ESA BASS WATER DAY
12 May 2026

52impact B.V.

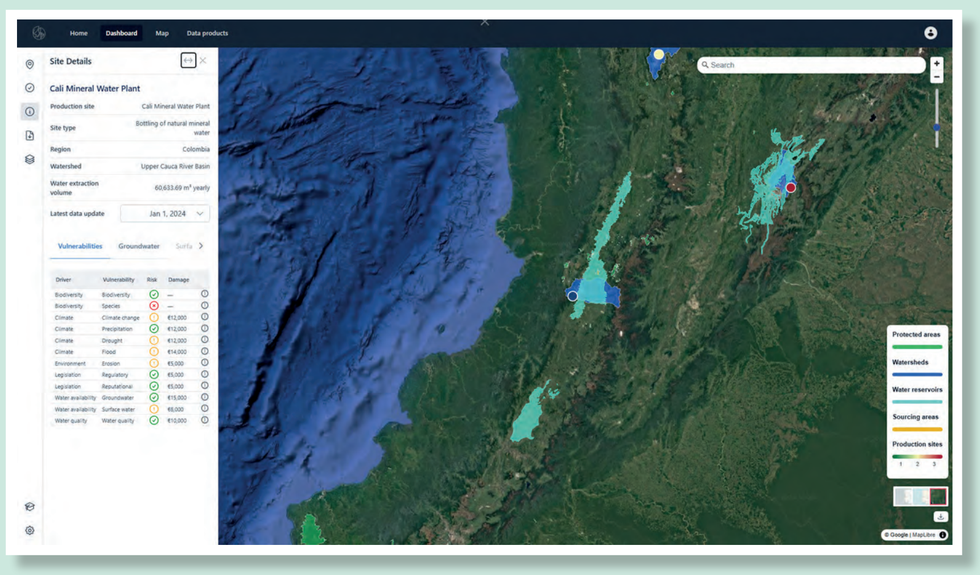
Project Name: BasinMeter

SPACE ASSETS USED

SatNav SatCom SatEO

ABOUT US

- Year established: 2017
- Number of employees: 9
- Main business areas: Climate, Environment, and Water
- Main customer segments: Food & beverage
- 52impact supports companies by solving their agricultural, climate, environmental, and water challenges, using a combination of consultancy and spatial analysis based on advanced data technologies, including remote sensing (satellite data), climate modelling, GIS techniques, and machine learning technologies.



SPACE ADDED VALUE

- BasinMeter combines remote sensing data with other supplemental attributes to develop a more comprehensive understanding of water stress patterns and to inform effective management and conservation strategies. The main advantages of using satellite Earth observation are:
- Global coverage
- Frequently updated information
- Archived data

TARGETED USER COMMUNITY

- Companies who are active globally and are dependent on water (e.g., companies in the food & beverage industry).

KEY PROJECT FEATURES

- Industries struggle to determine how to manage water, assess their exposure to water risks, and identify effective solutions.
- BasinMeter is an online platform that monitors water risks with regard to availability, quality, and accessibility, and it provides projections for the next 30 years based on climate models. Furthermore, the platform identifies possible actions to reduce the water footprint of users and mitigate their water risks.

IMPACT

- BasinMeter enables companies to design and implement effective water projects to mitigate water risks that affect themselves and others in terms of water availability, water quality, and access to water. The impact is realised on a global scale due to the worldwide coverage of BasinMeter.

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SPACE SOLUTIONS

ESA BASS WATER DAY
12 May 2026

FADEOUT SOFTWARE SRL
ADVANCED MICROTURBINES SRL

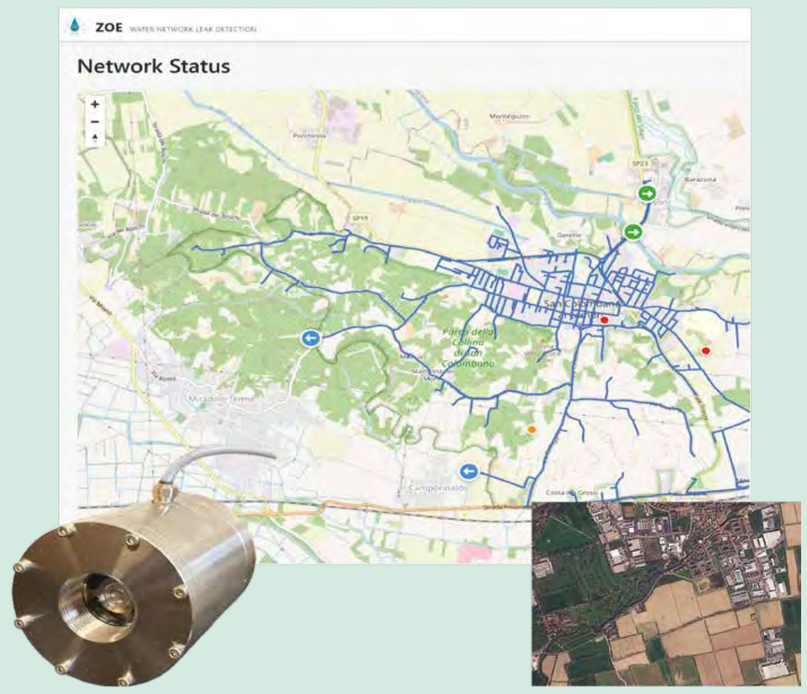
Project Name: ZOE – Predictive Maintenance and Water Network Leaks Detection System

SPACE ASSETS USED

SatNav | SatCom | SatEO

ABOUT US

- FadeOut Software is an Italian SME that has been active since 2002, focusing on the development of software solutions and R&D. The company has extensive experience of technology transfer from academia to the market, as well as in-depth expertise in Earth Observation solutions.
- Advanced Microturbines, founded in 2013 develops microturbines for energy harvesting. They exploit existing pressure drops of gas and water flows to generate electricity, powering IoT devices for monitoring, and operation of pipelines. This enables self-powered, real-time infrastructure monitoring improving efficiency, supporting digitalisation.



SPACE ADDED VALUE

- The project leverage SatEO assets, and specifically optical and SAR images, that are processed on the WASDI cloud platform
- The use of satellite imagery enables periodic monitoring of wide areas, including remote locations that are traditionally difficult to reach by in-person survey.
- The use of space products opened a completely new approach to the water distribution networks monitoring.

TARGETED USER COMMUNITY

- Water utilities managing drinking water distribution networks in urban and peri-urban areas, responsible for leakage control, maintenance, and service continuity.
- Infrastructure operators and asset managers seeking digital solutions for monitoring, predictive maintenance, and efficiency improvement of water systems.
- Public authorities and environmental agencies addressing water losses, resource efficiency, and climate resilience at regional and national levels.

KEY PROJECT FEATURES

- ZOE represents a cutting-edge, AI-powered automated leak detection system for water networks. It's an end-to-end solution integrating data from Earth Observation satellites and terrestrial field measurements, allowing continuous remote monitoring and precise leakage detection.
- A heterogeneous data fusion merges spatial information from satellite imagery with data from ground sensors, unlocking a higher level of accuracy and reliability using advanced machine learning and deep learning algorithms.

IMPACT

- Reduction of water losses by up to 20–30% through early leak detection and continuous monitoring, improving network efficiency and resource conservation.
- Decrease in operational costs (up to 25%) and non-revenue water, with extended asset lifetime and optimized maintenance planning.
- Enhanced sustainability with lower energy use and CO_2 emissions, supporting climate adaptation and more resilient water infrastructure systems.

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www.business.esa.int/projects/zoe

esa SPACE SOLUTIONS

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12 May 2026

Agrovisio

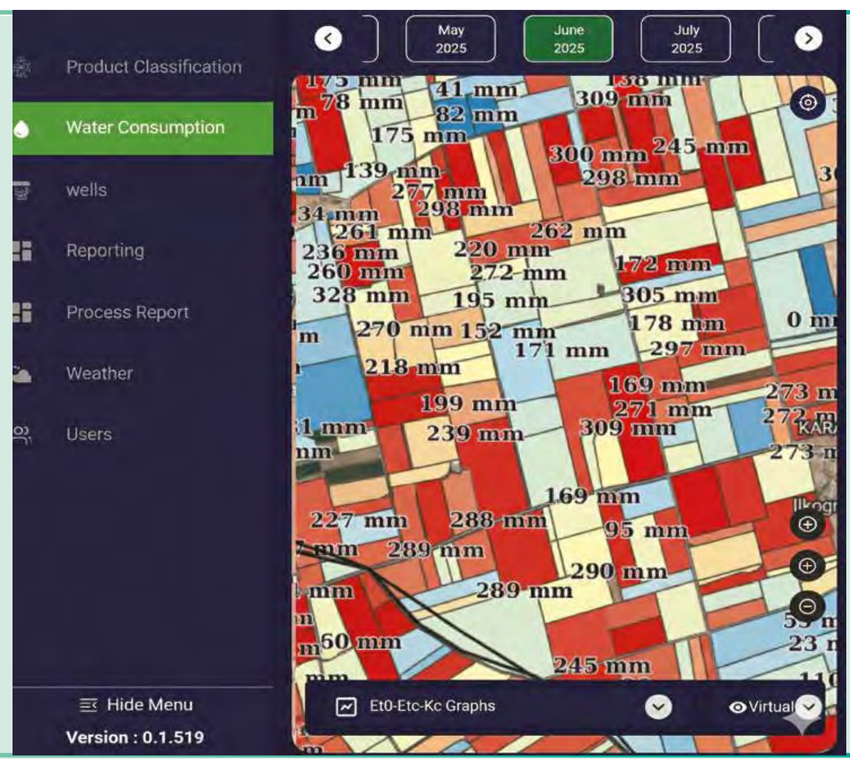
Project Name:
Blue Water Footprint Calculator

SPACE ASSETS USED

SatNav SatCom SatEO

ABOUT US

- Agrovisio, incorporated in 2017, is a satellite-based agricultural intelligence firm with 19 specialists in ML and agronomy. Backed by CNH Industrial (TürkTraktör) and selected for MassChallenge 2025, we have achieved 5x growth since 2022. Our main business is AI-powered EO Data for Agricultural Decision Making.
- Our vision is to secure the world's water future with real-time, satellite-driven transparency.



SPACE ADDED VALUE

- **Sentinel-2 integration** provides the multi-spectral time-series essential for monitoring real-time plant phenology and transpiration globally.
- Enables **basin-wide transparency** where ground-based sensors are too costly, labor-intensive, or physically impossible to deploy.
- Provides **unbiased, historical benchmarks** for water footprinting, ensuring regulatory compliance and audit-ready data for global ESG reporting.

TARGETED USER COMMUNITY

- **Water Authorities (e.g., DSİ):** National bodies managing basins and enforcing irrigation regulations through high-frequency remote monitoring.
- **F&B Corporations (e.g., DIAGEO):** Global enterprises requiring precise water footprinting for supply chain ESG and Carbon Finance.
- **Agricultural Cooperatives:** Groups seeking precision irrigation scheduling to reduce energy consumption and improve crop yields.

KEY PROJECT FEATURES

- Utilises a **Dynamic K_c model** powered by Copernicus Sentinel time-series to calculate actual crop water needs (ET_c).
- Automated detection of **unregistered wells** by cross-referencing satellite-derived consumption with official water invoices.
- **Basin-level analytics for real-time water supply/demand** monitoring to prevent aquifer depletion and support the EU Water Framework Directive.

IMPACT

- **90% detection** accuracy of illegal wells, shifting enforcement from randomised field visits to surgical, data-driven interventions.
- **45% reduction** in manual field audits, significantly lowering operational costs for regional water management authorities.
- **€45k per 10k hectares projected savings** for corporate partners by replacing expensive ground sensors with satellite-derived dMRV over a three-year period.

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12 May 2026

Águas do Tejo Atlântico, SA (AdTA)
Lisbon Municipality (CML)
National Laboratory for Civil Engineering (LNEC)

Project Name: Água-Mãe Living Lab

SPACE ASSETS USED

SatNav SatCom SatEO

ABOUT US

Água-Mãe LL is an innovation platform founded by CML, AdTA and LNEC.

- **CML's** climate action through its Climate City Contract 2030 is driving water efficiency, reuse, and innovation to enhance resilience to scarcity and flooding as part of the EU Mission for 100 Climate-Neutral Cities.
- **AdTA** serves 2.3 million people, combines large-scale operations with an innovation strategy, advancing circular economy solutions and technologies, and water reuse in partnership with stakeholders.
- **LNEC** is a state research institution advancing innovation in urban water systems, supporting efficient, resilient, and sustainable water management through collaboration with utilities, industry, and regulators.

SPACE ADDED VALUE

Foreseen use of space technologies for:
- Integration of Earth Observation data (e.g., satellite imagery) to monitor water availability, land use, and urban heat patterns, enabling data-driven planning and adaptive water management.
- Use of satellite-based positioning and IoT systems to optimise infrastructure monitoring, leakage detection, and asset management across urban water networks.
- Enhanced decision-support through space-enabled digital tools, improving forecasting, early-warning systems, and operational efficiency in urban water management.

TARGETED USER COMMUNITY

- Urban water stakeholders - including utilities, municipalities and regulators—managing water supply, wastewater, and stormwater systems in dense, climate-vulnerable urban environments.
- Industry and technology providers developing digital water tools, and circular economy practices for water reuse, efficiency, and resource recovery.
- Urban planners, farmers, industry, researchers, and civil society co-creating and testing innovative water management approaches within real-life living lab settings.

KEY PROJECT FEATURES

- Co-design, test, and scale innovative water management solutions addressing scarcity, climate resilience, and circularity.
- Integration of alternative water sources, nature-based solutions, and digital tools (e.g. smart-water-allocation tool) within real urban systems, bridging research, policy, and operational practice.
- Collaborative framework engaging public authorities, industry, academia, and citizens to validate solutions and support replication in other European cities.

IMPACT

- Increased water efficiency and reuse adoption (e.g. 70 ha irrigated with reclaimed water), reducing potable water demand and freshwater abstraction (400,000 m3/year) and operational costs.
- Enhanced climate resilience with increased green infrastructure, decreasing heat islands, runoff volumes and urban flood risk.
- Socioeconomic benefits including capacity building and training of new professionals in the urban water sector, improved public engagement, and scalable solutions supporting long-term urban sustainability.

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SPACE SOLUTIONS

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12 May 2026

Almaviva S.p.A.

Project Name: EV-WaterFill

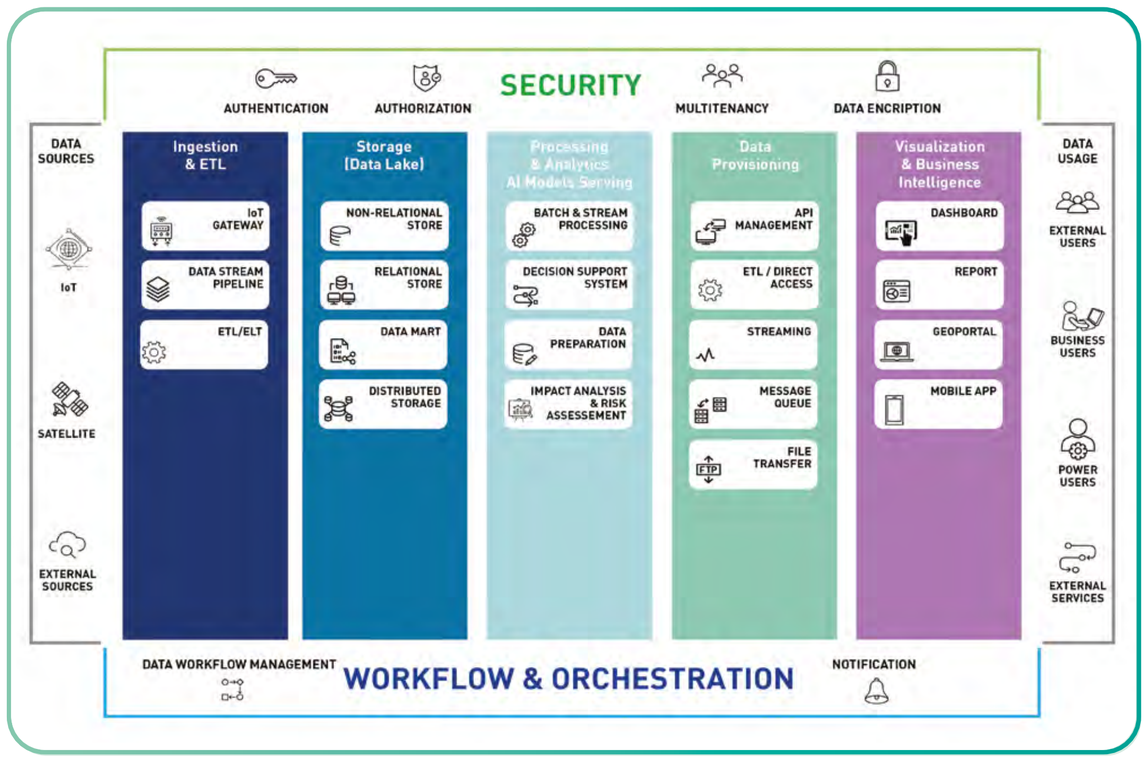
SPACE ASSETS USED

SatNav SatCom SatEO

ABOUT US

Almaviva is a leading Italian Information & Communication Technology Group, with over 40 years of experience driving digital transformation for enterprises and public administrations, operating through a global network of more than 30 companies and 80 offices in Italy and abroad and combines proprietary platforms with cutting-edge technologies. With a strong track record in Earth Observation for flood risk and environmental protection, Almaviva is now strengthening its water resource monitoring offer through SAR, optical satellite data, and proprietary GIS platforms.

Awards include the EU REGIOSTARS 2025 prize and two Gold Medals at the POLAGRA Central Europe trade fair.



SPACE ADDED VALUE

- EO satellite data provides consistent, large-scale and repeatable observations, forming the backbone for basin-level monitoring of water availability, surface dynamics and environmental conditions.
- Space-derived data is combined with in-situ sensors and terrestrial data flows, enhancing spatial coverage, reliability and continuity where ground measurements alone are insufficient.
- Satellite data flows ensure homogeneous monitoring across transboundary basins, enabling uniform assessments, cross-regional comparisons and scalable deployment.

TARGETED USER COMMUNITY

- Public authorities and basin managers responsible for water resources planning, monitoring and regulatory compliance across river basins and catchment areas.
- Regional and national stakeholders operating primarily at basin, regional and national scale, with a strong focus on Europe and EU policy frameworks.
- Water utilities and operators managing water collection, treatment, storage and supply, supporting daily operations and long-term asset planning.

KEY PROJECT FEATURES

- AI-driven platform that combines Earth Observation satellite data, IoT sensors and more than 20 data flows from the ground to generate water basins Digital Twin.
- A robust ingestion module consolidates data flows into a single harmonised data layer allowing a clear water availability and quality monitoring.
- Data analytics supports water management risk mitigation, ongoing operational planning and timely-informed decision making in case of extreme events.

IMPACT

- More sustainable water allocation, increased resilience to climate variability and evidence-based policymaking deliver long-term benefits for communities.
- Data Insights support water allocation decisions, contributing to long-term benefits for public services, ecosystems, and water-dependent economic sectors.
- Water infrastructures exposed to climate-driven hydrological extremes are closely monitored, preventing dangerous situations for affected populations and reducing costs associated with post-event interventions.

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12 May 2026

Aquascope Solutions Ltd

Project Name:
ESA-APPS Continuation Project (CCN1)

AQUASCOPE

SPACE ASSETS USED

SatNav SatCom SatEO

ABOUT US

Aquascope – Freshwater intelligence for natural capital asset management

- Using freshwater as a diagnostic tool for ecosystem health, enabling managers, investors, and developers to measure, verify, and manage nature-based assets with greater efficiency and integrity.
- Providing local freshwater intelligence and digital catchment monitoring globally, enabling access to timely data and insights, and contributing to better impact-driven decisions.
- Our Core team comprises of 4 experienced and passionate people enabling cutting-edge solutions for monitoring natural ecosystems, as well as 5 Advisory Experts.

SPACE ADDED VALUE

- Meteorological Input Data for the InCa Models was sourced via the ECMWF's ERA-5 LAND and NASA's GPM IMERG Data Products, produced from numerical weather modelling and space-based weather observations.
- Land Use and Land Use Change in the Notranskja Region was derived partially from ESA WORLDCOVER, a Product of Sentinel-1 and Sentinel-2 Data and the Copernicus Land Monitoring Service (CLMS).

TARGETED USER COMMUNITY

- This project partnered with Carbon Clear and Bright Carbon Infrastructure (Bright Carbon Solutions) to work in Notranskja National Park in the Cerknica Wetlands of Slovenia.
- CarbonClear d.o.o. is based in Zagreb and is a carbon and nature project development company. It has assembled a team of scientists and environmentalists from the region.

KEY PROJECT FEATURES

- Our existing APPS approach combines remote satellite monitoring, ground-truthing, and mathematical hydrological modelling using the Integrated Catchment (InCa) Model.
- The CCN Project incorporates carbon reporting, building upon the existing tools to model carbon fluxes and run environmental scenarios, offering a powerful unique approach to carbon sequestration projects.
- The new features sit within and add additional value to our existing services: BASELINE, SCENARIO and MONITOR, to carbon and water-oriented clients.

IMPACT

We have shown with this pilot that we are able to disrupt the MRV workflow, making the task of obtaining site and downstream insights into river risk and impact:

- **Faster** – By an order of magnitude, from 6-12 and 3-6 months.
- **Scaleable** – Combining three sources of data, consistently and applicable globally.
- **Cost Effective** – After initial setup, provides cost-efficient, repeatable, and higher integrity alert and monitoring services.

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AQWALYTICS

advanced water quality analytics

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Barrage d'Oldeleite, Portugal
Pléiades - 6 mai 2014
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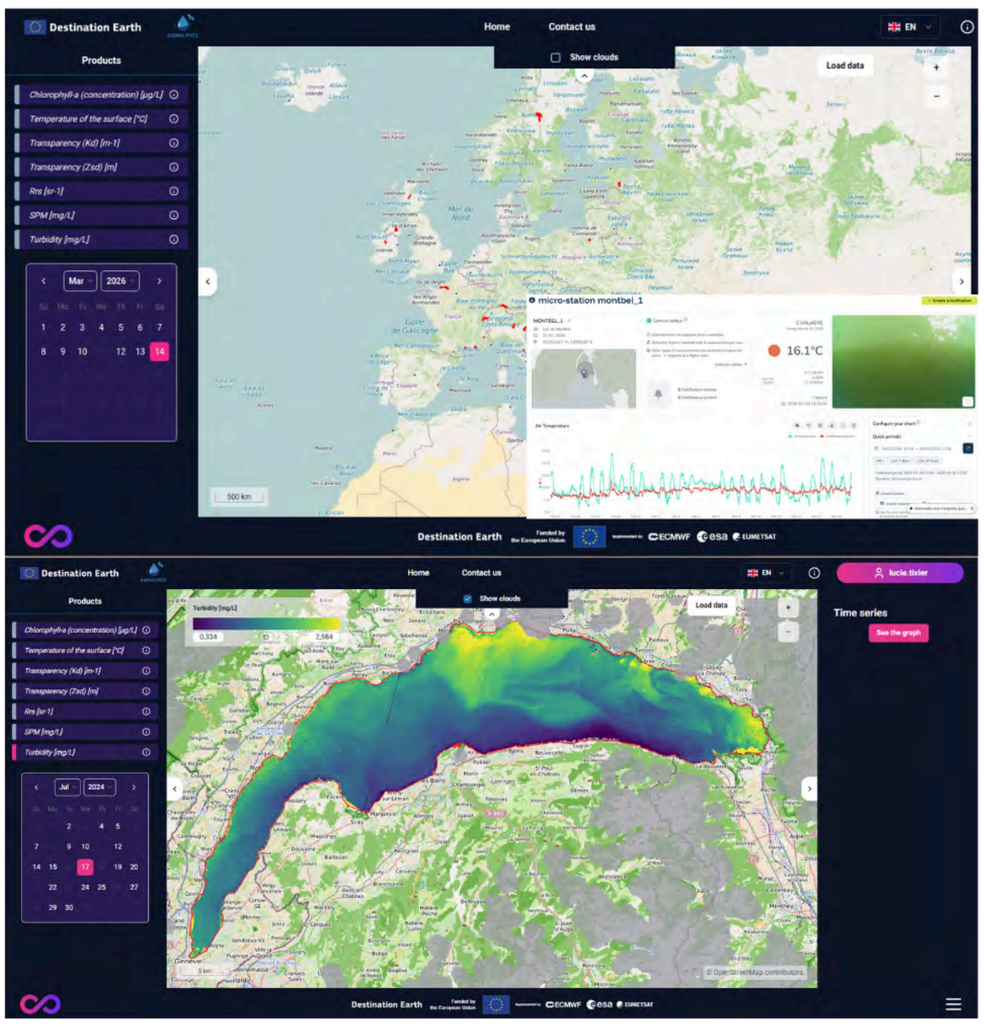


Key service features

- Designed within the framework of the Destination Earth initiative, this service offers an advanced operational solution for monitoring the water quality of water bodies at high resolution.
- It ensures precise, continuous, and tailored water bodies monitoring, enabling rapid decision-making through key indicators such as remote-sensing reflectance, chlorophyll-a concentration, transparency, turbidity, suspended particulate matter and surface temperature.
- It relies on an innovative combination of large-scale satellite observations and high-frequency in-situ data.
- It offers optimal efficiency, minimizes costs and ensures rapid implementation across European regions.
- It is now available on DestinE Platform https://platform.destine.eu.

Targeted user community

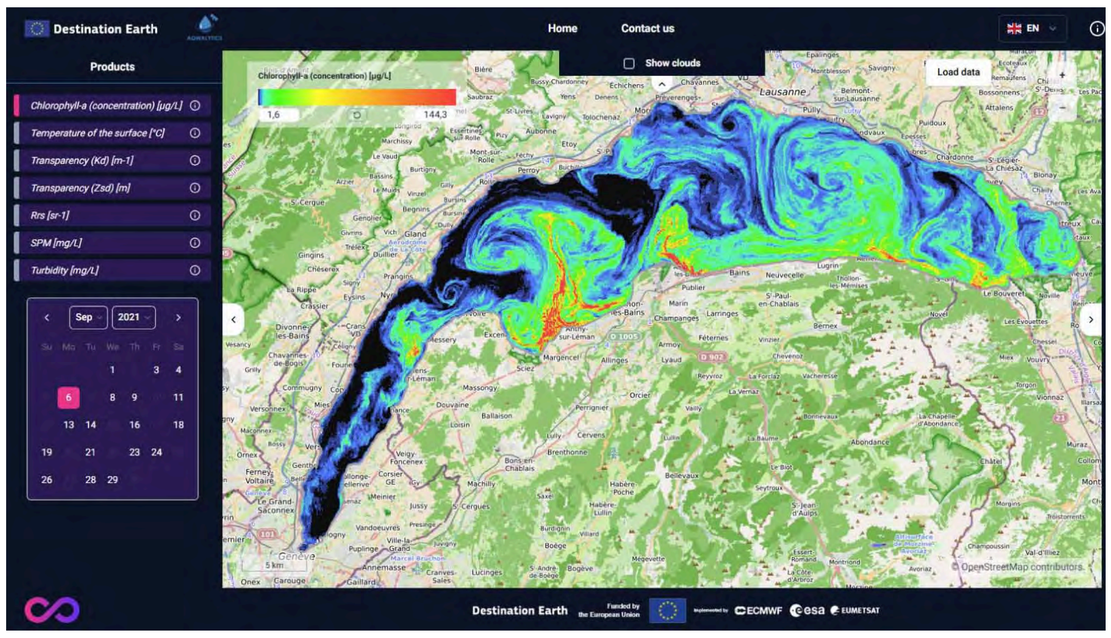
- European public stakeholders: in needs of fresh water indicators to align with the Water Directive and the forthcoming Nature and Restoration Law.
- Local planners for regional development: in broader regional development and transboundary areas, water quality impacts agricultural practices, industries, and ecosystems. Monitoring and improving water quality is necessary to support sustainable regional growth.
- Public health: assisting local health agencies in monitoring bathing water quality and helping to detect triggering factors of harmful algal blooms.

Impacts

- Water resources management and health: to support the achievement of SDG 6 (Clean Water and Sanitation) by improving the detection of pollution sources.
- Aquatic biodiversity and ecosystem: to understand how ecosystems respond to warming, eutrophication and turbidity events.
- Climate change and extreme events: to construct multi-decadal time series and analyse the impact of extreme weather on water bodies.
- Tourism and recreation: to deliver water quality indicators particularly for lakeside resorts and coastal municipalities supported by bathing, thermal cares and recreational activities.

About us

Experienced companies at the forefront of water monitoring solutions, bringing complementary expertise in Earth Observation data processing and in-situ monitoring technologies.
Magellium, a specialist in Earth Observation geospatial intelligence, has a long history of developing satellite-based monitoring systems. With strong expertise in remote sensing, geophysical signals retrieval, AI-driven data analysis, and cloud-based services, Magellium has played a key role in major European environmental monitoring projects.
VorteX-io provides cutting-edge in-situ micro-stations for real-time inland water monitoring. By deploying autonomous, remotely connected sensors across worldwide water bodies, vorteX-io complements space-based observations with precise, high-frequency local measurements. These data sources enhance calibration, validation, and model accuracy for EO-based monitoring services.



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Destination Earth
Funded by the European Union
Implemented by ECMWF esa EUMETSAT

Destination Earth (DestinE) is a European Union funded initiative, with the aim to build a digital replica of the Earth system. The initiative is being jointly implemented by three entrusted entities: the European Space Agency (ESA), responsible for building the 'Core Service Platform', the European Centre for Medium-Range Weather Forecasts (ECMWF), responsible for the creation of the first two 'digital twins' and the 'Digital Twin Engine', and the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT), responsible for the creation of the 'Data Lake'. Access Destination Earth at destine.platform.eu.

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12 May 2026

BWI

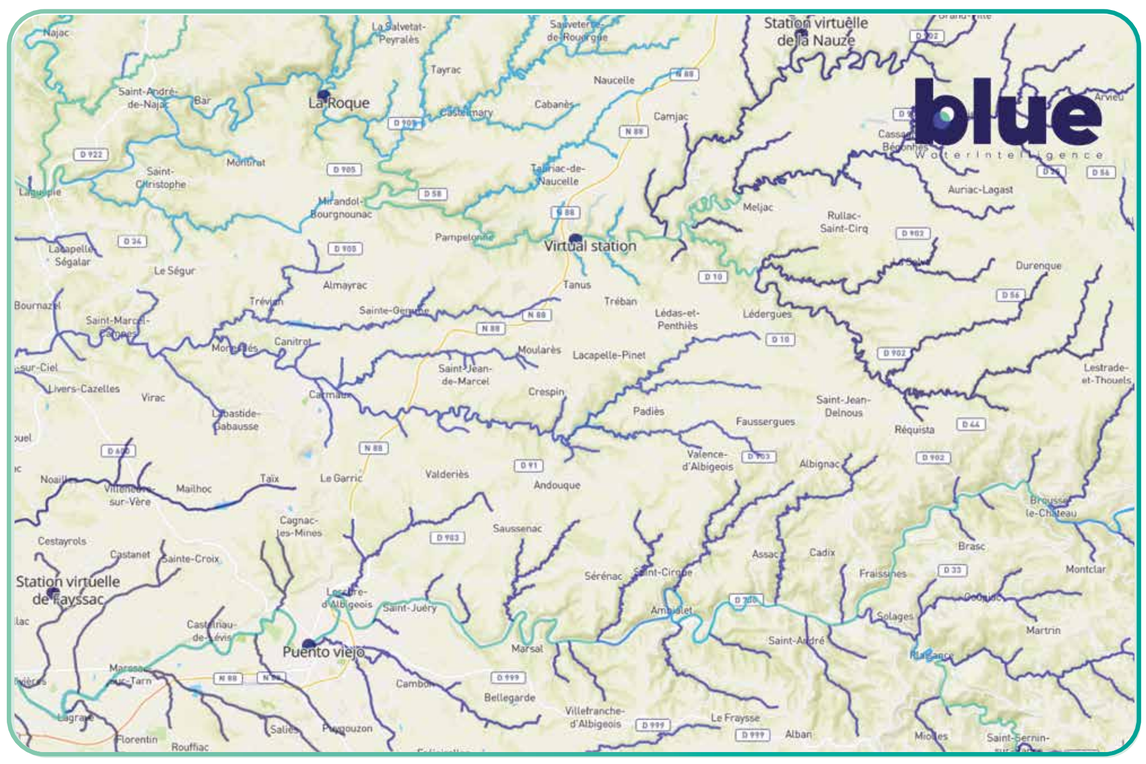
Project Name:
BWI: River Flow Forecasting Service

SPACE ASSETS USED

SatNav SatCom SatEO

ABOUT US

- BWI (Blue Water Intelligence) is a 35-strong French company founded in 2022 in Toulouse.
- BWI provides forecasts of river flows globally, and water levels under conditions, by combining satellite and in-situ data, hydrological models and artificial intelligence.
- BWI supports public authorities, organisations and businesses in managing water resources, anticipating floods, and enabling informed decision-making.
- Awarded the Innovation Prize at InnoDay by Aerospace Valley in 2025
- BWI is developing a space mission, REVALTO, aimed at providing high revisit altimetry data.



SPACE ADDED VALUE

- Earth observation data provides global coverage of river systems, including remote and ungauged areas where ground data is unavailable or insufficient.
- Altimetry observations enhance the accuracy and spatial consistency of hydrological forecasts, improving reliability at basin scale.
- Continuous space-based meteorological data feed hydrological models in near real time, enabling scalable forecasting and informed decision-making across regions and borders.

TARGETED USER COMMUNITY

- Public authorities, governments and water agencies managing river basins, flood risks and water allocation at local, regional to national scale.
- Hydropower operators, drinkable water utilities and agricultural stakeholders relying on water availability for operational planning and resource optimisation.
- Insurance, risk management and analytics actors using hydrological data and forecasts to access exposure, anticipate impacts and support decision-making.

KEY PROJECT FEATURES

- Once a user places a virtual station on a point of interest, virtual stations start to derive reliable river flow data, with forecasts going up to 10 days.
- Users may create early warning alerts to trigger visibility on steep variations in river dynamics, enabling stakeholders to take action.
- The API enables users to integrate BWI forecasts into their legacy systems such as GIS and SCADA.

IMPACT

- Flood early warnings are typically up to 2 days; BWI could extend this to 10 days – which may help save lives.
- Harvesting crops before a flood, may result in tremendous environmental, social and economic savings, particularly among the most vulnerable populations.
- Water resource arbitrage discussions between agriculture, energy, industry and drinkable water stakeholders may rely on independent forecasts – included in data-scarce and/or ungauged regions.

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CottonConscience

BY BRAND CONSCIENCE

Brand Conscience is a UK-based innovation and tech solutions company focused on transforming how businesses understand and manage sustainability, cost, and supply chain risk. We've teamed up with Our Fashion Fix with a mission to trace water wise cotton and improve conscious, transparent, decision-making in the fashion industry.

CottonConscience - Tracing Water Wise Cotton from Farm to Gin

Fashion supply chains are complex, global, and increasingly scrutinised. CottonConscience is a space-enabled system that brings farm-level traceability and water intelligence into fashion supply chains.

It combines:

- Satellite Earth Observation (EO)
- DNA-based fibre verification
- Supply chain data integration

To deliver:

- Water Trace – Quantified water use and risk
- Farm Trace – Verified origin at field level
- Impact Insights – Product-level sustainability data

SPACE-ENABLED ADDED VALUE

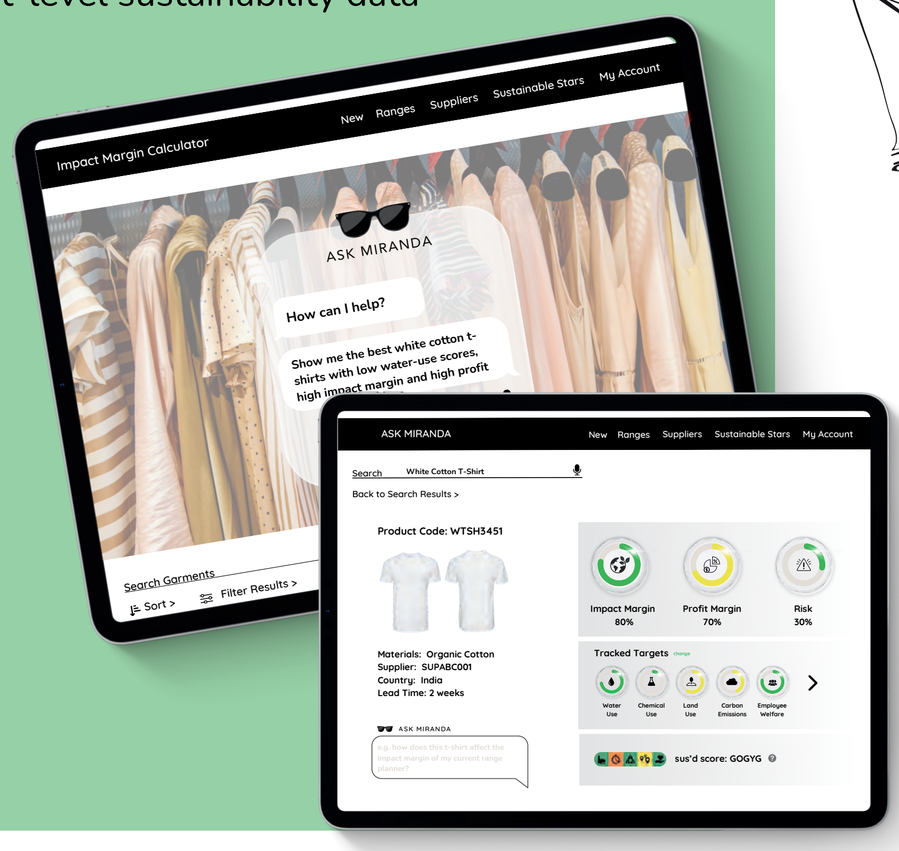
CottonConscience demonstrates how space-enabled data can unlock visibility at the start of the supply chain.

Independent verification of crop type and location

Scalable monitoring across global sourcing regions

Seasonal insight into crop health and variability

Data where ground access is limited or unavailable



CottonConscience sits within **ASK MIRANDA**, a next-generation fashion buying platform. Together, they enable real-time impact + margin visibility through integrated range planning supported by agentic AI for conscious decision-making and compliance reporting.

FROM FIELD → DECISION → IMPACT

How CottonConscience turns SatEO data into action

Field-Level Insight

Satellite data identifies cotton fields, monitors crop health, and captures water use patterns.

Connected Supply Chain

Fibre is tracked from farm to product, linking each stage with real data.

Smarter Buying (ASK MIRANDA™)

Buyers see cost, margin, and impact in one place. Better decisions can be made faster.

Compliance Made Simple

Data flows directly into ESG reporting and DPP-ready outputs.

Clearer Consumer Signals

Complex data becomes simple product-level insights offering trusted transparency for conscious choices.

Better Farming Outcomes

Visibility drives change, promoting regenerative practices, water-wise sourcing and value for farmers.

ONE CONNECTED SYSTEM

- Scalable monitoring across global supply chains
- Independent, verifiable data
- Continuous insight over time

GRATEFULLY SUPPORTED BY

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12 May 2026

DHI group

Project Name: Ag2Wetland

SPACE ASSETS USED

SatNav | SatCom | SatEO

ABOUT US

- Founded (incorporated): 1964
- Employees: 1,100+ in 26 countries

Business: water advisory, modelling and digital solutions (MIKE Powered by DHI) for cities, utilities, coasts and climate resilience.

- UN partnership: hosts the UNEP-DHI Centre; Global Wetland Center is doing research in wetland GHG emissions, and Global Wetland Watch is a system for tracking global wetland change.

Vision: We enable a sustainable future for water.

SPACE ADDED VALUE

- Uses multi-source Earth Observation (Sentinel, Landsat, SWOT and high-resolution imagery) to provide consistent, repeatable wetland and land-use characterisation.
- Fuses EO with weather data, soil information, and digital elevation models to strengthen baseline and intervention assessments for agriculture-to-wetland conversion.
- Derives EO analytics and links with modeling to estimate GHG impacts and support monitoring, reporting, and verification.

TARGETED USER COMMUNITY

- Farmers/landowners with low productivity or drained agricultural land across Europe, assessing whether wetland conversion outperforms continued farming or land sale.
- Nature based solutions project developer operating in European landscapes, delivering end to end wetland restoration and carbon credit issuance/verification.
- Corporate buyers seeking high integrity wetland carbon credits as emission offsets, purchasing verified credits via an established client base.

KEY PROJECT FEATURES

- Assess feasibility of scaling conversion of low-productivity/drained agricultural land into wetlands, financed by high-integrity carbon credits and stacked ecosystem payments.
- Combine wetland mapping, hydrology/ecology and Earth Observation to quantify habitat condition, water dynamics (ET, soil moisture, surface water) and estimate GHG impacts.
- Define an end-to-end service concept with a nature-based solutions partner—from land conversion and monitoring to verification, credit issuance and market access for corporate buyers.

IMPACT

- Provides farmers profitability check, wetland conversion generates value than farming enabling sales of nature-based carbon credits and ecosystem payments.
- Creates an end-to-end pathway to implement projects and match supply with corporate demand for offsets and environmental outcomes.
- Indicators from EO+models for Monitoring, Reporting and Verification: evapotranspiration, soil moisture, and surface water dynamics, with GHG emissions to support crediting.

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12 May 2026

EDInsights AS

Project Name: PowerEdge

SPACE ASSETS USED

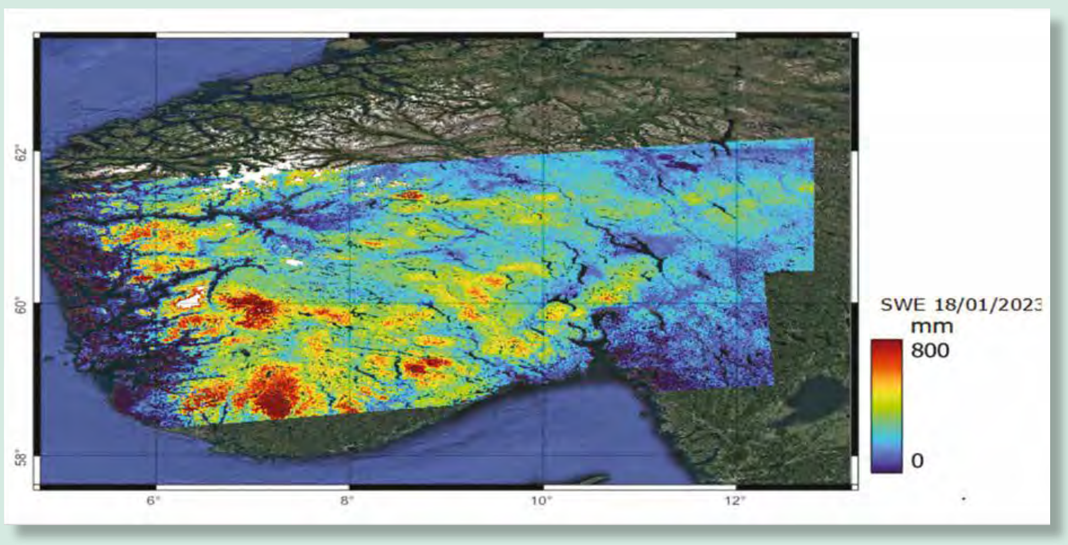
SatNav SatCom SatEO

ABOUT US

EDInsights is a technology company based in Oslo, Norway, established in 2018, currently employing 3 full-time staff.

We support the hydropower industry by enhancing operational decision-making through insights derived from Earth Observation data.

Our core products include snow storage estimations and reservoir filling level monitoring for hydropower systems.



SPACE ADDED VALUE

- The project uses L-band radar data from ALOS-2, SAOCOM, and NISAR satellites.
- Historical and ongoing satellite data are combined to maximise the time series of observations.
- A total of 6 years of data is used to validate the snow storage product against pilot user data and to continuously improve the methodology.

TARGETED USER COMMUNITY

- Hydrologists and production planners at hydropower companies, responsible for snow data collection, runoff estimation, and drought/flood risk planning, primarily in the Nordic region.
- Power market analysts and traders involved in price forecasting and trading of Nordic power futures.

KEY PROJECT FEATURES

- The PowerEdge project aims to demonstrate a novel snow storage product derived from satellite-based L-band measurements.
- The project includes collaboration with major hydropower producers in southern Norway to validate the product.
- The dataset covers 6 snow seasons across 20 hydropower basins with varying characteristics, including differences in snow accumulation, vegetation, and altitude.

IMPACT

- Near real-time estimation of snow storage at the basin level, requiring minimal or no field measurements.
- Frequent updates during the snow accumulation period enable earlier adjustments in production planning and trading strategies.
- Improved mapping of available water enhances runoff forecasts, supporting better reservoir management, increased revenue, and reduced risk of flooding and drought.

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SPACE SOLUTIONS

ESA BASS WATER DAY
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EOMAP
a **Fugro** company

ABOUT US

EOMAP – a Fugro company, leverages satellite technology to deliver environmental intelligence. As a trusted partner of agencies and industries worldwide, the team supports sustainable applications from water management to infrastructure planning, blue carbon assessments, or safe navigation.

EOMAP is spearheading water quality monitoring and Satellite Derived Bathymetry (SDB). Its award-winning web app series, the eoapp™ provides key insights from space within mouse clicks. Committed to UN SDGs and climate goals, EOMAP aims to reinforce the sustainable development of aquatic environments.

SPACE ASSETS USED

SatEO

SFC-Online

EO solution for Seafloor Classification

Description
- Automated mapping and monitoring of marine habitats using satellite imagery, underwater videos, AI, and field data
- Applicable in various benthic habitats including seagrass meadows, coral reefs or mussel beds
- ML-supported mapping at 0.5 to 10 m resolution, in line with official reporting schemes

Impact
- Enables high cost- and time-savings for surveys
- Strengthens sustainable coastal management, reporting, and offshore planning
- Supports environmental stewardship

Targeted useres
- environmental and coastal agencies
- national research centres
- offshore infrastructure planners, and NGOs

Space added value
- Wide area coverage of rasterised information without interpolation
- Mapping of hard-to-reach areas

The new web app combines video, field and satellite data to map and monitor benthic habitats 24/7.

Find out more
https://benthiq.eoapp.de/

DITCH

Digital Twin for Decision Support in Water Management

Description
- Combines EO, in-situ measurements, third party data, and river catchment modelling
- AI-powered dashboards inform about potential risks and their mitigation

Target users
- Public environmental agencies
- River commissions
- Industry users who seek to minimise their water impact

Impact
- Transforms complex multi-source data into actionable information
- Supports water stewardship
- reduces risks of negative environmental impacts

Space added value
- enables users to observe entire catchments and remote areas
- allows to go back in time to learn from the past

Users can access complex data and customise dashboards to obtain actionable insights on entire catchments

Snowpower

High resolution snow information for vast mountain regions

- Provides daily snow depth and snow water equivalent (SWE) in 500 m
- From 2016 onwards and as NRT service, powered by Sentinel-1 combined with a snow model
- Offers high accuracy and cost savings to the energy sector, risk managers, and weather services
- Usage of Sentinel-2 restrains the model by snow depth measurements

SpaceSurf

Accurate wave forecasts for surfers

- Feasibility study designed to capture local nearshore wave conditions in a mobile app
- First solution integrating satellite data (SDB from Sentinel-2) into a local wave model
- Targets B2C users, such as surfing schools, associations, and individual surfers

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FFBS-Fashion for Biodiversity Solutions

Project Name: OCTAVE-Organic Cotton Tracking & Verification Engine

FASHION FOR BIO-DIVERSITY

SPACE ASSETS USED

SatNav | SatCom | SatEO

ABOUT US

- Founded in Germany on 21 June 2021.
- Team of 6-10 across space tech, AI, and sustainability.
- **OCTAVE –** SaaS platform for pesticide-free cotton traceability and DPP compliance.
- **Core Capabilities:** EO (Sentinel-2/5P, EnMAP SWIR), AI detection, GNSS, blockchain, isotopes.
- Winner of INNOSPACE Airbus Award; ESA EXPRO+; ESA BIC NRW.
- **Vision:** Redefine sustainable fashion through real-time, science-backed proof and ecosystem restoration.

SPACE ADDED VALUE

- Utilises Sentinel-2 MSI and Sentinel-5P TROPOMI to detect vegetation stress, atmospheric pollutants, and agrochemical signatures at field scale.
- Integrates EnMAP hyperspectral data enabling detection of pesticide residues, soil chemistry, and water stress via SWIR absorption features.
- Combines EO-derived indicators with GNSS geofencing and isotopic ratios to deliver forensic-grade, space-anchored traceability and compliance verification.

TARGETED USER COMMUNITY

- Cotton farmers & FPOs (India, Pakistan, Africa): smallholders using OCTAVE for farm monitoring, compliance, water management, and access to premium markets.
- Supply chain & industry actors (global): Ginners, traders, certification bodies, and fashion brands using OCTAVE for traceability, fraud detection, and EU compliance.
- Public sector & institutions: Village municipalities, agriculture departments, and anti-pollution agencies using OCTAVE for groundwater monitoring, pesticide control, and environmental compliance enforcement.

KEY PROJECT FEATURES

- Develop OCTAVE as a **farm-to-fibre traceability** platform combining EO (Sentinel, EnMAP), AI, GNSS, blockchain, and isotopes to verify pesticide-free cotton, **monitor water use**, and detect contamination risks
- Enable **real-time compliance and water risk** alerts to prevent chemical leaching, support regenerative and rainfed practices, and align with EU regulations (EUDR/CSDDD, DPP)
- Pilot with farmers and brands to demonstrate **scalable adoption**, improving soil health and **restoring groundwater quality** for safe human and animal use.

IMPACT

- **Farmers & communities:** 20–30% higher incomes via premium markets; reduced input costs; lower healthcare burden as pesticide exposure drops; reduced dependence on bottled water.
- **Ecosystems:** 20–30% reduction in chemical leaching; up to 50% lower irrigation use; improved groundwater quality; enhanced soil health and biodiversity recovery, restoring drinking water for all.
- **Industry:** real-time monitoring reduces fraud and audit costs; enables data-driven water protection policies and scalable enforcement of EUDR/CSDDD compliance.

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Geospatial Ventures Ltd (GVL)

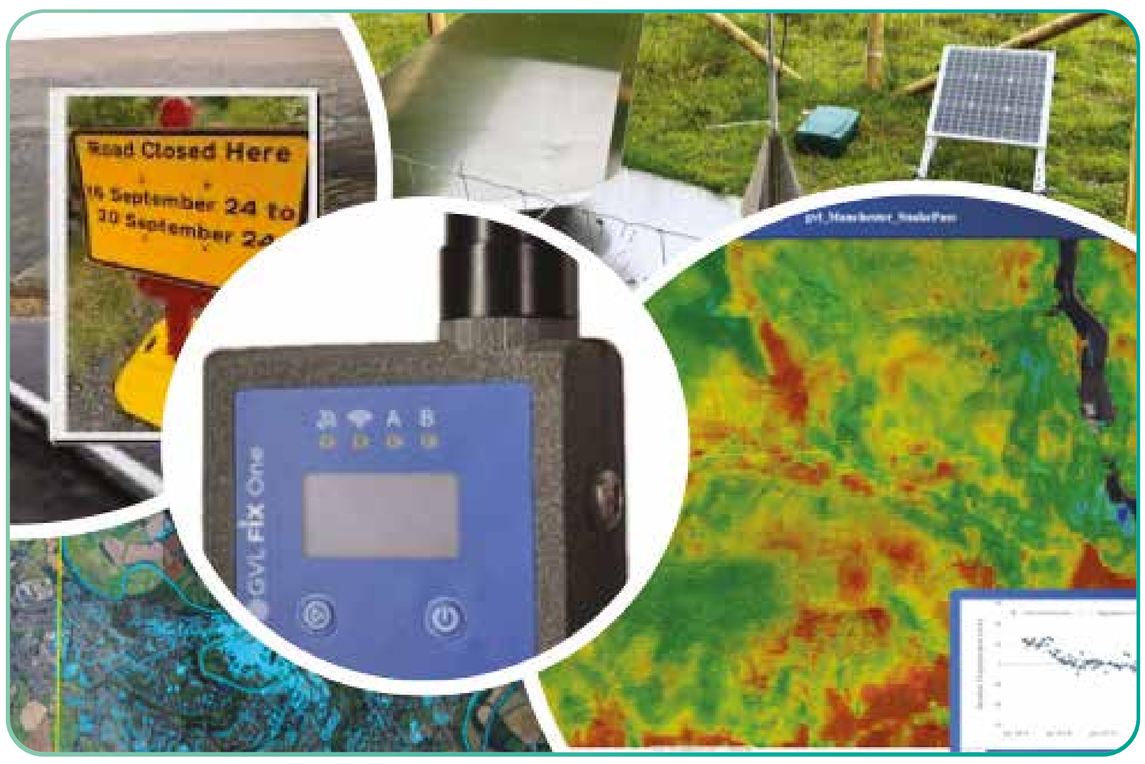
Project Name: GeoAI platform for water resilience and infrastructure protection

SPACE ASSETS USED

SatNav | SatCom | SatEO

ABOUT US

- GVL – UK deep-tech SME, incorporated 2020; 10 on headcount plus expert consultants.
- GeoAI for infrastructure, water, environmental resilience using EO including Sentinel 1, 2 and commercial radar, optical and multispectral data fused with GNSS and leveraging AIML.
- **Core tech:** GVL Fix-OneTM IoT PNT devices and AT-InSAR for land movement monitoring and risk insights.
- Top 100, EWC company; HORIBA MIRA Innovation Award winner; UKSA Scaling Star.



SPACE ADDED VALUE

- Satellite EO (multispectral, optical, SAR/InSAR) enables consistent, wide-area monitoring of water systems, overcoming ground access constraints and cloud limitations.
- Long-term satellite archives provide historical baselines to detect trends in flooding, subsidence, and environmental change not visible from ground surveys alone.
- Integration with high-accuracy GNSS (e.g. GVL Fix-One) ensures calibrated, validated insights, enhancing accuracy, scalability, and confidence in decision-making.

TARGETED USER COMMUNITY

- Water utilities and regulators (e.g. UK, Europe) managing wastewater, CSOs, and flood risk, requiring compliance, monitoring, and asset resilience.
- Infrastructure owners/operators (rail, highways, energy) overseeing linear assets vulnerable to subsidence, flooding, and ground instability.
- Engineering consultancies and environmental agencies delivering planning, risk assessment, and climate adaptation projects across urban and rural catchments.

KEY PROJECT FEATURES

- Developing a GeoAI platform integrating multispectral/optical EO, SAR/InSAR, and GNSS to monitor water systems, flooding, and infrastructure stability across large areas.
- Deliver predictive analytics, early-warning alerts, and decision-ready dashboards for utilities, supporting AMP8 outcomes and climate resilience planning.
- Pilot use cases (e.g. CSOs, river corridors) to detect leakage, subsidence, and pollution risks, validating insights with GVL Fix-One and AT-InSAR data fusion.

IMPACT

- Reduce flood and pollution risk by enabling early detection of anomalies (e.g., CSOs, leakage), targeting 20–30% faster response times and improved regulatory compliance.
- Cut inspection and monitoring costs by ~40–50% through satellite-driven wide-area coverage, reducing manual surveys and operational overheads.
- Improve investment planning and resilience, supporting AMP8 outcomes, reducing asset failure risk, and delivering socioeconomic benefits in high-risk catchments.

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HIDROMOD (part of ABL Group)

AquaFarm – Space-enabled Intelligence for Water Management

AQUAFARM

HIDROMOD Part of ABL

Interreg Sudoe — Co-funded by the European Union

AgroSpace

waterSENSE — More than data. Clear decisions.

SPACE ASSETS USED

SatNav *Supporting* | SatCom *Supporting* | SatEO *Primary*

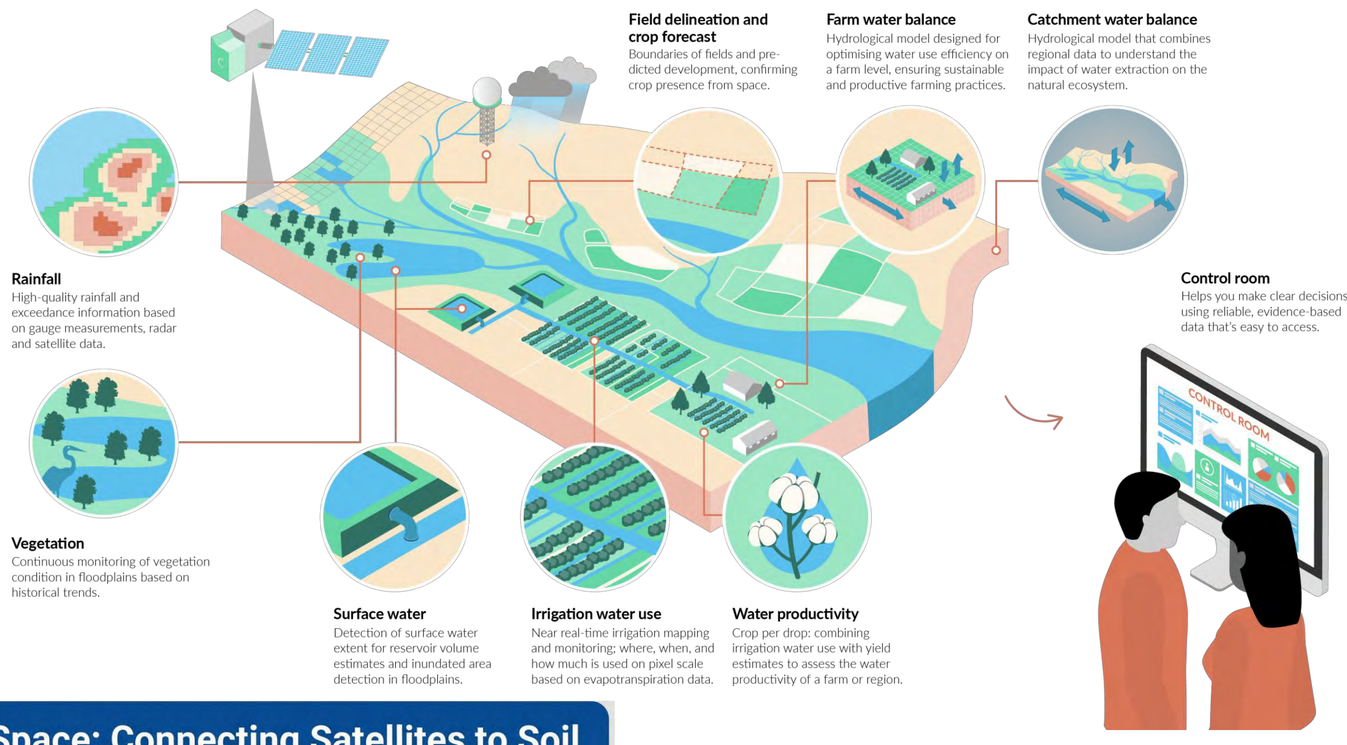
ABOUT US

- Portuguese EO, AI and water modelling company, part of ABL Group
- Developer of AquaFarm / AquaSafe operational platforms
- 30+ years in hydrology, agriculture and environmental modelling
- Proven large-scale services for public authorities and water managers
- Bridging ESA-backed innovation with commercial EO services

The WaterSENSE toolbox

waterSENSE — More than data. Clear decisions.

We developed a modular system to monitor water worldwide using Copernicus EO data. It gives you reliable, actionable insights on water availability and water use. This helps you support sustainable water management and ensure transparency across the entire water value chain.



SPACE ADDED VALUE

- Sentinel-based crop, water and land monitoring at parcel scale
- EO + AI enables scalable detection of crop patterns and anomalies
- Space assets reduce field-survey costs and improve monitoring frequency

TARGETED USER COMMUNITY

- Water authorities and basin managers
- Paying agencies and regulatory bodies
- Irrigation districts and agricultural water operators

KEY PROJECT FEATURES

- Operational platform from parcel to basin
- Crop, water balance monitoring services
- Near real-time dashboards, APIs and reports
- Data-as-a-Service and with external platforms
- Scalable architecture aligned with AquaSafe, AgroSpace and WaterSENSE workflows

IMPACT

- Converts EO data into water management
- Supports subscription, licensing, API and tailored reporting models
- Helps authorities reduce monitoring costs and improve decision-making
- Enables scalable deployment in Europe, Australia and other water-stressed regions

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esa space solutions

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IMDC

Project Name: MoSCI-ECOSPACE / DuneSense

SPACE ASSETS USED

SatNav SatCom SatEO

As part of our services at IMDC, we develop remote sensing solutions for **coastal risk assessment**, integrating optical satellite-based products with complementary data sources such as airborne LiDAR, drone surveys, exposure data, and numerical modelling of coastal processes.

MoSCI

IMDC and VITO have developed **MoSCI-ECOSPACE**, a web-based tool that uses Earth Observation and airborne data such as drones and LiDAR to monitor **critical infrastructure** in coastal, and riverine areas. It is particularly suited to projects in data-scarce developing countries, where large areas need to be monitored efficiently and cost-effectively.

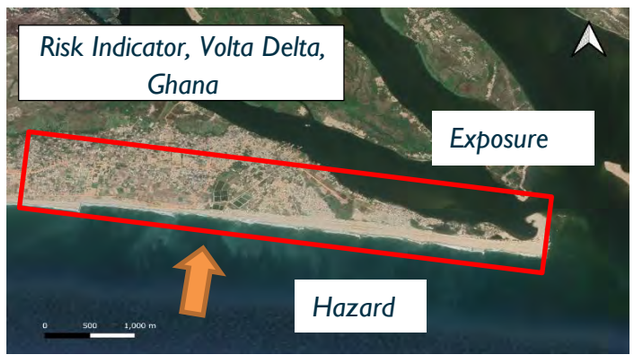
MoSCI-ECOSPACE suite of services creates value for customers by:

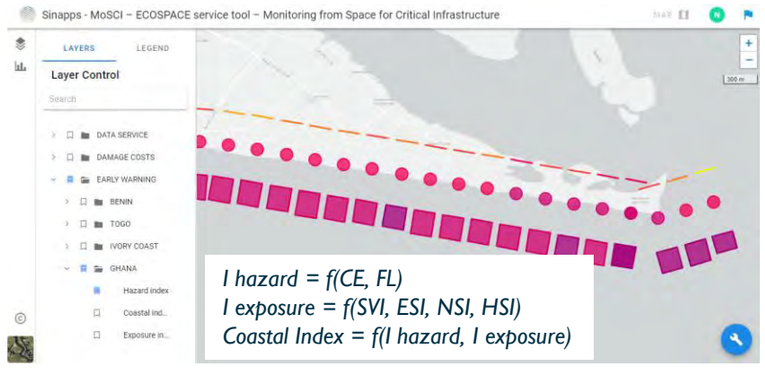
- **Integrating earth and airborne observation datasets**, spanning a range of spatial and temporal resolutions, into a centralised web-based tool
- Using **standardised protocols** for data storage, extraction, processing, analysis, and raw data quality control
- Translating datasets into **meaningful information** for overseeing and managing risks to critical infrastructure in coastal and riverine settlements
- Supporting project implementation in developing countries through **remote, scalable, and economically viable monitoring solutions**

Coastal Erosion risk to the Power distribution system in Abidjan

MoSCI added value:

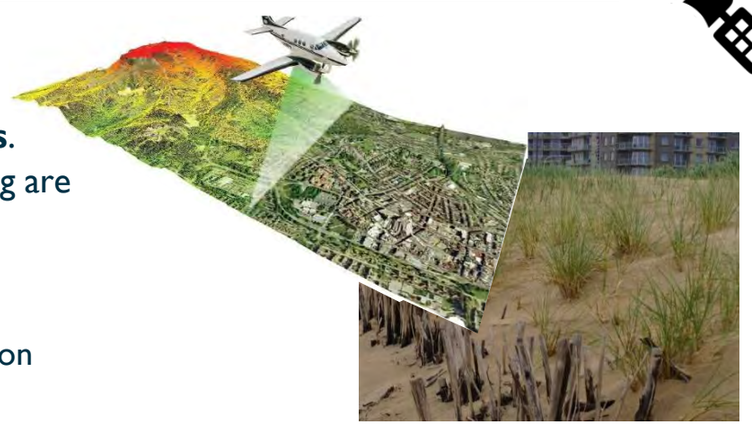
- **Easy to use and economically advantageous** compared with many current alternatives
- **Reduced time lag** between data acquisition and post-processing
- Quick-scan high-level assessments of **flood and erosion risks**
- Capacity to be **integrated** with existing monitoring systems
- **Continuous monitoring, early warning, and quick damage assessment** integrated into one system





DuneSense

The **DuneSense** project is a twelve-month feasibility study launched in early **2026** to enhance coastal resilience through advanced monitoring of **coastal dune systems**. While traditional methods like drone photogrammetry and manual vegetation counting are accurate, they are often expensive and logistically challenging to deploy quickly.



DuneSense added value**:**

- **Affordable and user-friendly** coastal dune morphology and biology monitoring solution
- **Faster turnaround** from data collection to actionable results
- **Automated workflows** for processing and quality control of monitoring data
- Quick assessment of **short term dune erosion**, storm damage or **long-term bio-morphological evolution** of dunes
- **Easy integration** with existing coastal monitoring systems
- Well suited to **remote, data-scarce, and resource-constrained coastal settings**

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Kinéis

Project Name: KINWATCH:
Satellite IoT for Remote Water Tank Monitoring

SPACE ASSETS USED

SatNav SatCom SatEO

ABOUT US

Kinéis is the operator of the first European satellite constellation dedicated to IoT and a provider of space-based connectivity. Leveraging a constellation of 25 satellites, Kinéis enables global data transmission to support informed decision-making. The French company operates internationally, serving sectors that address major challenges for people, their activities, and the environment. By working with fire protection agencies and rural water operators, Kinéis demonstrates the value of satellite IoT for water tank monitoring in GSM-blind areas, delivering scalable connectivity where terrestrial networks are unavailable.

SPACE ADDED VALUE

- Provides unique connectivity for water infrastructure located in GSM dead zones across rural, forested and remote Southern European territories.
- Enables continuous, autonomous data transmission independent of any terrestrial infrastructure, ensuring monitoring continuity even in the most isolated and disaster-prone areas.
- Transforms periodic manual field visits into automated satellite data acquisition, improving operational efficiency and emergency response capacity for water and fire protection agencies.

TARGETED USER COMMUNITY

- Fire protection agencies and civil protection services responsible for maintaining operational wildfire response water reserves in remote forested and rural territories.
- Agricultural cooperatives and irrigation operators managing water storage infrastructure for seasonal and livestock supply in areas with limited connectivity.
- Rural water utilities and municipal authorities operating decentralised water depots requiring continuous availability monitoring.

KEY PROJECT FEATURES

- Satellite IoT service enabling continuous water level monitoring of firefighting reserves, agricultural tanks and rural water depots in areas without terrestrial network coverage.
- Seamless integration of ultrasonic level sensors and autonomous dataloggers with real-time anomaly detection and automated alerts for water operators.
- Scalable and replicable solution designed for deployment across national firefighting and rural water infrastructure networks in Southern Europe.

IMPACT

- Early detection of critical water shortages in wildfire reserves reduces operational risks. Southern Europe has tens of thousands of rural firefighting water points, mostly without real-time telemetry.
- Continuous satellite data eliminates costly manual inspections, lowering costs across a vast unmonitored tank base.
- Scalable deployment enables real-time monitoring of thousands of tanks, strengthening resilience to drought and wildfire risk.

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MEOSS

Project Name: Water Resource Observatory

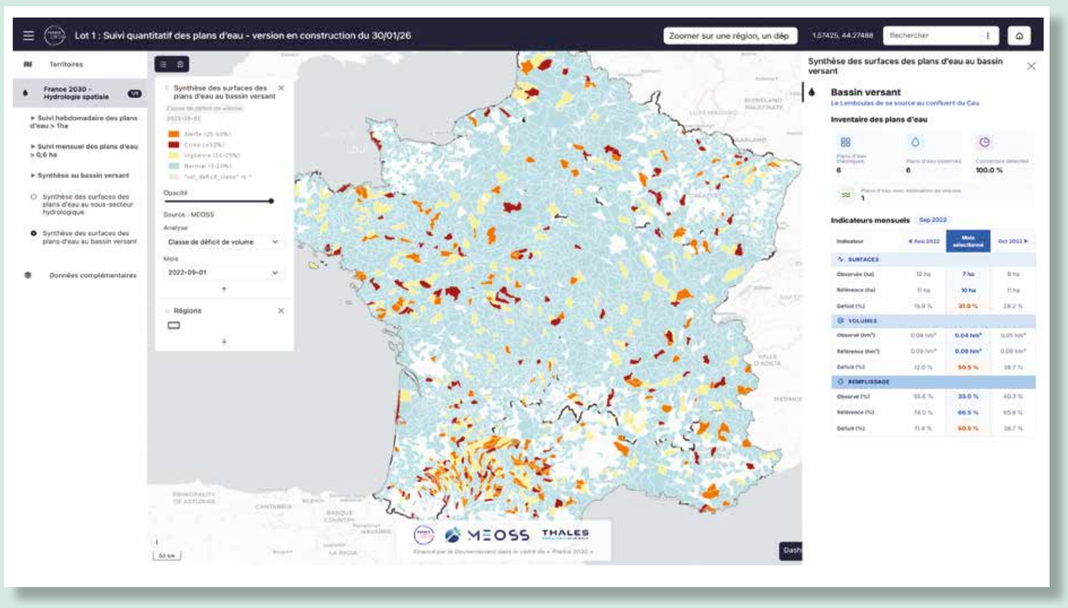
MEOSS
MAPS EARTH OBSERVATION SATELLITE SERVICES

SPACE ASSETS USED

SatNav | SatCom | SatEO

ABOUT US

- MEOSS is a French SME founded in 2018, specialising in Earth Observation-based services for water and environmental management. MEOSS combines expertise in EO, hydrology and data science to deliver scalable solutions. Services include water resource, irrigation monitoring, drought indicators, carbon stock, and flux estimation.
- MEOSS acts as a national operator in France for monitoring of water bodies (2017–2026). Recognised by France 2030 and supported by ESA, CNES, and ADEME, it aims to become a leading European provider of climate decision-support tools.



SPACE ADDED VALUE

- Uses Copernicus Sentinel-1 (radar) and Sentinel-2 (optical) data to monitor thousands of distributed and non-instrumented water bodies, beyond the limits of ground-based networks.
- Provides long-term historical time series (up to 10 years with Copernicus, extended with Landsat), enabling trend analysis where in-situ monitoring is absent, sparse or recently deployed.
- Delivers homogeneous, cross-border observations with frequent updates (6–10 days), supporting near real-time tracking of water dynamics.

TARGETED USER COMMUNITY

The Water Reserve Observatory project targets public authorities responsible for water resource management, including ministries, basin agencies, and environmental institutions. It is designed for operational users that require reliable and recurrent information to support decision-making and anticipate water stress.

The service is deployed in Mediterranean regions, where water scarcity, climate variability, and irrigation demand require improved monitoring of distributed water storage systems and better coordination of water management practices.

KEY PROJECT FEATURES

- Satellite-based service transforming Copernicus Sentinel-1/2 data into hydrological indicators (surface, volume, filling rate, anomalies) for large-scale monitoring of distributed water bodies.
- Builds on an operational and validated service in France, ensuring robustness and relevance.
- Demonstrates adaptation and scalability across large regions with diverse hydrological and institutional contexts.

IMPACT

- Monitors hundreds to thousands of reservoirs every 6–10 days, improving territorial visibility on water availability.
- Reduces field monitoring costs by 30–70% and enables prioritisation of critical assets (top 5–20%) for efficient management.
- Supports earlier drought detection (weeks in advance) and improves water allocation decisions.

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Mozaika

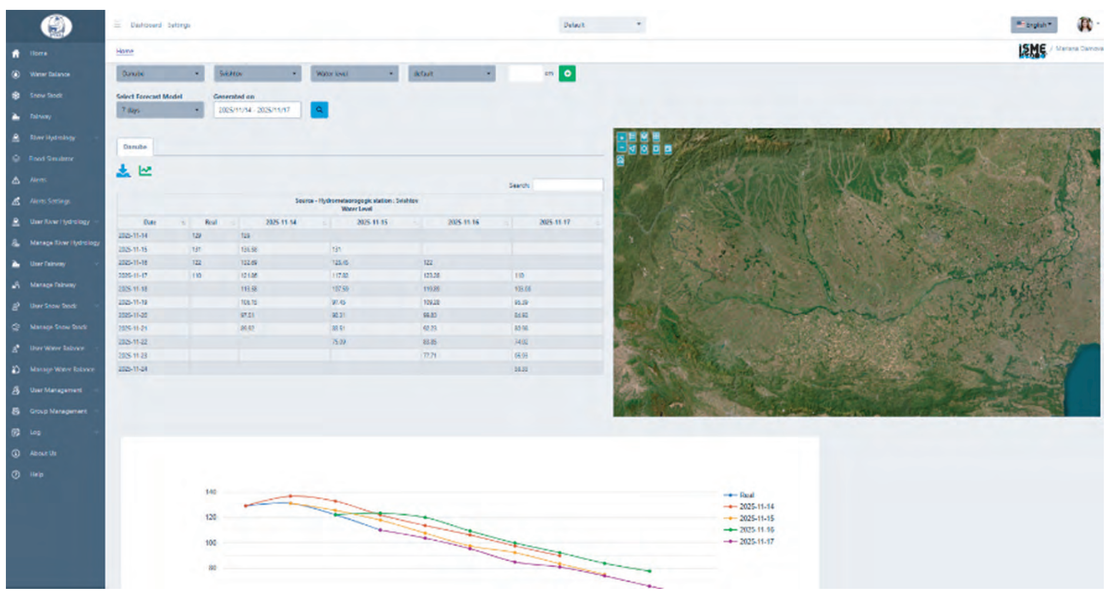
ISME-HYDRO – an operational system for water intelligence based on earth observation and AI

Bulgaria

SPACE ASSETS USED — SatNav — SatCom — SatEO

ABOUT US

Mozaika, The Humanizing Technologies Lab, provides research and development in the field of data science, natural interfaces (human-computer interaction), knowledge management and human insight. At Mozaika we are trying to leverage data science with natural interfaces to provide solutions tailored to human behaviour, attitudes and comprehension.
The company specializes in building information infrastructures that serve a variety of applications in data as a service or intelligence as a service modes. Our solutions are either human user facing or modules of larger systems.



SPACE ADDED VALUE

-ISME-HYDRO transforms satellite data into actionable water intelligence—enabling earlier decisions, better forecasts, and EU-wide resilience.

-ISME-HYDRO bridges space data and operational decision-making—turning European satellite capabilities into real-world impact for water management.

-ISME-HYDRO brings the ESA enabled innovation and infrastructure behind advanced Earth observation into daily operations—turning satellite data into decisions that improve resilience on the ground.

TARGETED USER COMMUNITY

Public sector
- Government Agencies in charge of dams and rivers
- Municipalities

Private sector
- Energy producer (hydropower and utilities) – operations managers
- Insurance/Reinsurance – climate risk analysis
- Industrial water user – plant operations manager

KEY PROJECT FEATURES

ISME-HYDRO® is a comprehensive solution

-an operational system for water intelligence
-e-Infrastructure semantically integrating numeric in-situ measurements, domain knowledge, forecasts for hydrological and hydrodynamic features, geospatial information, satellite data
-EO4AI approach to generate forecasts using earth observation data and in-situ measurements applied on pipelines of neural networks architectures
-real time flood simulation, damages estimation
-synchronized visualization of tables, graphs, maps

IMPACT

-Reduces economic losses by 10–30% and improves operational efficiency by 1–3% in energy and water systems, generating €0.1M–€5M+ annual value per operator

-Enhances public safety by enabling 20–50% earlier detection of floods and droughts, reducing damages by 10–25% and protecting critical infrastructure and populations

-Improves resource allocation efficiency by 10–20% and reduces water waste by 5–15%, strengthening coordination across sectors and regions

ISME-HYDRO® delivers measurable socio-economic value by reducing risk, improving efficiency, and enabling proactive water management, generating €150M–€500M+ annual impact across Europe.

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Open Hydro Ltd

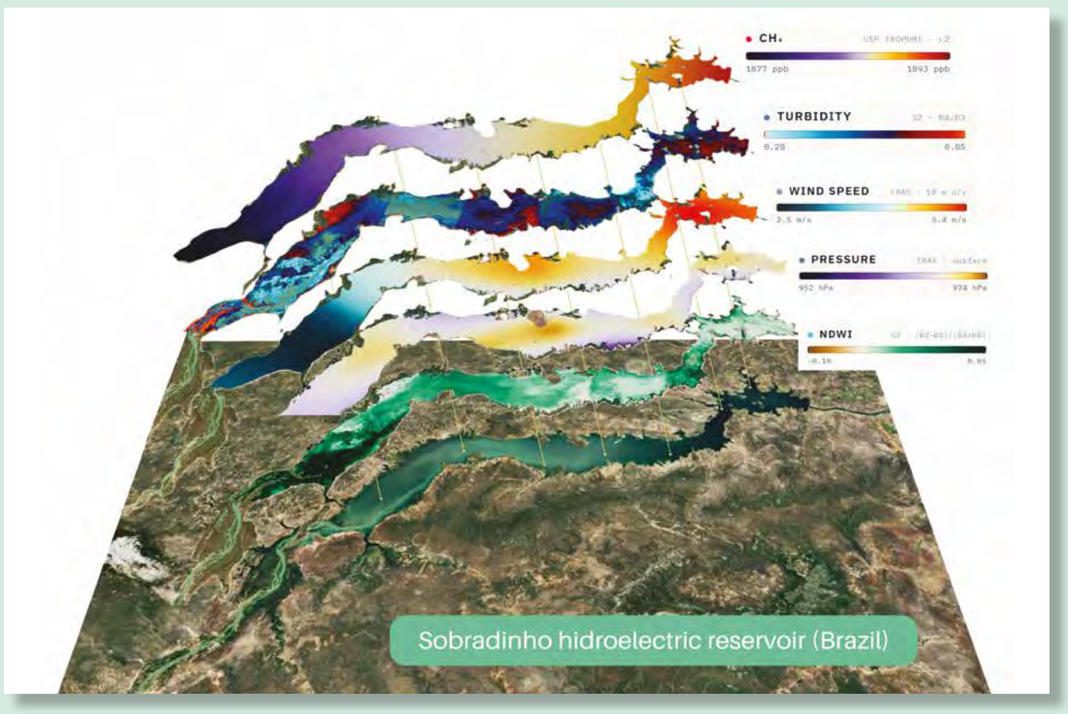
Project Name:
SWEEP: Satellite Water Emissions Estimation Platform

SPACE ASSETS USED

SatNav SatCom SatEO

ABOUT US

- Open Hydro develops a satellite-integrated digital Monitoring, Reporting and Verification (dMRV) platform using proprietary machine learning (ML) and satellite data to monitor freshwater greenhouse gas (GHG) emissions, identify reduction pathways, and support carbon trading.
- Founded in 2022, a team of 5 across environmental engineering, AI, and remote sensing. Awarded Women TechEU (2025) and Hydrovision Industry Fund (2023).
- Focused on unlocking 3.5 Gt of mitigation emissions potential from freshwater systems (~30% of global emissions).
- Vision: transform water bodies into measurable carbon sinks ("aquatic forests").



SPACE ADDED VALUE

- GOSAT and Sentinel-5P provide atmospheric GHG column measurements that anchor and validate surface GHG emission estimates, enabling global scalability.
- Sentinel-2/3 and Landsat enable consistent, repeat-pass retrieval of water quality parameters (Chl-a, TSS, CDOM) across water bodies not achievable through field sampling alone.
- EO time series support seasonal analysis and scalable model training, reducing costs and enabling deployment in data-sparse regions.

TARGETED USER COMMUNITY

- Water utilities & hydropower operator teams (Europe): supporting emissions reporting aligned with GHG Protocol LSR Standard, risk monitoring, and regulatory compliance (e.g., UK AMP8 requirements).
- Investors and carbon market off-takers seeking satellite-verified protocols to unlock the freshwater carbon sink through pre-purchase agreements.
- Regulators & government bodies requiring data to integrate freshwater systems into national GHG Inventories and nature-based policy frameworks.

KEY PROJECT FEATURES

- **EO-integrated digital MRV design:** combining Sentinel, GOSAT and Landsat data with reservoir characteristics and water quality to estimate CO2 and CH4 emissions across any reservoir globally at scale.
- **Driver attribution:** linking satellite-derived environmental indicators to emission variability, enabling targeted mitigation strategies.
- **Operational roadmap:** collaborating with major utilities to define the user requirements and audit-ready reporting frameworks, supporting future freshwater carbon credit generation.

IMPACT

- Near real-time estimation of snow storage at the basin level, requiring minimal or no field measurements.
- Frequent updates during the snow accumulation period enable earlier adjustments in production planning and trading strategies.
- Improved mapping of available water enhances runoff forecasts, supporting better reservoir management, increased revenue, and reduced risk of flooding and drought.

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Origin Tech Ltd

Project Name: Origin Orbit®

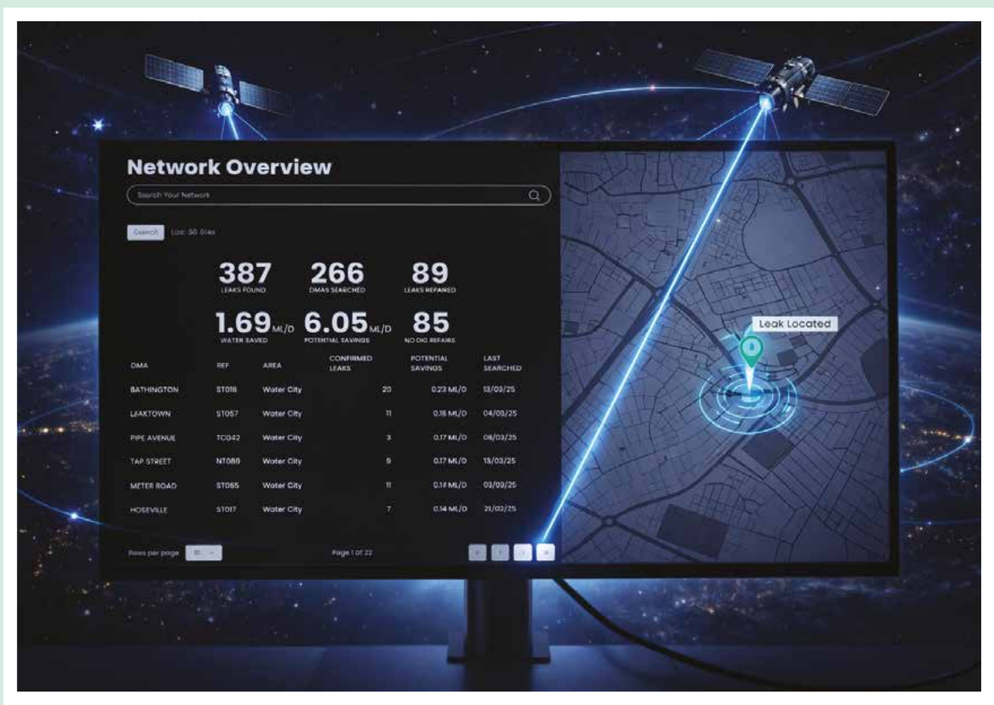
ORIGIN

SPACE ASSETS USED

SatNav | SatCom | SatEO

ABOUT US

- Founded in 2019 in the North-East of England.
- Team of 45 including engineering and industry experts.
- **Mission:** To tackle global leakage and strengthen water security through space-enabled innovation.
- **Focus:** Combines satellite Earth Observation, Analytics and Engineering to provide network wide visibility of water leaks.
- Enabling a shift from reactive repairs to predictive, resilient water infrastructure management.
- Supporting utilities worldwide to reduce non-revenue water, carbon, and cost.
- **Awards:** Water Industry Award winner 2024 for leakage initiative, WaterWise Affiliate, Finalists for BUSINESSiQ Innovation award 2026.



SPACE ADDED VALUE

- Enables ongoing network-scale monitoring using space enabled SAR data across thousands of square kilometres, which is not achievable with ground based methods alone.
- Provides consistent, repeatable observations independent of weather or daylight conditions, ensuring reliable detection at scale.
- Reveals subsurface leakage anomalies not visible through conventional methods, enabling earlier and more targeted intervention.

TARGETED USER COMMUNITY

- Water utility companies responsible for managing large-scale distribution networks and reducing non-revenue water.
- Leakage, asset management and operational teams requiring network-wide intelligence to prioritise intervention and improve performance.
- National authorities, regulators and international organisations addressing water scarcity, infrastructure resilience and sustainable water management.

KEY PROJECT FEATURES

- Uses Space enabled technology to detect non-visible leakage across large-scale water networks, enabling monitoring beyond the limits of traditional methods.
- Delivers network-wide intelligence to prioritise intervention, reducing unnecessary field activity and improving operational efficiency.
- Supports proactive, data-driven water management at regional and national scale, strengthening infrastructure resilience and reducing water loss.

IMPACT

- Reduces non-revenue water by enabling early identification of non-visible leaks at network scale, and is on track to help save over 100ML/d of drinking water in 2026.
- Cuts operational expenditure and associated carbon emissions by reducing unnecessary field investigations and excavation.
- Protects precious resources by reducing water loss and strengthening water security and climate resilience, supporting national and global efforts aligned with UN Sustainable Development Goal 6.

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Planetek Italia s.r.l.

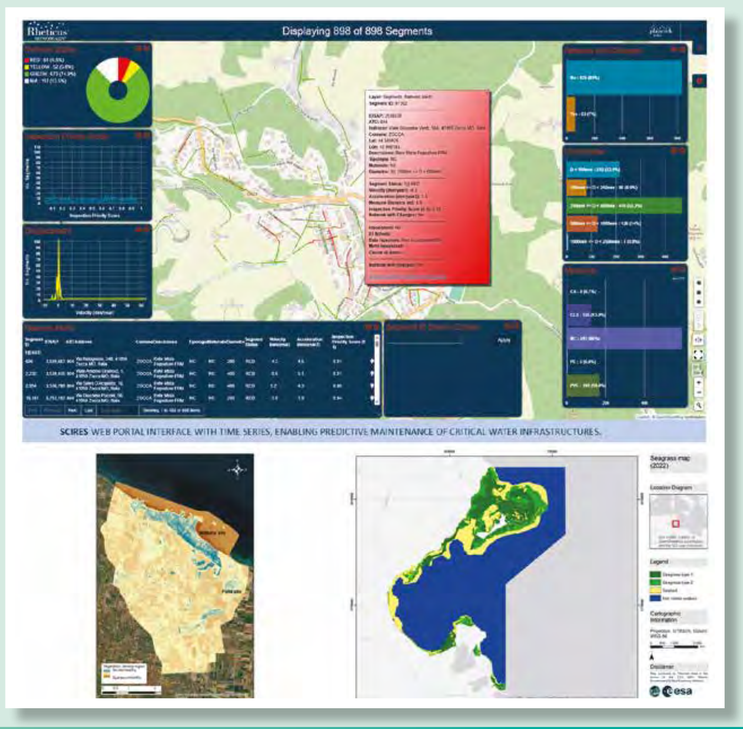
Project Name: Space Technologies for Integrated Water Management Across Urban, Agricultural and Coastal Systems

SPACE ASSETS USED

SatNav SatCom SatEO

ABOUT US

- Established in 1994, Planetek Italia is an Italian Benefit Company and, since 2025, part of the D-Orbit Group.
- Over 150 professionals delivering advanced geospatial data processing, monitoring services, spatial data infrastructures, and satellite mission support across environment, security, smart cities, and space exploration.
- Recognised among the Global Top 100 Geospatial Companies.
- Active member of Women in Aerospace and the Copernicus Academy.
- Our vision is to empower a smarter, greener planet by transforming space data complexity into actionable insights and positive impact.



SPACE ADDED VALUE

- **SCIRES:** Sentinel-1 radar interferometry (GNSS) delivers continuous, wide-area millimetric ground deformation mapping, enabling risk mitigation across vast networks.
- **UNIVERSWATER:** Using their rich spectral information, multispectral EO data can detect subtle changes in vegetation vigour, soil conditions, and water status.
- **GDA-Marine:** Multi-mission EO (optical/radar) enables cost-effective mapping of remote mangroves, seagrasses, pollution plumes, and shoreline changes - delivering actionable insights for sustainable development.

TARGETED USER COMMUNITY

- **SCIRES:** European water utilities and civil protection agencies managing extensive infrastructure, focused on resilience to subsidence, landslides, and cascading risks.
- **UNIVERSWATER:** Agricultural stakeholders and water managers in Ireland, Italy, and Greece, optimizing irrigation and promoting sustainable water reuse.
- **GDA-Marine:** International institutions and coastal authorities supporting Blue Economy, fisheries, and ecosystem restoration across Africa, Asia, and the Caribbean.

KEY PROJECT FEATURES

- **SCIRES:** Enables predictive maintenance of water infrastructures by detecting deformation, leaks, and structural risks with millimetric precision.
- **UNIVERSWATER:** Integrates EO, AI, and proximal sensors to optimise water resource management and monitor crop and soil conditions.
- **GDA-Marine:** Supports coastal monitoring, including water quality, ecosystems, and shoreline dynamics for sustainable Blue Economy strategies.

IMPACT

- **SCIRES:** Cuts water losses (23–40% in Europe), reduces emergency repairs, and strengthens infrastructure resilience through early anomaly detection and multi-risk forecasting.
- **UNIVERSWATER:** Enhances water-use efficiency, reduces crop stress and salinity, and promotes safe, pollution-free water reuse for sustainable agriculture.
- **GDA-Marine:** Improves coastal ecosystem protection, water quality monitoring in aquaculture, and supports climate-resilient Blue Economy initiatives across 88+ countries.

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SPACE SOLUTIONS

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Pontos

Project Name: PRISMA

SPACE ASSETS USED

SatNav SatCom SatEO

ABOUT US

• Pontos is a Bordeaux-based deeptech company spun out of INRIA, building the operating system for sustainable seafood.

• Our platform Prisma turns satellite Earth observation, vessel telemetry and oceanographic models into operational decisions for fishing fleets and shore-based managers.

• Pontos closes the sea « shore intelligence loop: every onboard decision enriches shared intelligence; every onshore strategic decision draws on real field data.

SPACE ADDED VALUE

• SatEO (Copernicus Marine): sea surface temperature, chlorophyll-a, currents and ocean fronts feed Prisma's predictive layers for target species and bait zones.
• SatNav (GNSS): high-precision geolocation underpins automated logbooks, traceability and verifiable catch certificates for buyers.
• SatCom: low-latency vessel-to-shore links keep the intelligence loop alive offshore — no decision is stranded at sea, no insight stays onboard.

TARGETED USER COMMUNITY

• Fishing fleets from semi-industrial longliners to large industrial vessels, across all segments of the value chain.
• Cooperatives & producer organisations onboarding fleets in batches and aggregating data across members.
• Buyers, processors and retailers sourcing verified, traceable seafood with environmental and regulatory provenance.
• Active deployments and partnerships in UE and LATAM and target markets across the Indian, Atlantic and Pacific.

KEY PROJECT FEATURES

• Unified platform, Prisma is the operational OS that captains use at sea and managers use ashore, sharing the same live intelligence.
• Predictive guidance, target species and bait zone forecasts derived from Copernicus oceanographic data, vessel history and AIS context.
• Automated logbook & traceability, voice-assisted reporting replaces hours of paperwork and produces verifiable catch records for buyers and authorities.

IMPACT

• Fuel & efficiency: 12% fuel reduction on average, up to 30% on best-performing fleets, and 65% reduction in search time on the fishing grounds.
• Sustainability: better-targeted effort means less bycatch risk, less wasted fuel per kilo landed, and fishing activity that aligns with sustainable performance.
• Resilience for the value chain: producers gain operational visibility and pricing leverage; buyers gain verified provenance; authorities gain real-time fleet-level intelligence.

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Qatium

Project Name: AI Water Platform

SPACE ASSETS USED

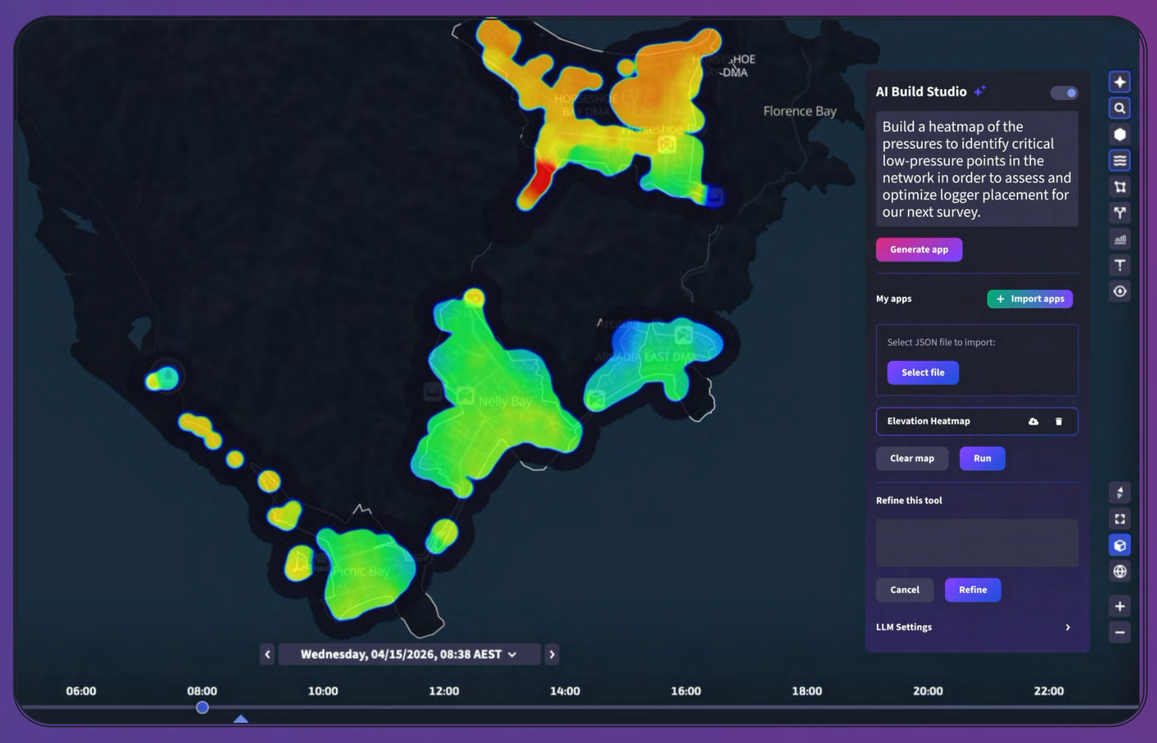
SatMap

ABOUT US

• Founded in 2019, Qatium is a **digital water company** driven by a vision to provide **equitable access to water through innovation.** We operate with a lean, global team of approximately 40 experts in **water engineering and software development.**

• **Main Business:** AI-powered digital twin platform for water utilities.

• **Vision:** To democratize water management technology for utilities of all sizes.



SPACE ADDED VALUE

• **Enhanced Predictive Analytics:** Integrating satellite-based weather and soil moisture data allows the AI to predict water demand and potential burst risks with significantly higher accuracy.

• **Global Scalability:** Satellite assets provide a consistent data layer for utilities operating in remote regions, ensuring high-tech water management is accessible regardless of local terrestrial infrastructure.

• **Infrastructure** Resilience: Satellite-derived "risk maps" identify geological shifts or encroaching vegetation, allowing utilities to shift from reactive repairs to proactive, space-informed preventative maintenance.

TARGETED USER COMMUNITY

• **Utility Operators:** Technical teams responsible for the daily maintenance and emergency response of municipal water networks.

• **Planning Engineers:** Professionals designing infrastructure upgrades and ensuring long-term system resilience across global urban centers.

KEY PROJECT FEATURES

• **AI Build Studio:** A secure, low-code environment for utilities to rapidly build AI tools grounded in real-time operations.

• **Q Water Agents:** AI assistants that summarize incidents, detect leaks, and provide actionable suggestions to optimize network performance.

• **Digital Twin Visualization:** A real-time, browser-based 3D replica of water networks, enabling seamless monitoring and predictive simulations for better decision-making.

IMPACT

• **Efficiency:** Reduces operational costs by up to 15% through optimized pumping and proactive leakage detection.

• **Resilience:** Improves emergency response times by 30% via instant simulation of network failures and valve isolations.

• **Sustainability:** Contributes to a 10-20% reduction in Non-Revenue Water (NRW), conserving vital resources and lowering the carbon footprint of water distribution.

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STAM S.r.l. + Space V S.r.l.

Project name: **TRANSFORM**

(Integrated Space and Terrestrial Cultivation Systems)

Country of residence: **Italy**

SPACE ADDED VALUE — ESA CASE · Space-origin AVF · BLSS readiness

ADAPTIVE VERTICAL FARM (AVF)

MICROALGAE PHOTOBIOREACTOR (PBR)

fresh produce

wastewater / digestate

CO_2

treated water

microalgal biomass

FLEXIBLE DEPLOYMENT OPTIONS

Scalable containerised micro-factory

Compact cabinet version

1 ABOUT THE ORGANISATIONS

• STAM S.r.l. is an engineering and innovation consultancy based in Genoa, Italy, with experience in space and non-space technologies, microalgae wastewater treatment plants, and business development projects.

• Space V S.r.l. is an Italian start-up based in Genoa and Turin, founded by a multidisciplinary team in aerospace systems, mechatronics, ICT, and agrotech.

• Space V holds the patent for the space-origin Adaptive Vertical Farm (AVF) technology.

2 PROJECT KEY FEATURES

• Integrated circular system combining a microalgae photobioreactor (PBR) and an Adaptive Vertical Farm (AVF).

• Dynamic shelves reposition according to plant growth, reducing conditioned volume and energy demand.

• The PBR treats nutrient-rich wastewater and CO_2, producing clean water and microalgal biomass.

• An enzymatic unit converts harvested biomass into fertilisers and biostimulants.

• Flexible configurations: containerised micro-factory and compact cabinet version.

3 TARGETED USER COMMUNITY

• Biogas operators and agro-industrial sites

• Farmers and greenhouse operators

• Urban farms, restaurants, and food wholesalers

• Commercial space stations and lunar infrastructure developers

4 SPACE ADDED VALUE

• Feasibility study funded under the ESA CASE programme.

• The AVF is based on a patented design conceived for space habitats.

• For future space markets, the integrated system can support bioregenerative life support applications.

• The space-adapted PBR and AVF can recycle CO_2 and crew wastewater into oxygen, clean water, and fresh biomass.

5 IMPACT

• Mitigates pollution by treating liquid digestate and capturing biogenic CO_2.

• Recirculates treated water back to the plants, reducing freshwater consumption.

• Turns waste streams into commercial assets such as biofertilisers and fresh produce.

• Up to +172% yield through adaptive use of vertical space.

• 43% lower energy use through precision LED lighting and volume control.

• Supports validation of closed-loop systems for long-duration space missions.

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Wasat

Project Name:
Irriget – satellite support of field crops irrigation

SPACE ASSETS USED

SatNav SatCom SatEO

ABOUT US

- Wasat is a Polish SME founded in 2010, specialising in satellite remote sensing and satellite navigation services.
- 11 experts with extensive experience in EO innovation, R&D projects, and commercial sales.
- Focus on the practical application of space data in agriculture and environmental protection.
- Operator of commercial online services: Fertisat, Irriget and Maizeo, which support decision-making processes at farms.
- Active participation in the European space and agricultural ecosystems.
- Awards include the EU REGIOSTARS 2025 prize and two Gold Medals at the POLAGRA Central Europe trade fair.

SPACE ADDED VALUE

- Daily estimation of actual evapotranspiration with a resolution of 20 m is possible using Sentinel-2 and Sentinel-3 data, and is not achievable on an operational scale using ground-based measurements.
- The AI-powered fusion of optical and thermal satellite data delivers insights on field irrigation.
- The service provides scalable and cost-effective irrigation advice, supporting water, energy, and time savings, thereby improving the economic conditions of farms.

TARGETED USER COMMUNITY

- Farmers irrigating field crops (especially potatoes) seeking efficient water management at field scale. Vegetable growers who require frequent and highly precise irrigation advice and monitoring crop responses to water stress.
- Agri-food companies, equipment and agrochemicals suppliers integrating Irriget into their sales channels and advisory activities across Europe.
- The service is sold as an annual subscription through the online platform www.irriget.com and on a B2B basis.

KEY PROJECT FEATURES

- Development of an EO-based irrigation advisory service (Irriget), delivering daily maps of actual evapotranspiration (20 m resolution), water balance, and vegetation indices.
- Combining optical and thermal satellite data, and AI, enhances ESA's Sen-ET algorithm, providing in-field, sensorless support for irrigation decision-making.
- Launched in 2022, the online platform empowers farmers to make crucial and difficult decisions regarding the timing, location, and intensity of crop irrigation.

IMPACT

- Customers save an average of 25% water thanks to increased irrigation efficiency.
- Yields increase by up to 11% and time savings of up to 20%, supporting farm productivity and operational efficiency.
- A scalable solution that addresses the challenges of water scarcity and supports sustainable resource management. In 2025 Irriget covered 40,000 hectares in Poland, and in 2026 the service expands to Italy and Spain.

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WEENAT

Project Name:
e-RASM (e-Remote Agricultural Soil Moisture)

SPACE ASSETS USED

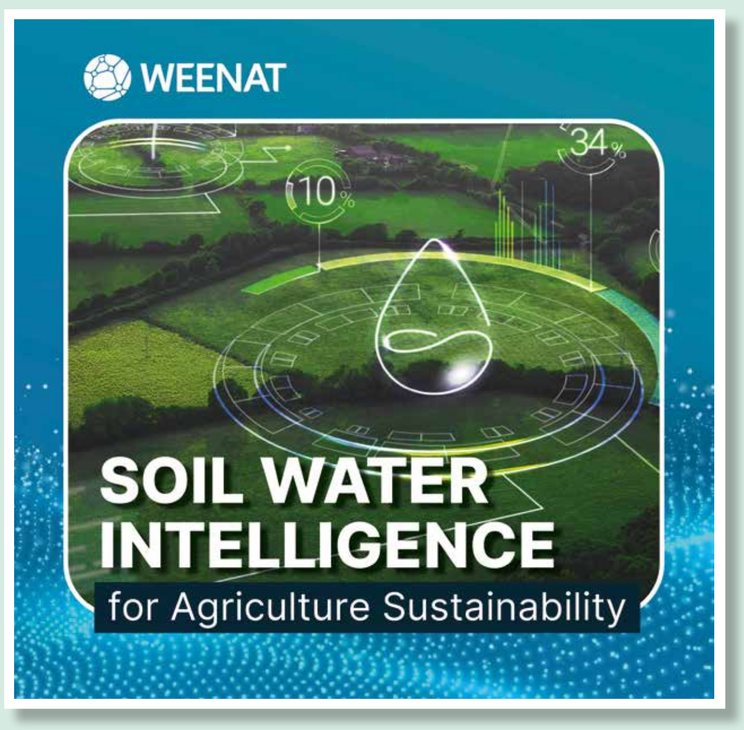
SatNav | SatCom | SatEO

ABOUT US

- From the plot level up, Weenat provides the farming sector with reliable data on soil moisture and weather, enabling precise, sustainable, and optimised water resource management.
- Weenat's goal is clear: to turn field knowledge and soil moisture data into practical tools, empowering agricultural stakeholders to tackle the challenges of water management across Europe.

Key figures

- 12-year experience.
- 50,000+ sensors deployed and an application used by thousands of farm operators across Europe.
- 760 employees, 400 partners across 15 countries.



SPACE ADDED VALUE

- Earth observation of crop plots provides insights into crop stage and health, and therefore their water needs.
- It enables remote crop monitoring, saving time for farmers and technical advisors by reducing the need for field visits or soil sensor installation.

TARGETED USER COMMUNITY

- S-Farmers and technical advisors who need to understand how much water is available to crops and optimise irrigation decisions.
- Regenerative agriculture initiatives that need soil water dynamics for their models of yield, soil health and climate resilience, adding a critical parameter.
- Sustainability teams seeking to measure and report their water impact across supply chains, through credible, data-driven metrics, enabling robust water stewardship and replenishment programs.

KEY PROJECT FEATURES

- Provides a daily estimate of soil water content in the root zone for irrigation management.
- Fully digital solution with no soil sensors required.
- Forecasts soil water content at the plot level to help anticipate needs, particularly across multiple plots.

IMPACT

- Reduce water consumption by around 20% by identifying the right day to irrigate.
- Reduce the CO2 production, from 0.02 to 0.46 kg equivalent CO2 saved by m3 saved.
- Increase agricultural productivity and contribute to improve access to food by reducing the operational cost of the farms.

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xFarm Technologies Italia Srl

Project Name:
Asia – Agricultural Sensorless Irrigation Advice

SPACE ASSETS USED

SatNav SatCom SatEO

ABOUT US

- Founded in 2017, xFarm Technologies is a digital agriculture company supporting sustainable farm management across Europe and beyond.
- Over 150 employees across multiple countries, combining agronomic, technical, and data expertise.
- Core business: farm management platform integrating DSS, IoT, and Earth Observation for decision support.
- Recognised for innovation in agri-tech and sustainability-driven solutions.
- Vision: accelerate the transition to a more productive, transparent, and environmentally sustainable agricultural system.

SPACE ADDED VALUE

- Use of Sentinel-2 Earth Observation data enables continuous, scalable monitoring of crop and soil conditions without relying on in-field sensors.
- Satellite-derived indices (e.g. NDWI) and Sat2Soil zoning support precise irrigation decisions by capturing field variability at parcel level.
- Integration of EO data with weather forecasts and models allows timely, data-driven irrigation advice, improving efficiency across diverse geographies.

TARGETED USER COMMUNITY

1. **Direct farmers** with low margin per hectare looking to save irrigation-related water and energy costs with a positive cost benefit, and to save money around sensors purchase.
2. **Agri-food supply chains** who want to control water management and farm sustainability remotely and can't install sensors in all fields **Irrigation consortia** who are unable to install sensors in all areas and want to optimise water management.

KEY PROJECT FEATURES

- Develop a scalable "sensorless" irrigation advisory service combining EO data (Sentinel-2), soil zoning (Sat2Soil), and modelling, reducing reliance on in-field sensors.
- Pilot and validate across diverse contexts (Italy, Spain, Brazil), comparing approaches (traditional, modelling, satellite-based) against ground truth data.
- Deliver a user-ready DSS integrated into xFarm, providing actionable irrigation advice (timing, volume) to improve water efficiency and resilience.

IMPACT

- Up to 20–30% water savings and 10–20% energy cost reduction for medium–large farms through precise, sensorless irrigation advice based on EO and soil zoning.
- Improved water allocation efficiency at consortium level, reducing peak demand and mitigating shortages across irrigation networks.
- Supply chains gain remote monitoring of water use and footprint, enabling data-driven sustainability reporting and optimisation across farms.

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