can drive innovation, enable cross-border scaling and contribute to lower costs, in line with the objective of "One Europe, One Market". In addition to technology deployment, the digital transformation of the water sector requires targeted skills and capacity-building. Digital tools can also support transparency, understanding and acceptance among citizens and stakeholders, for example by visualising complex water and environmental data in an accessible way.

The Digital Action Plan is an important opportunity to align digital innovation with sustainable water management. Bitkom stands ready to contribute the expertise and innovative strength of the digital economy to support a digital transformation of the water sector that strengthens efficiency, resilience and sustainability across Europe.

Bitkom represents more than 2,200 companies from the digital economy. They generate an annual turnover of 200 billion euros in Germany and employ more than 2 million people. Among the members are 1,000 small and medium-sized businesses, over 700 start-ups and almost all global players. These companies provide services in software, IT, telecommunications or the internet, produce hardware and consumer electronics, work in digital media, create content, operate platforms or are in other ways affiliated with the digital economy. 82 percent of the members' headquarters are in Germany, 8 percent in the rest of the EU and 7 percent in the US. 3 percent are from other regions of the world. Bitkom promotes and drives the digital transformation of the German economy and advocates for citizens to participate in and benefit from digitalisation. At the heart of Bitkom's concerns are ensuring a strong European digital policy and a fully integrated digital single market, as well as making Germany a key driver of digital change in Europe and the world.

Published by

Bitkom e.V.

Albrechtstr. 10 | 10117 Berlin

Contact person

Leonie Kahl | Manager Sustainability & Environment

P +49 30 27576-386 | l.kahl@bitkom.org

Responsible Bitkom committee

WG Digitalisation & Sustainability, WG Environmental Regulation

Copyright

Bitkom 2026

This publication is intended to provide general, non-binding information. The contents reflect the view within Bitkom at the time of publication. Although the information has been prepared with the utmost care, no claims can be made as to its factual accuracy, completeness and/or currency; in particular, this publication cannot take the specific circumstances of individual cases into account. Utilising this information is therefore sole responsibility of the reader. Any liability is excluded. All rights, including the reproduction of extracts, are held by Bitkom.