

# Life Ecosens Aquamonitrix

Enhanced Portable Sensor for Water Quality  
Monitoring, moving to genuinely integrated  
Water Resource Management.

LIFE17 ENV/IE/000237



 **Ecosens**  
**Aquamonitrix**  
Water Quality Sensor

# PRESENTATION

Life Ecosens Aquamonitrix is a European project approved under the Life Program. This program was developed in order to be an instrument of financing for the environment and climate action

# AIMS

The project aims to demonstrate a cost-effective portable water monitoring solution for the water sector. Innovative technology, at a competitive cost, allows a greater frequency of water quality monitoring with remote access to the device and results. This affordable solution results in increased oversight, facilitating management decisions and compliance with regulations. In addition, its efficient energy consumption allows for longer deployment periods, decreasing maintenance needs, providing an integrated monitoring solution that is cost effective.

Other aims:

To accelerate the market launch of the EcoSens Aquamonitrix device that can facilitate stakeholders in the water industry to make management decisions in compliance with EU regulations.

To verify Water Public Authorities' requirements at EU level in terms of regulation, product technical needs, communication, costs.

To tailor the design to the target use cases & consolidate the device's "smart" capabilities: sensor requirements, data transmission, remote communication, visualisation & interoperability with Water Sector legacy systems.

To manufacture 42 prototypes (in two demonstration phases) for the target use cases, validating performance & compliance with defined standards prior to the demonstration phase.

To implement the prototypes in 11 operational environments (i.e. Waste Water Treatment Plants, rivers) to test the performance under real conditions

To monitor & validate the performance of the solutions for each of the demonstration projects

To calibrate & optimise the prototypes design in an iterative process based on the monitoring results and feedback obtained through demonstration activities.

- 8 To finalise the products' design and develop the manufacture plan for its commercialisation
- 9 To carry out an environmental & economic assessment by means of LCA and LCC analysis
- 10 To formulate a business plan to ensure successful market penetration of the device which will lead to job creation in the beneficiaries & in Europe.
- 11 To communicate & disseminate project findings to stakeholders, end users & relevant audiences in Europe to encourage uptake & improve water quality.

# IMPLEMENTATION

- Soft Sensor (Reagentless Detection) Integration & Calibration
- Product Validation, Manufacture and Scale Up
- Demonstration Activities
- Business Planning

# Expected results

The main results expected are:

- Versatile water quality monitoring system adaptable to different applications in the Water Sector
- Versatile IoT platform that will allow deployment of scalable and flexible solutions for connected products.
- Enhanced performance: Precision +/-5%, Accuracy +/-5% at the higher ranges
- Enhanced robustness and reliability of the device, both operational and information reliability
- Low energy consumption: reduction of 80% in power consumption during the project
- Remote near-continuous monitoring: results obtained on an hourly, up to a 15 minute basis allowing real time monitoring resulting in a more precise control of the water quality with improved water management decisions, allowing mitigation measures to be put in place for early prevention or alleviation of pollution events

- Highly competitive solution: €5000 euros, 3-4 times less than current commercial systems.
- Production of 42 prototypes over two demonstration phases and Manufacturing Scale Up Plan post project for commercialisation purposes
- Improvement in water quality at the demonstration sites during the projects; this will be replicated across European regions after the project ends and is quantified in the Life Performance Indicators Table.
- Savings for WWTPs in terms of resources, energy and chemical usage - expected savings of 4- 6%.
- Job creation of 42 FTE & an increase in turnover of €19 million will occur in the businesses in Year 5 post project.
- Production of 3 Notice boards, a Layman's report (1000 copies), project website, 3 peer reviewed/technical publications, video & a technical workshop
- After Life Communication Plan completed.
- Networking and synergy with other EU funded projects as outlined in Action D.
- Device will be ready to be launched on the market after the project end

# RESEARCHERS



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# PARTNERSHIP



# BUDGET

Overall Budget: 1.503.145 €

# WHAT IS THE OPRI

The International Project Office (OPRI) is an office linked to the Vice-rectorate of Research, responsible for the management of international research projects at UCAM. The OPRI was founded to strengthen the collaboration between our partners all around the world in the field of research. The unit was established in 2012 and has built strong alliances in 36 countries in which the university has to date participated in 57 projects. The internationalization of the Catholic University of Saint Anthony, through the OPRI, is directed towards all of the university community, researchers as well as students. A total of 192 students have participated already in projects in a variety of countries all over the continent.

Currently we are leading international projects like LIFE Clean Up, and LIVERUR. UCAM also has been awarded a postdoctoral Marie Curie with the project "POCBIOPEP" related to the study of cellular markers in blood from the intake of Pork Cured BIOactive PEPTides. Likewise, the UCAM, recognized by European institutions for its work in research and management of sports projects, such as dual career (education + sport) is coordinating the projects "ESLP" inside the call Erasmus+ Sport.

# OBJECTIVES

- 1 Increase international presence UCAM in the European Union through participation in networks of knowledge, technological and scientific platforms, dissemination seminars, technical conferences and other events promoting R&D organized by the EU, with the presence of renowned professionals.
- 2 Increase the participation rate of UCAM in European R&D, either as leaders or as partners.
- 3 Increase the success rate of proposals presented by researchers at the UCAM to European and international R&D.
- 4 Improve the rate of return derived from the participation of the UCAM in European R&D.
- 5 To promote European values.
- 6 Establish a commitment for university students towards European

# OPRI DATA

<b>Approved projects</b>	<b>57</b>
<b>Important active projects</b>	<b>16</b>
<b>Number of researchers involved in projects</b>	<b>71</b>
<b>Number of project partner countries</b>	<b>36</b>
<b>Number of students involved in projects</b>	<b>194</b>
<b>Total budget of approved projects</b>	<b>€11.877.492,70</b>





UCAM considers the international communication as the key for its growth and in achieving great results together with the advancing contribution in all scientific areas.

With the OPRI, UCAM is aligned with the R&D policies of the European Union and the Ministry of Science and Innovation.



**UCAM**   
**OPRI** International  
Project Office



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# UCAM

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