ODEMAR

INTELLIGENT OPTIMIZATION OF RENEWABLE-POWERED DESALINATION PLANTS

DESIGN THE BEST PLANT BEFORE BUILDING IT

We reduce water costs through simulation and comprehensive optimization



ODEMAR was developed within the framework of the IDIWATER Project, 85% co-financed by ERDF funds through the Interreg MAC 2021-2027 Programme and integrated into the DESAL+ Living Lab Platform.

INSTITUTO TECNOLÓGICO DE CANARIAS

IDIWATER DESAL+ LIVING LAB

Interreg MAC

Cofinanciado por la Unión Europea

MAC 2021-2027 Cooperación Territorial

Water.

Energy.

Intelligence.

Water scarcity is increasing worldwide.

Desalination powered by renewable energy offers a sustainable solution, but optimal system design requires balancing dozens of technical and economic variables.

ODEMAR transforms this complexity into clear engineering decisions.

DESIGN WITH CONFIDENCE.

ODEMAR evaluates hundreds of possible configurations to determine the solution that delivers the required water demand at the lowest possible cost.

Project data
Water demand, location, energy resources, costs, constraints, etc …

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Simulation
Advanced energy and hydraulic system model

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Optimization
Sensitivity iterations that find the best possible combination

↓

Results
Technical and economic evaluation of all alternatives

↓

Best solution
Optimal configuration at the lowest water cost

Why ODEMAR?.

LCOW (Lower cost of wáter)
Optimizes the cost of product water .

Renewable energy integration
Maximizes the utilization of renewable energy

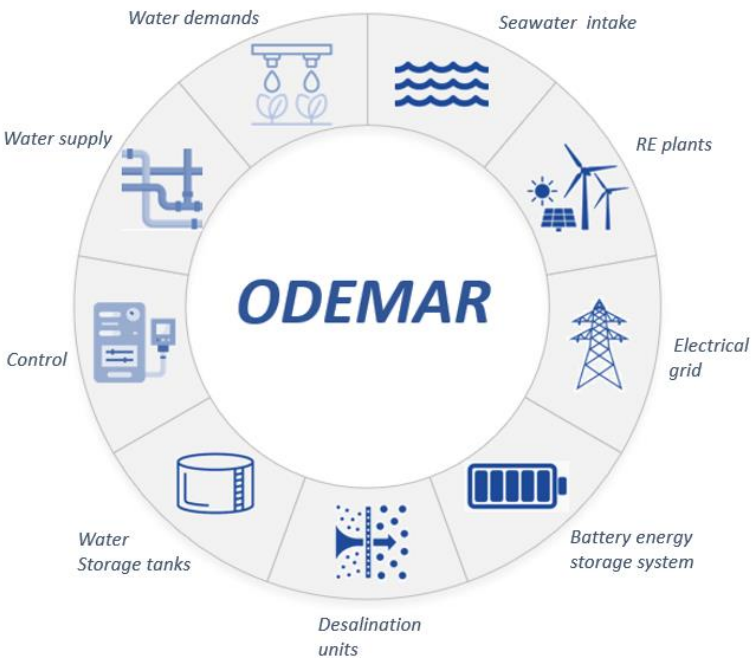
Digital twin
Evaluate various operational scenarios before construction

Investment confidence
Reduces technical and financial risk

Scalable
From small plants to high-output plants

ONE INTEGRATED OPTIMIZATION PLATFORM.

Instead of optimizing isolated components, ***ODEMAR*** simultaneously evaluates every variable affecting the cost of water production.

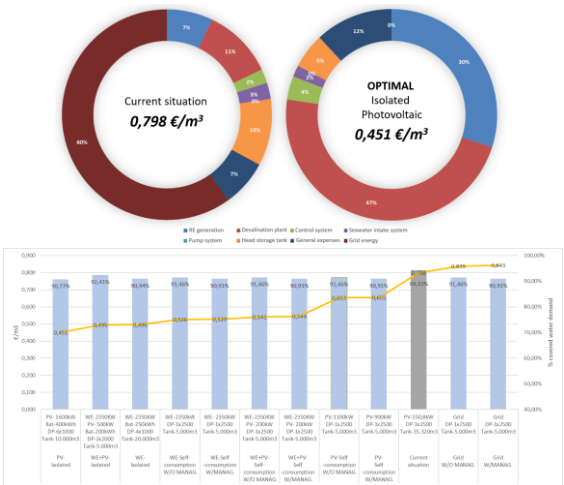


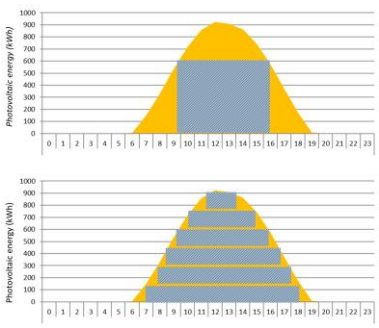
KEY BENEFITS.

- Lower water costs
- Maximize the use of EERR
- Reduces unnecesary investment
- Faster engineering
- Planning for future expansions
- Lower energy costs
- Reduce Project timesheet
- Facilitate decisión-making
- Improves sustainability

DATA-DRIVEN DECISIONS.

ODEMAR provides clear performance indicators that allow technical and economic comparison of multiple design alternatives.





- Water production cost (€/m³)
- Renewable energy utilization
- Electricity consumption
- Water production
- Demand coverage
- Economic performance

The best decisions are made before building.

ODEMAR helps engineering firms, companies, and public authorities design ***new desalination plants*** or ***redesign existing ones more efficiently*** through simulation and optimization

MORE INFORMATION

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Más información sobre ODEMAR en ***desalinationlab.com***



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