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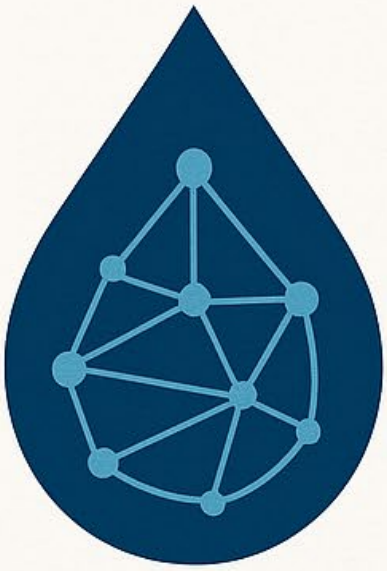
Global Water Partnership Mediterranean

IME

Webinar on

Emerging Technologies for the Water Sector



Tuesday, 8th September, 2026
11:00-13:00 CEST
ONLINE

REGISTER HERE

WEBINAR ON
Emerging Technologies for the Water Sector
Digital twins, AI, computer vision, smart irrigation and beyond

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11:00-13:00 CEST

REGISTER HERE
Zoom link will be shared upon registering

Background:

Digitalization for natural resources management refers to the strategic adoption and integration of conventional and innovative digital policies and technologies in sectoral and cross-sectoral domains that contribute to sustainable development objectives. Digital solutions, like Artificial Intelligence (AI), including Machine Learning (ML) can provide substantial benefits to water management as well as to the management of interconnected systems of Water-Energy-Food-Ecosystems (WEFE) in a Nexus approach applied at the Mediterranean Source to Sea continuum. Digital transformation for introducing such solutions at all levels involves, among others, leveraging advanced digital tools, data analytics, innovative technologies and related governance and managerial approaches to optimize the efficiency, sustainability, and resilience of related resources.

The Union for the Mediterranean (UfM) agenda prioritizes the Digital Transformation of the Water Sector, with a strong emphasis on Strategic Planning and Capacity Development. Closely aligned with the objectives set forth towards the 2nd UfM Ministerial on Water, this strategic initiative seeks to leverage digitalization technologies and innovative solutions to enhance water management, improve operational efficiency, and foster greater resilience in water resources. Based on these, the UfM Regional Platform on Water (UfM RPW) approved at its 15th Meeting (5-6 November 2025, Barcelona), welcomed the related Strategic Framework Report and adopted its recommendations.

Furthermore, a regional consultation process is ongoing, aiming to promote digital transformation for advancing WEFE Nexus in the Mediterranean, particularly under evolving climate change impacts. After defining the consultation content and establishing the core cooperation team (February 2024/Tunis), the process included so far two Regional Roundtables (Lisbon/June 2024 and Malta/February 2025). The consultation includes the identification of related Strengths, Weaknesses, Opportunities, and Threats (SWOT). Based on these, recommendations are being developed for promoting digital transformation as a contribution to the upcoming Action Framework of the 'Strategy on WEFE Nexus in the

Mediterranean Source to Sea continuum'.[1] This science-driven consultation involves regional and national decision makers and stakeholders in a Living Lab approach. It is facilitated by the PRIMA ACQUAOUNT, TALANOA-WATER and H2020 TRANSCEND projects, in service of and with the support of UfM and other institutional partners. The process is also supported by the WEFE Nexus Community of Practice in the Mediterranean that is facilitated by the PRIMA WEFE4Med project. A milestone 3rd Regional Roundtable of the process took place on 23-24 March 2026, in Rome.

In this context, this specific module will contribute to sharing technical best practices, with a strong emphasis on emerging technologies for the water sector - seeking feedback to guide practical implementation. It will also align the related technical work lines and regional consultations by providing updates and advancing steps towards establishing a data- and analytics-focused thematic work line within the WEFE Nexus Community of Practice.

The webinar is part of a series of consultations and capacity-building activities, following up on the webinar on "AI-driven digitalization solutions for Water and WEFE Nexus in the Mediterranean" organized on 30 June 2025, the webinar on "AI-Driven Digital Water Systems: Strategic Digital Governance and Policy in a WEFE Nexus approach" organized on 11 March 2026, and most recently "AI-Driven Digital Water Systems: AI-driven analytics and decision support" organized on 2 July 2026.

Objectives:

- Introduce the emerging technologies transforming the water sector - including digital twins, AI-powered leak detection, computer vision and machine learning, with a brief look at smart irrigation and blockchain.
- Show how these technologies improve operational efficiency, reduce water and energy losses, and lower costs for utilities and farmers.
- Present research advances in machine-learning methods for data integration, supporting chemical-risk assessment and management in river basins.
- Illustrate the role of agentic AI and natural-language interfaces in supporting water-network operators and decision-making.
- Demonstrate how a regional digital twin can integrate data held across multiple organizations into a 'single source of truth', supporting disaster risk management and water-resources planning in the Jordan Valley.
- Strengthen the resilience of water systems through data-driven innovation.

Expected webinar outcomes:

- Participants gain an overview of emerging technologies - digital twins, AI-powered leak detection, computer vision and machine learning, with a brief look at smart irrigation and blockchain - and how they are applied in the water sector.

[1] The Strategy was adopted by the 15th Meeting of the UfM Regional Platform on Water (5-6 November 2025, Barcelona), and is part of the Mediterranean Strategy for Sustainable Development (MSSD, 2026-2035) Flagship Initiative which was adopted at the 24th Conference of the Parties (COP24) of the Barcelona Convention (2-5 December 2025, Cairo)

- Participants understand how these technologies help reduce water and energy losses, lower costs and strengthen resilience.
- Participants see concrete case studies from industry (Flowless), research (NIVA) and a regional flagship (Cluster Labs), spanning agentic AI for utilities, Machine Learning for chemical-risk assessment and a digital twin for the Jordan Valley.
- Participants identify concrete entry points for adopting emerging technologies in their own institutional context.

Participants:
Representatives from Mediterranean member states, including:

- National water and other (energy, agriculture, environment, international cooperation) ministries and related regulatory authorities
- Water utilities and basin agencies
- ICT and cybersecurity departments
- Academic and research institutions
- Regional and national stakeholder organizations and practitioners
- Private sector entities involved in water management and technology
- Development partners and donors

Agenda **All times presented are in Central European Time**	
Time (CET)	**Session/Topic** ***Presentations will be followed by a short Q&A. For time efficiency, participants are requested to share their questions in the chat***
11:00-11:10	**Opening session** ***Speakers: Dario Quadri Ilkhani, UfM, Alain Meyssonnier, Institut Méditerranéen de l'Eau (IME), Vangelis Constantianos, Global Water Partnership-Mediterranean (GWP-Med)*** • The role of emerging technologies in building more efficient and resilient water systems in the Mediterranean Source to Sea continuum
11:10-11:30	**Case studies of emerging technologies for the water sector - a technical overview** ***Speaker: Dr. Georg Petersen, HYDROC GmbH*** • Digital twins and real-time modelling of water networks • AI-powered leak detection and non-revenue water (NRW) reduction • Computer vision and smart sensing for monitoring and asset inspection • Smart irrigation, blockchain and other emerging tools - with a focus on cost reduction and resilience
11:30-11:50	**Case study - Machine learning for chemical risk assessment in river basins (NIVA)** ***Speaker: Dr. Jannicke Moe, Norwegian Institute for Water Research (NIVA)*** • Bayesian network approach for probabilistic risk assessment of chemical mixtures in river basin districts (European scale) • Machine learning (Bayesian updating) for integrating large-scale model simulations with local monitoring data

	• Pilot study with application at regional scale (CEFIC-funded research project ENCORE) *Followed by a short Q&A with the speaker*
11:50-12:20	**Case study - Agentic AI for water utilities (Flowless)** ***Speaker: Baker Bozeyeh, Director, Flowless Sustainable Solutions*** • Agentic AI (the Octopo assistant) that answers operators' questions in plain language and turns raw network data into actionable plans and root-cause analysis • AI-powered leak detection and non-revenue water (NRW) reduction, with early alerts for bursts, air pockets and blockages • AI/ML matching of water supply and demand to reduce water and energy losses and optimize operations • AI analytics layered on existing SCADA, hydraulic models and GIS, with enterprise-grade, ISO 27001-certified security *Followed by a short Q&A with the speaker*
12:20-12:50	**Case study - Digital twin for the Jordan Valley (Cluster Labs)** ***Speaker: Zeid Madi, Managing Partner, Cluster Labs*** • Mapping the Jordan Valley across multiple capacities, with a primary focus on disaster risk management • Building a digital twin of the Jordan Valley system, integrating data held across an umbrella of organizations • Addressing operational and institutional fragmentation of data and information across stakeholders to establish a “single source of truth” *Followed by a short Q&A with the speaker*
12:50-13:00	**Conclusions and next steps** ***Speaker: Dr. Georg Petersen, HYDROC GmbH*** • Synthesis of key take-aways from the technical overview and the three case studies • Closing remarks and next steps in the UfM webinar series