



The context

Cross sectoral activity in which several EIT Communities and partners have joined forces to face the real challenges around **water scarcity**.

The programme brings together actors from the whole value chain for a holistic approach towards water scarcity.

Tackling water scarcity from different angles

EXPERTS

BODY OF KNOWLEDGE

Multidisciplinary group of experts working together **creating knowledge** and looking for synergies

INNOVATORS

INNOWISE SCALE

Support programme for innovators and entrepreneurs on the field of water scarcity to **fostering innovation**

INDUSTRY

WATER ACADEMY

Seminars delivered by top-class experts with the aim of **building capabilities** on efficient water management techniques.

We are here!

InnoWise Scale

The space in which innovators have the chance to tailor their product and service offering to the real challenges faced by the European industry; contributing to building a **water-smart economy**.



The sectoral challenges

AGRICULTURE

- ❑ Soil moisture sensors, Decision Support Systems (DSS) and satellite tech - climate-smart agriculture and informed decision-making
- ❑ Alternative crops, improved irrigation methods or production systems, valorisation of by-products - water efficiency
- ❑ Recovery, recycling and reuse of wastewater in irrigation
- ❑ Water quality monitoring and pollutants removal



The sectoral challenges

UTILITIES & INFRASTRUCTURE

- Utility and industrial asset management
- Real time monitor for infrastructure performance and water quality
- Surface and groundwater data within watersheds monitoring (satellite images, drones, remote sensing, etc.)
- Transparency in supply & demand



Case Study 1:

Utilities

The problem holder



The Municipal Water Supply and Sewerage Company of Pylaia - Hortiati (greatest Thessaloniki area) is responsible for water supply, wastewater treatment and sewerage services.

Website: www.deyaph.gr

Location: **Greece**

Contact: **Thomas Seitaridis**

Key challenges

- Standardization of digital tools
- Water quality & safety
- Pollutant traceability & removal
- Asset management

Solution providers





“ Fibsen can help you manage water more efficiently through real-time monitor water management system. ”

Key contacts:

Javier Sanz- CEO

David Salces- COO

Case Study 1: UTILITIES

Summary:

- Fibsen researches, develops and introduces a real-time water monitor, analysing structural and water health KPIs to make better decisions.
- The solution combines fiber-optic technology and machine learning for real-time water distribution network monitoring (water leaks, water quality analysis, pipe breaks, pressure distribution, etc.) at low cost and energy consumption and automated.
- Fibsen’s system aims to be a digital transformation and efficiency sustainable solution for water utilities.

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“ We cut water usage by 20% in buildings. Through machine learning, we monitor water flow to detect water leaks and loss within the water supply system and to prevent damage ”

Key contact:

Gregoire de Hemptinne– Co-founder and COO

Case Study 1: UTILITIES

Summary:

- Shayp has developed a technology able to monitor the water consumption, but also is able to detect and estimate flow of water leak and water loss with high reliability and granularity.
- Shayp uses state-of-the-art IOT technology to detect losses in real-time, assess the damage and dispatch a maintenance team to solve the issue.
- By simply connecting Shayp’s patented and award-winning sensor to the water meter, their algorithms and data analytics get to work 24/7 to help building managers, homeowners and insurers to eliminate water damages.

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“ *Our mission is to provide ultra-fast and accurate diagnostics.
The core of our technology is our unique plasma processing for surface modification, enabling rapid and accurate pathogen detection.* ”

Key contacts:

Angeliki Tserepi - Management board

Kosmas Ellinas - Managing Director

Case Study 1: UTILITIES

Summary:

- Legionella has been pinpointed by the WHO as the higher health burden of all waterborne pathogens in the EU.
- Nanoplasmas offers a detection tool to ensure regular checks and appropriate control measures to man-made water system to prevent “Legionnaires” disease among the population.
- Nanoplasmas innovative diagnostic tool is an ultrafast (<2 hours) and accurate lab-on-chip kit for the detection of Legionella in water. existing sensing technology combines a proprietary electronic device with biological material.

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“ *We build a more resilient water infrastructure through the industrialization of innovation in the predictive maintenance field.* ”

Key contacts:

Marco Ferreira - CEO

Gualter Sampaio - CSO

Case Study 1: UTILITIES

Summary:

- Enging has developed the first non-invasive pioneering technology in the market, allowing for an extremely precocious and accurate online fault detection several months before the asset stoppage.
- Enging has the capacity in a very precocious way to pinpoint faults in several assets like: Rotating machines, Transformers, Power Converters, Solar PV Farms' electric assets, Wind Turbines' electric assets, Battery Storage's electric assets.

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***“Faster. Portable. Accurate.
We combine biotechnology with innovation,
hardware and software to make water
bacteria detection easy and affordable.”***

Summary:

- EMBIO offers a water bacteria monitoring system with the use on high accuracy biosensors.
- EMBIO’s existing sensing technology combines a proprietary electronic device with biological material.
- EMBIO’s biosensor can be adjusted for testing a variety of substances by using specific antibodies.

Key contact:

Constantinos Loizou - CEO

Case Study 1: UTILITIES

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“ *We give people and business worldwide insights and tools to improve the water they use to endure a sustainable future for humanity.* ”

Key contacts:

Ramzi Bouzerda - Founder & CEO

Case Study 1: UTILITIES

Summary:

- Droople connects any water assets off radar today to their AI-enabled Platform to monitor water usage & quality.
- Droople provides monitoring, billing, logistics, optimisation, sustainability benchmarks.
- Droople offers a retrofit and telemetric measurement of quality, flow, and pressure at any point of use to monitor and manage water assets.

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Case Study 2: Agriculture

The problem holder



International company producing and supplying fruits and vegetables all around the world.

Website: www.sanlucar.com

Location: **Spain**

Contact: **Fernando Bañón**

Key challenges

- Water availability & shortages
- Salt concentrations
- Crop water efficiency
- Water savings

Solution providers



Funded by
the European Union

“ *We manufacture and distribute plant pads made of 100% natural raw materials saving up to 50% and 30% water and fertilizers needs, respectively.* ”

Key contacts:

Tatiana Rodriguez – COO

Luis R. Carpizo– Commercial Director Spain & Latam

Case Study 2: AGRICULTURE

Summary:

- Secalflor’s patented plant-pads are made of 100% natural raw materials: mineral salts, starches and cellulose fibers. No residues are left behind.
- Secalflor’s plant-pads serve as a moisture buffer and nutrient kick-starter for plants on weak soils and in water-scarce areas. The pads reduce water losses due to evaporation, favor the growth of vegetation even in extreme weather conditions and allow great savings.
- Fields of application: Agriculture, parks and gardens, green roofs, environmental recovery of eroded spaces (landfills, mines, dumps, etc.).

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“ We provide you information of the water available in all timelines, in an easy and intuitive platform without the use of hardware in order to know how, when and where to irrigate. ”

Key contacts:

Antonella Maggioni - CEO

Pablo Crespo Moya - COO

Case Study 2: AGRICULTURE

Summary:

- Agrow is a platform to monitor in real time and in the future the water available in the plots and its effect on the crops.
- Agrow is a hardware-free system putting together satellite information, meteorological stations, topographic information and internal information of the farmers
- Agrow’s models analyse all this information through machine learning algorithm trained to obtaining as output Agrow’s predictions.

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“ *SINAFIS is specialized in the democratization of high technologies. We offer low-cost, high-quality and high-performance industrial technology solutions for specific industry challenges. SINAFIS designs, develops and markets connected objects for all sectors of activity.* ”

Key contacts:

Stephane Cabrol - CEO

Ari Kambouris - Founder/Dir. Bus. Dev.

Case Study 2: AGRICULTURE

Summary:

- Our first product, SinaSens Smart Agri, helps farmers manage their water consumption, reduce insecticides and fertilizers, and get better yields, and have more effective bio-controls at 2-3x less than other products.
- SinaSens Smart Agri is a modular sensor system that measure the temperature and humidity of the soil, the air, and leaf humectation.
- The system sends the data so the client consults the data via a secure website. The client can also set alerts for each sensor on a system and download the data in an open-data format using an API.

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“ *We provide you information in real time and with 99% accuracy about the water behavior of the crops by measuring the roots and predict exactly when they are about to enter into water stress.
Plan safely and in advance the irrigation intervention.* ”

Key contacts:

Marco Ciarletti - CEO

Cosmo Pepe - Marketing Director

Case Study 2: AGRICULTURE

Summary:

- Ploovium® predicts the water behavior of each soil/crop system over the next 5 days, with an accuracy typically greater than 99%.
- The system collects real-time data from environmental sensors, soil sensors and weather forecasts. This data, combined with agronomic tables and processed with patented Artificial Intelligence methods, are used to produce the irrigation strategy to follow, to optimize water use and overall costs by up to 50%.
- Ploovium® works on every type of crop, allows farmers to customize irrigation management and, if required, automatically control the pumps.

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“ *Our mission is to create technological solutions for the agri-food sector, seeking economic, environmental and social sustainability and healthy food, with the least possible environmental impact.* ”

Key contacts:

Mercedes Iborra - COO

Julia Garcia - CFO

Case Study 2: AGRICULTURE

Summary:

- The Visual platform Combines geospatial technology with smart data analytics to give systematic control and real-time visibility over their assets, resulting in inputs savings of up to 40% and productivity increases of 25%.
- VISUAL SENSOR is a data and predictive model software based on a sensor network. Visual is designed and developed to seamlessly integrate with clients' existing databases and ERPs (e.g. SAP, Microsoft Dynamics AX)
- The platform connects to several external data sources, with direct access to official databases of crop protection products or fertilizers, GIS applications and Agroclimatic.

INNOWISE SCALE.

“ *WINGS leverages on advanced technologies such as AI, Machine Learning , IoT, Big Data to develop highly flexible solutions to meet customer's needs.* ”

Key contacts:

Panagiotis Demestichas - Co-founder

Ioanna Drigkopoulou - Product Marketing Manager

Case Study 2: AGRICULTURE

Summary:

- WINGS's has designed, developed and manufactured ARTEMIS Water, a total solution based on the installation of telemetry and remote management for smart green irrigation systems.
- ARTEMIS Water is a smart gateway device for collecting and transmitting the readings of the water intake meters, using the NB-IoT network and other available networks.
- ARTEMIS Water can be described as a telemetry system of the supply network, data transfer, central collection, processing and control of data in a central unit with relevant software.

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*“ Intelligent systems for intelligent growth.
We developed the first and only large-scale
Internet of Things infrastructure in Greece,
installing thousands of wireless sensors,
which we designed and manufactured, on
agricultural land.*

Key contacts:

Nikolaos Marianos - Outreach & Networking Manager

George Papadimas - Commercial Director

Case Study 2: AGRICULTURE

Summary:

- NEUROPUBLIC is specialized in the development of Web- and Cloud-based integrated information systems & high-performance applications to minimize water waste and loss in agriculture.
- NEUROPUBLIC's giasense tool combines IoT hardware, cloud computing technology, machine learning and scientific models to provide advice for thousands of farmers in Greece to monitor and control their crops more accurately and efficiently.
- NEUROPUBLIC has developed water quality standards and guidelines for wastewater reuse to avoid environmental, agricultural, and hygienic issues.

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“ *BuntPlanet is a high-tech company aiming to become the leading Artificial Intelligence provider for the global water sector. We offer SaaS for water management.* ”

Key contacts:

Jon Koldo Izaguirre- Business Development Manager

José Teixeira - Key Account Manager

Case Study 2: AGRICULTURE

Summary:

- BuntPlanet combines AI with hydraulic simulations to improve the efficiency of the water supply network and reduce drastically the area for leak location on field.
- BuntPlanet’s software drastically reduces physical water losses (water produced and transported but not consumed) and commercial losses through the implementation of algorithms (water consumed not correctly registered and not charged).
- This disruptive and self-developed innovation has won numerous awards and recognition.

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Case Study 3: Infrastructure

The problem holder



Public Owned water utility managing the water and wastewater services in central Italy.

Website: www.ciip.it

Location: **Italy**

Contact: **Claudio Carini**

Key challenges

- Water availability & seasonal shortages
- Reclamation activities of non-conventional water resources
- Water balance in coastal natural park

Solution providers



Funded by
the European Union

“ *Latitudo 40 transforms pixels into valuable information for important decision support, even for a non-technical audience. We create a digital twin not in months but in hours.* ”

Key contacts:

Donato Amitrano - CTO

Mauro Manente - CEO

Case Study 3: INFRASTRUCTURE

Summary:

- Latitudo 40 uses satellite imagery and artificial intelligence to create geospatial analyses, supporting decision-making.
- Latitudo40's geospatial intelligence solution makes the best use of multiparametric satellite monitoring, allowing to identify, based on a specific algorithm, the areas of the network at higher risk of leakage due to pipeline rupture.
- Latitudo40 offers a SaaS model that makes it easy and low investment to start network monitoring projects.
- The solution ensures a significant reduction in maintenance costs by sending verification teams only to the points where a leak is most likely to occur.

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“ We do the easiest, the fastest and the simplest microbiological control analysis to help people saving lives & improving health through better water quality. ”

Key contacts:

Enric Queralt Creus- CEO

Case Study 3: **INFRASTRUCTURE**

Summary:

- BLUEPHAGE S.L. is a biotechnology company specializing in products and services for the analysis of bacteriophages as viral indicators in water, food and biosolids.
- BLUEPHAGE's patented solution is offered in kits allowing to control the microbiological quality of water. BLUEPHAGE can measure quickly whether reclaimed water for agriculture use or products are safe or not.
- BLUEPHAGE reduces the analytical time, minimizes the infrastructure needed (only an incubator and a smartphone is needed) and digitalises the results.

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“ *At Clera.one, our mission is to protect people’s well-being by protecting the environment through reusing wastewater and preventing microplastic pollution.* ”

Key contact:

Kostja Klabjan - CEO

Case Study 3: **INFRASTRUCTURE**

Summary:

- About 80% of the world's wastewater is discharged back into nature without treatment and full of microplastic and other toxics.
- Clera.One’s system technology enables a circular water cycle, stopping 99% of microplastics and reusing 90% of wastewater without additional energy consumption.
- Clera.One’s clients can save money by reducing water consumption, gain customers committed to sustainability, and avoid potential legislation risks.

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“ *Developing practicable approaches for circular economy. At alchemia-nova, we use nature-based solutions and plants. We use nature’s functions and systems as inspiration.* ”

Key contacts:

Johannes Kisser - CTO, Managing director

Case Study 3: INFRASTRUCTURE

Summary:

- alchemia-nova is dedicated to circular economy principles. The group integrates the areas around nature-based solutions, resources cycles, sustainable buildings, and circular financing for co-creating a holistic understanding of systemic solutions.
- alchemia-nova proposes the use of wastewater for crop irrigation, by integrating anaerobic processes and constructed wetlands for domestic sewage treatment. The result is the production of irrigation water and recover energy and carbon.

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“ We are driven by our passion for water sustainability and use our knowledge of biotechnology to harness the power of Nature to develop the next generation water treatment solutions. ”

Key contacts:

Martin Ryen - CEO

Maria Humble - CTO

Case Study 3: INFRASTRUCTURE

Summary:

- Pharem Biotech offers a disruptive and patented enzyme technology for neutralizing organic micropollutants, such as pharmaceuticals. Pharem uses nature’s own processes to neutralize pollutants into harmless compounds.
- Pharem’s product Zymatic, is a great solution for removing certain pollutants that could prevent the reuse of water for irrigation. The low cost of Zymatic and the natural based technology offer a very good environmental imprint.
- Pharem Filtration System (PFS) offer a robust removal of organic micro pollutants in industrial and municipal wastewater with market leading cost model

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“ *Our mission is to answer a crucial question for water resources management: “How much water is stored in that basin and when will it become available?”* ”

Key contacts:

Matteo Dall'Amico - Founder and CEO

Nicolò Franceschetti - Technical staff

Case Study 3: INFRASTRUCTURE

Summary:

- MobyGIS's project, Waterjade, integrates machine learning and physically-based hydrological models that solve mass and energy balance in complex morphology at high resolution.
- MobyGIS's process different sources of data (in-situ, satellite, numerical), providing lower cost, higher precision and worldwide scalability.
- The result is a full service of water analysis and predictions, applicable on all the timeline, from real-time snow monitoring, short-term forecast (+ 5 days), seasonal forecasts (+ 6 months) and consultancy on climate projections (+30 years).

INNOWISE SCALE.



Educate

Innovate

Transform

Because Water is a Human Right!

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#InnoWiseScale #waterscarcity #CLCSouth

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