



# Research & Development

**Care for water  
Respect the environment**



Athens Water Supply & Sewerage Company S.A.

# Research and Development Activities



The Athens Water Supply and Sewerage Company (EYDAP), operating in the greater Attica area, is the largest company in the Greek water and wastewater services industry. EYDAP is responsible for water collection, transfer, treatment and distribution to the consumer's tap. Furthermore, the company is also responsible for wastewater collection, transfer and treatment with consistency, reliability and above all, environmental responsibility, achieved by employing state-of-the-art scientific methods and technologies.

## 1. Research and Development Department

The Research and Development Department (R&D), established in early 2011, consists of EYDAP's highly competent scientists who focus on the development and dissemination of knowhow and innovation, as well as the adoption of an extrovert orientation.

In the area of Research and Development, EYDAP promotes actions for:

- Implementation of European and National research projects that cover the existing and future scientific needs of the company.
- Development and demonstration of innovative plans and state-of-the-art technologies in the research center's premises and further dissemination in Greece and worldwide.
- Improvement of the quality of services provided to citizens and businesses through the use and adoption of new technologies.
- Linking research to entrepreneurship, in collaboration with research staff from Greek and international universities, Research Centers and companies active in the research area.
- Development of competitive know-how and diffusion of innovation in order to promote the social, economic and environmental development of the country

## 2. Research Activities

- Self-funded research projects driven from company's current and future needs
- Proposing and implementing European and / or National funded research projects (Horizon 2020, FP7, Interreg, LIFE, NSRF 2014-2020 etc.)

EYDAP participates in the following European projects:

### Horizon 2020

i) Fiware4Water, through which EYDAP is demonstrating the potential of the EU funded, open source platform, FIWARE, by incorporating heterogeneous data from sensors (flow, level and water quality meters) placed at a specific part of the external aqueduct, into a single integrated operating system. In this way, EYDAP will be able to develop analytics and models aiming to: (a) optimizing water conveyance from sources to treatment plants and (b) providing early warning alerts when needed.

Duration of the project: 2019-2022  
[www.fiware4water.eu](http://www.fiware4water.eu)

ii) NextGen, that assess and promotes circular economy systems to improve existing water resource management



practices by implementing innovative technology and business solutions for water, in ten large scale pilot demonstration applications across Europe. After having successfully installed and evaluated a pilot sewer mining (SM) unit in its premises, under the European project DESSIN, EYDAP moves one step forward on the installation and operation of an innovative pilot water reuse unit in the center of Athens, as part of a larger and more holistic configuration, that examines all three 'streams' associated with water in CE: water, energy and materials, through artificial ecosystems.

Duration of the project: 2018-2022  
[www.nextgenwater.eu](http://www.nextgenwater.eu)

**iv)** SMART-Plant, aimed at scaling-up eco-innovative and energy-efficient solutions to renovate existing wastewater treatment plants. EYDAP was responsible for the development and operation of a pilot plant, that treated the rejected water produced by the dehydration of the sludge of Psyttalia Wastewater Treatment Plant. The aim of this unit was to reduce the nutrients of the drains and the energy consumption of their treatment.

Duration of the project: 2016–2020  
[www.smart-plant.eu](http://www.smart-plant.eu)

**v)** INTCATCH, which had the overall aim of utilizing a range of innovative monitoring tools to facilitate investigative monitoring activities to identify sources of pollutants on catchment scale. In Greece, EYDAP R&D is pioneer in water bodies monitoring by autonomous robotic boats and since 2019 operates them, providing with concrete findings in real time authorities and organizations, which are responsible for 11 lakes and 4 rivers. Additionally, the systematic, full scale application of autonomous boats could support the investigative monitoring programs of the WFD in the future and represent a valid rapid tool/approach in case of emergencies thus assisting in more effective crisis management.

Duration of the project: 2016–2020  
[www.intcatch.eu](http://www.intcatch.eu)

**vi)** IMPETUS, in the wake of the COVID-19 crisis, the project will develop and validate a coherent multi-scale adaptation to climate change through a wide range of innovative solutions, to accelerate the transition towards a climate-neutral and sustainable economy with a view to building a sustainable community. EYDAP will expand the innovative wastewater treatment and reuse technology "sewer mining (SM)", which already applies in its facilities, as well as in the center of Athens, by providing a solution of circular economy through its forthcoming projects in East Attica wastewater system (as one out of the seven chosen EU biogeographical regions). EYDAP will also participate in the development of a digital model for the optimization and simulation of water, weather and energy parameters, with the aim of shielding end users against uncertain climate change conditions.

Duration of the project: 2021–2025





## 7th Framework Program (FP7)

**i)** DESSIN intended to demonstrate new technologies for the implementation of the Water Framework Directive (60/2000). The Athens pilot plant is one of the five pilot applications implemented in Germany, Norway, the Netherlands and Spain, where innovative technologies for water reuse aimed mainly to irrigation of green urban areas are demonstrated.

Duration of the project: 2014-2017  
[www.dessin-project.eu](http://www.dessin-project.eu)

**ii)** MARSOL, aimed at demonstrating the recharge of groundwater aquifers with treated wastewater as a measure to prevent seawater inflow. EYDAP contributed to the project by providing and analyzing treated wastewater from the Metamorphosis Wastewater Treatment Plant, as a recharge source for the controlled enrichment of a hydrological infiltration basin of the technological park of Lavrio.

Duration of the project: 2013-2016  
[www.marsol.eu](http://www.marsol.eu)



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