Federal Ministry
of Research, Technology
and Space

Ideas 2 Impact

Water Innovations in Action

IFAT 2026
Hall B2, Booth 105

Welcome

to the booth of the German Federal Ministry of Research, Technology and Space (BMFTR).

Following our motto, “Ideas2Impact: Water Innovations in Action”, you will gain, exciting insights into new technologies with market potential – from smart tools for flood preparedness and flash flood management, to drone-based groundwater exploration and autonomous underwater inspection systems. There are four exhibits inviting you to experience and try out innovation live and in the flesh. Join the conversation with our innovation experts and stop by our events on the Blue Stage.

We look forward to sharing ideas with you in person!

Events on BMFTR-related topics at IFAT 2026

Securing Water Supply in Africa, organiser: GWP
5 May 2026, 12.30–1.20 p.m. | Blue Stage, Hall B2

Ideas2Impact Innovation Panel – from Idea to Market, organiser: BMFTR
5 May 2026, 1.30–2.20 p.m. | Blue Stage, Hall B2

Water4All Partnership – European Innovations and Solutions, organiser: BMFTR
6 May 2026, 11.30 a.m.–12.20 p.m. | Blue Stage, Hall B2

Regional Phosphorus Recycling – Innovation Forum 3, organiser: DWA and DVGW
6 May 2026, 12.30–1.20 p.m. | Blue Stage, Hall B2

FloReST

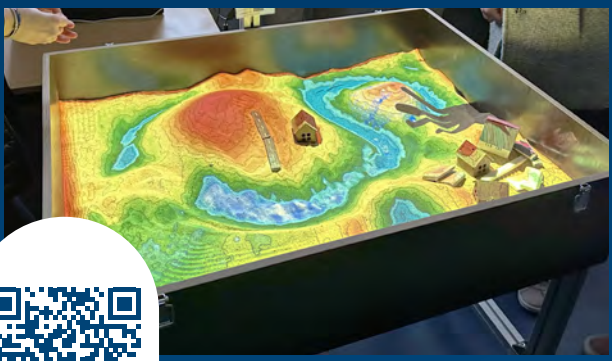
Understanding urban water flow paths

Heavy rain causes sudden flooding in towns and cities. In the FloReST project, the partners worked towards raising the visibility of risks, understanding natural water flow paths and developing solutions for more resilient and water-sensitive urban development.

They created a set of smart tools for flood preparedness, including for flash floods. These tools make it possible to experience extreme events in a gamified way and help planners to identify water flow paths so that infrastructure is protected better.

The smart tools include an augmented reality (AR) sandbox for use in education, planning and dialogue with locals. With them, floods can be simulated, protective measures tested and emergency runoff paths visualised.

Try out the AR sandbox yourself at the stand: design landscapes in the sand and turn on the rain! Watch live how the water flows and floods start. Test measures and see how towns and cities can manage heavy rain.



Project website

Project website

SeeKaquA

Detecting groundwater by drone

In Southern Africa, surface water is often only available seasonally and is also susceptible to contamination. SeeKaquA explores deeper groundwater resources in the Kalahari region to support sustainable water management.

SeeKaquA involves the first-time use of semi-airborne electromagnetics (SAEM) for deep groundwater exploration. It uses drones equipped with ultra-sensitive magnetic field sensors. They collect information that can be used to determine the electrical conductivity of the earth's subsurface, allowing for the distinction between fresh water and salty groundwater.

Analysis software is used to generate subsurface 3D electrical resistivity models, which help identify suitable borehole locations. On-site training and workshops assist public authorities, companies and universities in applying this innovative method.

This exhibit invites you to take it for a flight yourself. Use the remote control to steer the digital, sensor-equipped survey drone through the course – just like real geophysicists!

SIMON

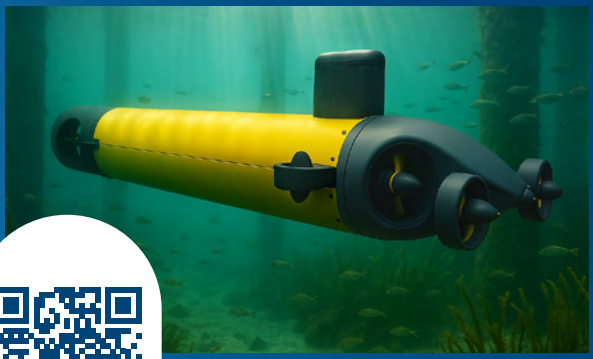
Smart underwater monitoring

The Port of Hamburg is a complex ecosystem where economic use and ecological needs intersect. Despite that, there is a lack of high-resolution environmental data across time and space to detect risks at an early stage.

SIMON develops an autonomous, underwater drone with smart environmental sensors and AI analyses for powerful 4D monitoring. The obtained data is planned to be integrated into a digital twin of the port. This enables earlier detection of environmental risks and supports sustainable decision-making.

The drone will be tested in the Port of Hamburg during increasingly autonomous survey missions. The long-term plan is for the complete drone system to be used for smart environmental monitoring in Hamburg and other ports after the project ends.

The exhibits show the smart algae sensor, which will be miniaturised and integrated into the drone, as well as the opened prototype of the underwater drone, providing a view into its interior.



Project website

Project website

SUBmarIne

Underwater building inspection

Dams are hydraulic structures that need regular inspection. This is particularly costly and time-consuming for submerged components, so damage is often initially overlooked.

The SUBmarIne project develops a cost-effective system for autonomous underwater infrastructure inspection. AUVs capture high-resolution images to create 3D models using photogrammetry. AI then analyses it for damage.

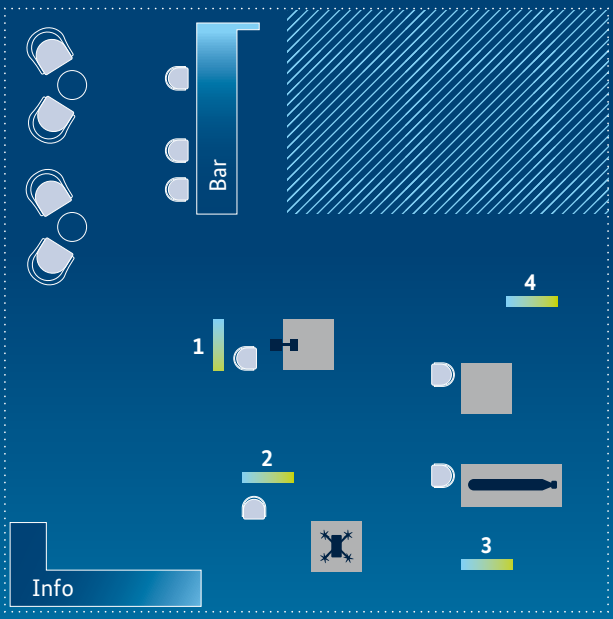
The method is intended to set new inspection standards in Germany. On-site training assists government agencies, companies and universities in applying this innovative method.

With this exhibit, the workflow of a structural inspection – both above and below water – can be experienced from 360° using VR goggles. See how photos are turned into 3D models and how damage is automatically detected from them.

Overview

Our projects and exhibits

1	**FloReST**	Understanding Urban Water Flow Paths
2	**SeeKaquA**	Detecting Groundwater by Drone
3	**SIMON**	Smart Underwater Monitoring
4	**SUBmarIne**	Underwater Building Inspection



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