From sensors and satellites to AI, Digital Twins and operational decision support

Digital Waters

Connecting world-class water research, digital technologies and industry to build climate-resilient water solutions

The Digital Waters (DIWA) Flagship combines hydrology, environmental monitoring, modelling, data science, and digital twins to address challenges arising from climate and land-use change while accelerating the digital transformation of water management.

University of Oulu · University of Turku · Aalto University · NLS Finnish Geospatial Research Institute FGI · Suomen ympäristökeskus Finlands miljöcentral Finnish Environment Institute · Ilmatieteen laitos Meteorologiska institutet Finnish Meteorological Institute

An Ecosystem of: **+ 170 public collaborators** · **+ 196 industrial collaborators** · **+200 researchers**

How DIWA helps companies innovate?

Testing & Validation Environments

- Arctic to coastal supersites
- Long-term monitoring datasets
- Sensor and technology evaluation
- Pilot-scale demonstrations

Decision Support

- Scenario modelling
- Risk forecasting
- Climate resilience assessments
- Regulatory and sustainability support

R&D Collaboration

- Joint research projects
- Proof-of-concept development
- Access to research infrastructures
- Co-creation of new services

Data & Digital Solutions

- Environmental data integration
- Automated data pipelines
- Digital Twin development
- Real-time monitoring dashboards

Supersites – Long-term data & infrastructures

A national network of long-term monitoring sites, from Arctic rivers to the Archipelago Sea, open for testing and piloting.



Collaboration and impact

DIWA works closely with research partners, industry, and the public sector to turn research into practical solutions for industry and sustainable water management. This collaboration is supported by Oulu Water Ecosystems, the Finnish Water Forum, and partners across Finland.

Concrete examples of industry collaboration

- **Kuva Space –** Hyperspectral satellite solutions for algal bloom monitoring
- **Sitowise –** PCP Wise: Flood and drought forecasting for climate resilience
- **Mitta –** Commercialization of advanced water-monitoring technologies
- **Kokkola Vesi –** Digital Twin for groundwater management

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Looking for water research, technology validation or digital-twin partners?

Let's collaborate

- Join a BF Co-Innovation consortium
- Co-fund a pilot at a supersite
- Join Horizon Europe projects

Contact: Pirkko Taskinen, pirkko.taskinen@oulu.fi

Talk to us about:

- Water risk data for permits and ESG reporting
- Testing sensors at our sites
- Joint Business Finland projects

Securing water resources with digital twins

Digitalwaters.fi

Research Council of Finland

FLAGSHIP PROGRAMME