

ABOUT PROJECT WATERLINE

WATERLINE is a Horizon Europe project that aims to create a European Digital Water Higher Education Institution (HEI) Alliance, based on the quadruple helix model of innovation, leading to the development of the Alliance's research, educational and entrepreneurship capacities. With a strong emphasis on Widening countries, WATERLINE has developed tools and strategies to advance research, education, & collaboration in digital water. This shall leverage the individual, institutional and regional resources required for a transformative structural and sustainable learning and innovation environment.

OBJECTIVE 1

Support consolidation of the Alliance by co-creating a common governance framework, and a Research & Innovation (R&I) capacity building plan.

OBJECTIVE 2

Co-create a portfolio of water components for Master level and transform emulative laboratories in partner Widening HEIs into assisted and virtual reality. These structural changes will lead to transformed and more competitive R&I HEIs.

OBJECTIVE 3

Strengthen WATERLINE researchers' R&I capacity excellence by implementing activities, such as summer schools to enhance education and R&I skills, and proposal writing workshop.

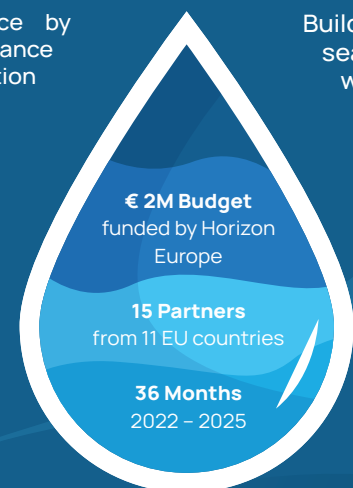
OBJECTIVE 4

Build a European network of academics/researchers who will allow knowledge flow in water domains and extended reality technologies. This allows greater involvement of regional actors in the R&I process and improves challenges of water-related education. Moreover, it will strengthen academic and business links through academia-to-business meetings and a hackathon to mainstream entrepreneurship mindsets.

OBJECTIVE 5

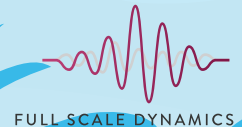
WATERLINE will sustain the alliance by:

- Establishing ambassador networks,
- Identifying the R&I funding landscape, thus increasing participation in HE and the mobilisation of resources in the water sphere, and
- Creating synergies with EU initiatives, institutions, other projects and networks



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WATERLINE



<https://waterline-project.eu/>



linktr.ee/waterline.eu

WP 1:
Coordination and
management

WP 2: Creating critical
mass by shared gover-
nance & strategies

WP 3: Capacity building for edu-
cation, R&I, entrepreneurship

WP 4: Innovation Capacity
Building / Technology
transformation for LEs

WP 5: Facilitating
Sustainability

WP 6:
Communication &
dissemination

Our Methodology

6

Strongly interlinked Work Packages (WP)

WATERLINE's methodology consists of four phases that involve: **mapping, engaging and co-designing, implementing, and positioning and building excellence**. Each phase is represented by a distinct set of tasks, which will allow continuous monitoring of its progress and safeguard its successful completion.

WATERLINE Capacity Building

The WATERLINE Master's Programme was conceptually designed based on needs and gap analyses in digital water management, offering specialization tracks within a 90 ECTS programme at EQF Level 7. It follows a semester-based model including core, transversal, and specialization tracks, with optional short-course components and a compulsory dissertation. Practical learning is supported through digital tools and VR simulations, and the programme is managed by dedicated track coordinators and module managers.



25 researchers attended a 15-day summer school on research and water education.



21 researchers attended the 5-day innovation technology summer school in UNEXE.



29 researchers participated in a Hackathon on Entrepreneurship in Digital Water for researchers and academic staff.

100 participants attended a 3-day online seminar on scientific paper writing aimed at strengthening the academic writing skills, with a focus on producing high-quality scientific papers.

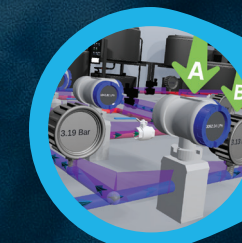
411 researchers participated in a 2-day online forum on industry needs and policy.

21 participants participated in a 2-day face-to-face training on personal and professional development skills at UNEXE, UK.

32 attendees participated in a 3-day online seminar on R&I proposal writing and leading a consortium, led by NMBU and supported by H2O People and Sites.

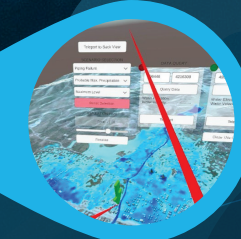
WATERLINE Technology Transformation for LEs

WATERLINE is dedicated to adopting digital technologies in the water sector and enhancing water engineering studies across European universities by developing virtual reality (VR) applications. As a proof of concept, we have developed four VR applications that replicate various laboratory and field study environments.



1. Water Rig **Virtual Reality Digital Twin**

This VR app allows learners to interact with water distribution networks in an immersive, risk-free simulation. The development was guided by user feedback & educational best practices, focusing on improving user experience & structuring learning tasks to cater to various skill levels.



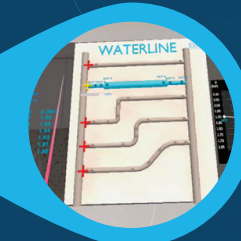
2. Dam break **Simulation**

VR Application for dam break scenarios can show the effects of dam break events and differences between the various different types of failures.



3. Water **Channel Design**

An immersive VR spatial data explorer that allows users to visualise custom datasets in the 3D Tiles format, accompanied by tutorial features such as explanatory texts, sketches, videos and tests.



4. Pipe **Losses**

The VR application for pipe losses creates an engaging learning environment, integrating advanced technologies and simulation laboratory exercises to enhance water education.