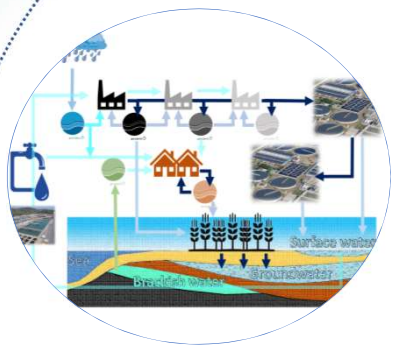
project Ô

Project Ô demonstrates

1. A novel **distributed water network** that enables the use of alternative sources of water, such as brackish/salt water, collected rainwater, own/external wastewater owing to the following characteristics:



- Ability to treat efficiently contaminants and pollutants in water otherwise unusable or very costly to use reducing pressure on (natural) resources
- High specialisation coupled with modularity of design and closed loop control based on innovative sensors
- Small scale specialisation and use of solar power and irradiation allowing the development of mobile plants to deal with low volumes of water difficult to reach

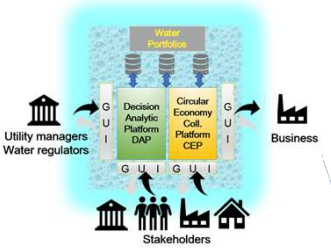
2. A **Multi-user Collaborative Platform** allowing water systems authorities and regulators as well as water users to evaluate the overall effects of introducing and regulating small water management loops

3. **Integrated and participative approaches to water planning** involving directly the community and the territory fostering social innovation

Collaborative platforms

DECISION ANALYTIC PLATFORM

A decision support system for water regulators, relying on a multi-objective approach to account for the sustainability of different water-use scenarios



Mainly business-facing, it allows to select the best technology to match water requirements with local water availability to enable the symbiotic exchange of resources

CIRCULAR ECONOMY PLATFORM

Water treatment modules

Technologies

Demonstration of planning and technology tools for a circular, integrated and symbiotic use of water

Molecular separation membrane

Capacitive deionization

High voltage ns PEF

Solar photo-Fenton

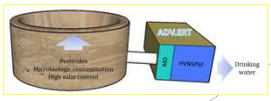
Advanced control unit

MW enhanced catalytic degradation

Biological mixed treatment

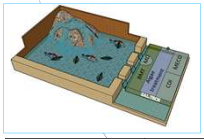
Advanced adsorption

Photo-catalysis



ADV.ERT

Treatment technologies	Advanced Oxidation Processes + Desalination
Train of technologies	Nanofiltration, High voltage nanosecond pulsed electric field
Type of plant	Mobile plant
Capacity	20 m³/day
Demo site	Acquedotto Pugliese Puglia Region, Italy



SALTECH

Treatment technologies	Denitrification + Desalination + Advanced Oxidation Processes
Train of technologies	Microwave enhanced catalytic degradation, Biological mixed treatment, Capacitive deionization
Type of plant	Fixed
Capacity	20 m³/day
Demo site	National Center For Mariculture, Eilat, Israel

MOBILE3TECH

Treatment technologies	Advanced Control + Advanced Oxidation Processes
Train of technologies	Advanced control, Solar photo Fenton, Advanced adsorption
Type of plant	Mobile
Capacity	20 m³/day
Demo site	Water utility of Almendralejo, Spain

PHOTO.CAT

Treatment technologies	Advanced Oxidation Processes
Train of technologies	Photocatalysis
Type of plant	Mobile
Capacity	45 m³/day
Demo site	Industrial site

Project partners

IRIS SRL AALBORG UNIVERSITET UNIVERSITA DEGLI STUDI DI TORINO UNIVERSITAT POLITECNICA DE VALENCIA CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE HEIM.ART - KULTURVEREIN-FLUSSIG NANOQUIMIA S.L. TECHNION - ISRAEL INSTITUTE OF TECHNOLOGY VERTECH GROUP EKSO SRL UNIVERSIDADE DE AVEIRO POLITECNICO DI MILANO KALUNDBORG KOMMUNE REGIONE PUGLIA EXERGY LTD SOCAMEX SA PARTICULA GROUP ISRAEL OCEANOGRAPHIC AND LIMNOLOGICAL RESEARCH LIMITED MUNICIPALITY OF EILAT ACQUEDOTTO PUGLIESE SPA HOCHSCHULE RHEIN-WAAL ENTE NAZIONALE ITALIANO DI UNIFICAZIONE-UNI

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