



# DESAL+ DESALINATION LIVING LAB

A COMMITMENT TO THE KNOWLEDGE ECONOMY  
IN DESALINATION IN THE CANARY ISLANDS



PLATFORM COORDINATOR



MEMBERS



ASSOCIATED



This R&D&i platform has been promoted by the **DESAL+ project**,  
co-financed by FEDER funds through the  
**INTERREG MAC 2014-2020 programme** (MAC/1.1a/094).

# R&D&i OPPORTUNITIES IN THE CANARY ISLANDS



+ **50 years of experience** in the exploitation of desalination plants.



Existence of a **great variety of plant sizes**, with a wide diversity of technologies, design conditions and locations.



**Availability of desalination infrastructures** and pilot plants for experimentation.



Excellent availability of **natural resources**: sun, wind and sea.



**Relevant high-qualified** researchers, engineers and desalination plant operators.





## WHAT IS **DESAL+** LIVING LAB?

DESAL+ Living Lab, created in 2017, is a public-private ecosystem open to research, demonstration and generation of knowledge, where tests, experimentation and good practices in desalination, the water-energy nexus and the use of renewable energies are carried out, in order to promote and mature the research potential of the Canary Islands, generate specialized employment and provide technology, products and/or services to and from the Canary Islands to neighboring regions and other interested parties on an international scale.



[desalinationlab.com](https://desalinationlab.com)

# OBJECTIVES OF DESAL+ LIVING LAB



To place on the map the **Canary Islands as a global benchmark in the field of desalination** and attracting international R&D&i projects to the Canaries.



**Increase the investment in R&D&i in desalination**, the knowledge of the water - energy nexus and allocating resources in a coordinated way.



**Facilitate practical innovation and accelerate the search for solutions** to the technological shortcomings of desalination, by providing researchers, manufacturers and end users with quick and simple access to the means and resources they need.

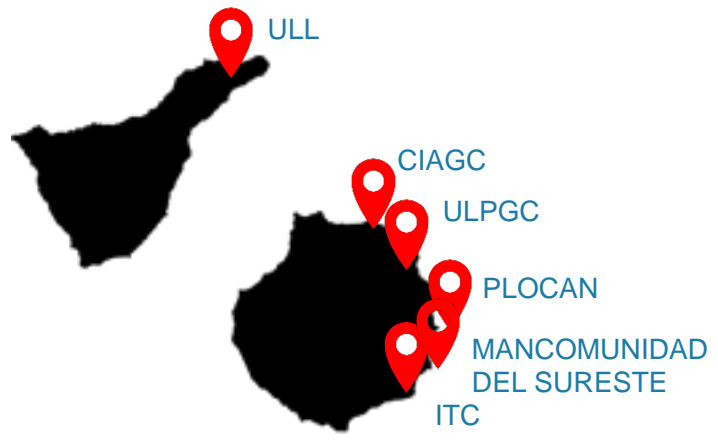


**Develop solutions and demonstrative and innovative projects** related to water desalination technologies and the applied use of renewable energies.



Consider **Africa and Latin America as key desalination markets**.

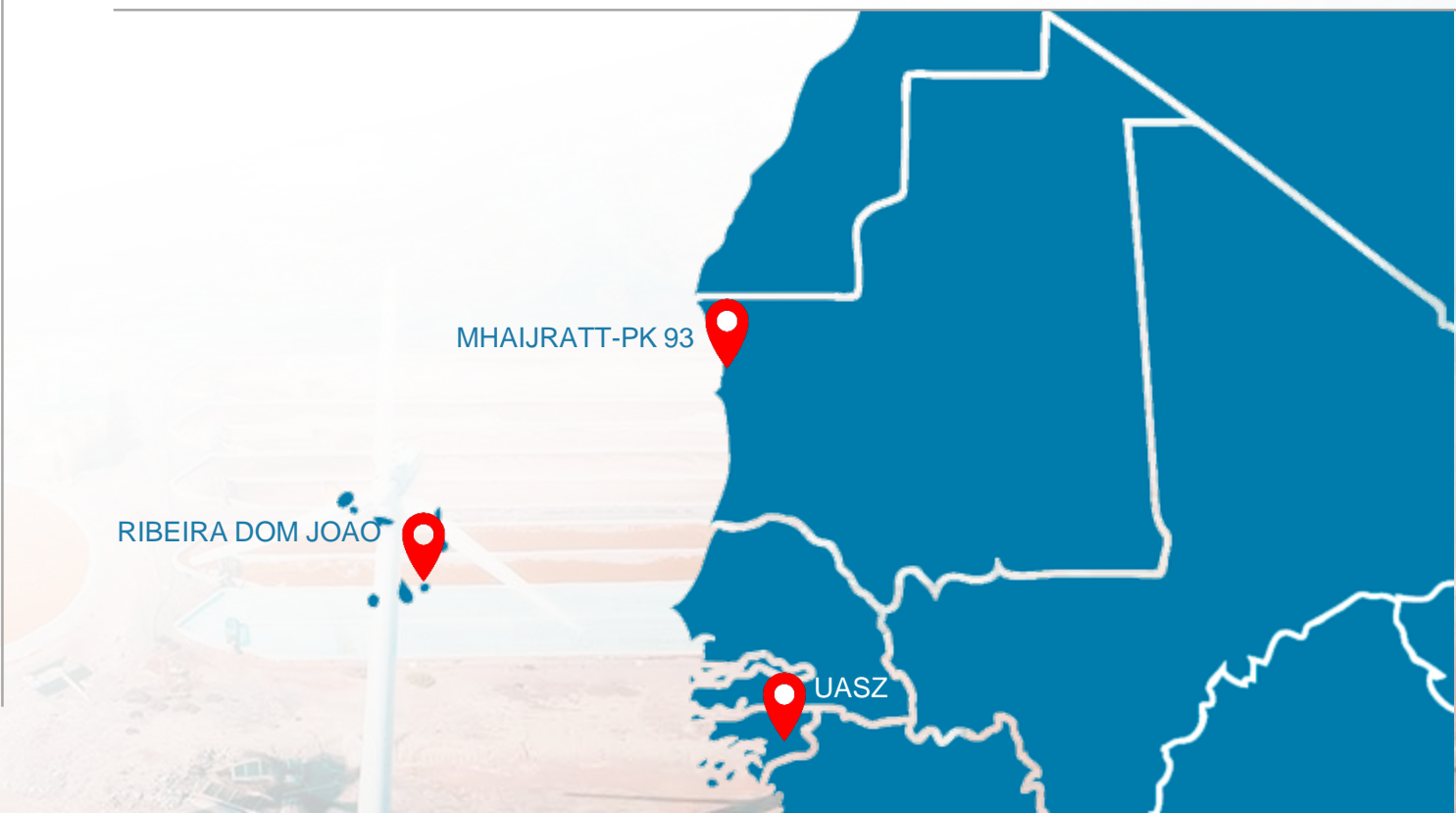




# DESAL+ LIVING LAB LOCATIONS

Mainly in **Gran Canaria** and **Tenerife**, in the Canary Islands.

But also in **Cape Verde**, **Senegal**, **Mauritania**, etc.



# R&D&i PRIORITY LINES | 2018-2025



LE1. Advanced maintenance (preventive and predictive ) in order to guarantee the efficiency throughout the facility lifetime.



LE2. Automation, big data treatment and artificial intelligence application in order to introduce improvements in efficiency and cost control.



LE3. Pre-treatment: Actions to maintain and/or improve the water quality demanded at the entrance to the reverse osmosis membranes.

# R&D&i PRIORITY LINES | 2018-2025



LE4. Membranes 4.0: The testing and operation of these critical elements to maximise the useful lifetime of reverse osmosis membranes.



LE5. Desalinated water-energy nexus: To improve the energy efficiency of the desalination process and the direct use of renewable energy.



LE6. Desalted water quality: To improve the quality of desalted water for multiple uses, specially, for agricultural irrigation.

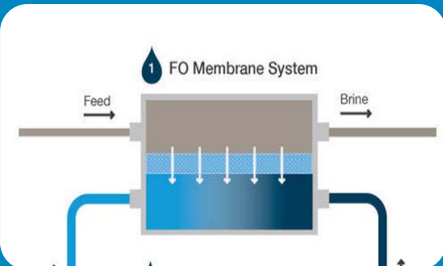
# R&D&i PRIORITY LINES | 2018-2025



LE7. **Brine and circular economy:** Solutions and processes that allow the valorisation of brine and/or the transit to the minimum possible discharge.



LE8. **Green chemistry:** New processes, developments or forms of operation to reduce/eliminate the use of chemicals in desalination or to replace them by other more sustainable products.



LE9. **Emergent desalination technologies:** New desalination technologies to becoming an alternative or complement to reverse osmosis.



**5 YEARS EXPERIENCE**

4  
members

1  
associated

34  
collaborators

6  
realized  
projects

9  
provided  
services

Access to  
16  
desalination  
plants

8  
tests areas

14  
new direct  
jobs created

11  
organised  
training events

18  
organised  
scientific technical  
events

10,15M  
direct financing  
raised

11,5M  
indirect financing  
raised

1790  
beneficiaries of  
actions carried out

# COLLABORATORS





# FUNDERS



Fondo Europeo de Desarrollo Regional



**WHAT DOES DESAL+  
LIVING LAB OFFER?**



**Experimental areas with technical and logistic support for the installation and testing of prototypes focused on desalination, renewable energy desalination and related fields.**

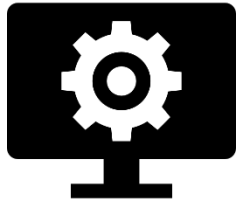


**Collaboration or partnership in projects in any of the topics related to our strategic lines of R&D&i in desalination.**

**Technical support and consultancy for the development, expansion and demonstration of innovative desalination solutions.**







**Products on the market and data from DESAL+ Living Lab such as DESSOL and DESSOL 2.0 products or our DASHBOARD service of time series of desalination operation data.**



**Training, educational programs, research practices, transfer of knowledge and technology in desalination and the use of RES.**

# R&D DESALINATION INFRASTRUCTURES



DESALINATION PLANTS



ANEMOMETRIC TOWERS



WATER ANALYSIS LABORATORIES



RADIO ELECTRONICS LABORATORY



DEMO TEST AREAS (OPEN AIR)

PILOT SCALE TEST AREAS (INDOOR)

AND MORE

EXPERIMENTAL AGRICULTURAL PLOTS



TEST BEDS



# THANKS FOR YOUR ATTENTION



Consejería de Economía,  
Conocimiento y Empleo  
Agencia Canaria de Investigación,  
Innovación y Sociedad de la Información



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