









# BRINE VALORISATION OPEN TESTBED



The Canary Islands Institute of Technology (ITC) hosts a unique open testbed worldwide, within the DESAL+ LIVING LAB framework, offering services and infrastructure for projects and research related to desalination brine valorisation.

This experimental area enables testing under real conditions, optimisation and validation of pre-commercial technologies, aiming to drive research and innovation.

## WHAT DO WE OFFER?

-  **Desalination brines** with different characteristics:  
1-stage RO, 2-stage RO, NF, concentrated brine, FO
-  **Research area** to locate pilots, demonstratives, including **promising** and **disruptive** technologies
-  **Simple and fast** installation – Plug & Play, pre-installed plot
-  Authorized **brine discharge** permit and **administrative support** for project execution
-  **Highly-qualified** ITC technicians and researchers
-  Variety of **renewable energy** technologies available
-  Getting advantage of special **tax deductions** for R&D projects
-  Consulting and **support service** for entrepreneurs and innovative companies

## MAIN OBJECTIVES

Boost R&D with a high level technical location focused on applied research using actual desalination brines

Engage companies with pre-market solutions

Promote our testing site for International and private project proposals

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Fostering **innovation** in **desalination brine** valorisation, embracing circular economy

Co-funders



Canary Islands Institute of Tehcnology (ITC)  
 DESAL+ LIVING LAB  
 POZO IZQUIERDO  
 Gran Canaria (Canary Islands, Spain)

# BRINE VALORISATION OPEN TESTBED FACILITIES

Brine from

Mancomunidad Sureste SWRO  
 2-Stage - 55% recovery

DESALRO 2.0  
 SWRO PLANT

DESAL+ SWRO  
 PLANT

BRINE CONCENTRATION  
 PLANT

NF PLANT

DEMONSTRATION PLOT for  
 brine concentration and brine  
 valorisation technologies

SW BEACH WELLS

FORWARD OSMOSIS PLANT  
 5-10 m<sup>3</sup>/d

- Brine from Sureste
- Brine from DESALRO 2.0
- Brine from DESAL+
- NF Divalent
- NF Monovalent

**DESALRO 2.0**

2500 m<sup>3</sup>/d SWRO  
 40% recovery  
 SEC = 1.85 kWh/m<sup>3</sup>

**DESAL+**

100 m<sup>3</sup>/d SWRO  
 40% recovery  
 SEC = 2.00 kWh/m<sup>3</sup>

**NANOFILTRATION**

Separation between  
 monovalent and divalent ions  
 140 m<sup>3</sup>/d (feed)

**BRINE CONCENTRATION**

OARO Technology  
 40 m<sup>3</sup>/d (feed)

