



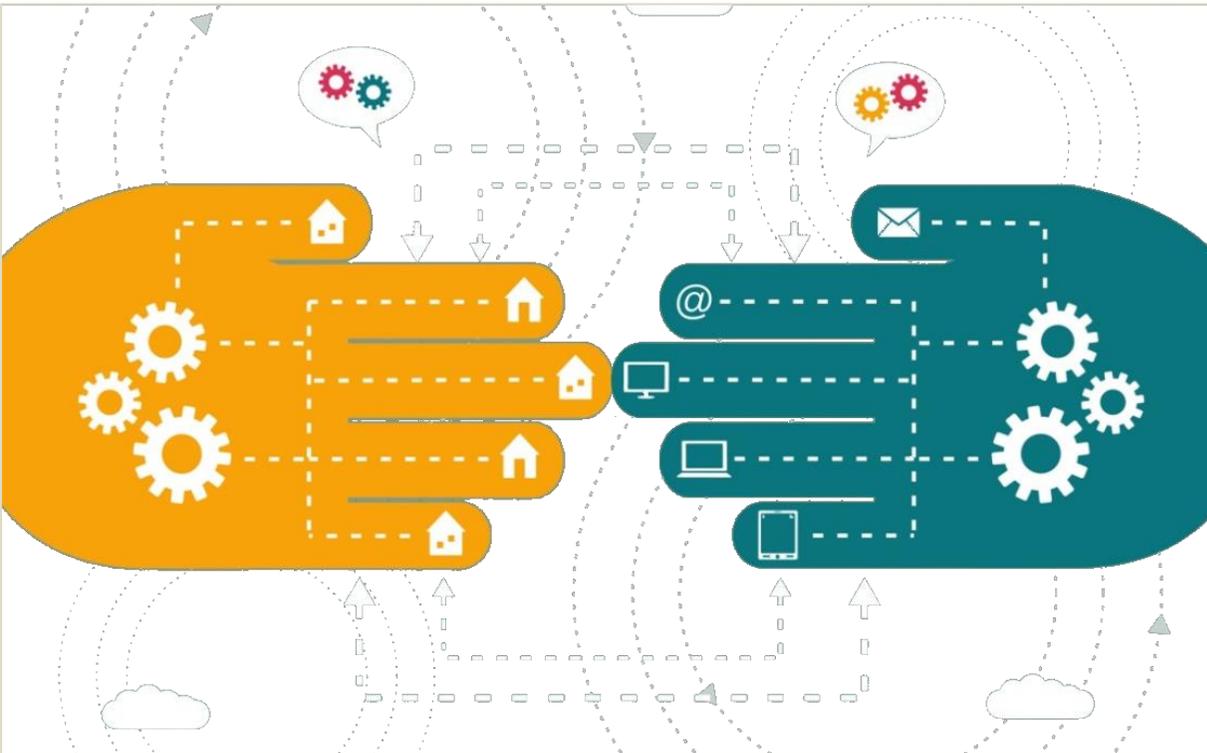
Portuguese Water
Partnership



Bilateral Session

Jordan-Portugal: Sharing Experiences on water

18th October 2015 | Amman



Presentation of the Portuguese delegation to the IWA Development Congress 2015

Rafaela Matos
Board Member of PWP



The Portuguese water cluster has accumulated significant expertise and valuable competencies in:

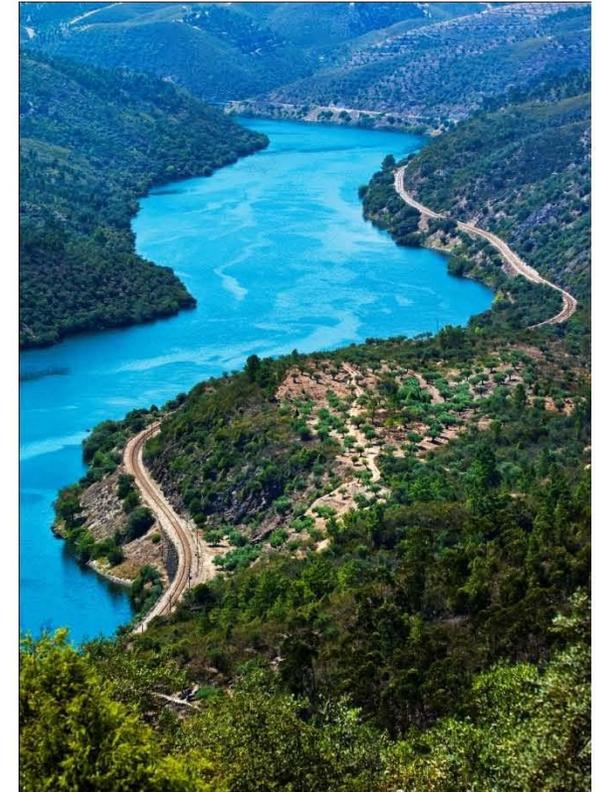
Water Resources

Water Services

Hydraulic Developments

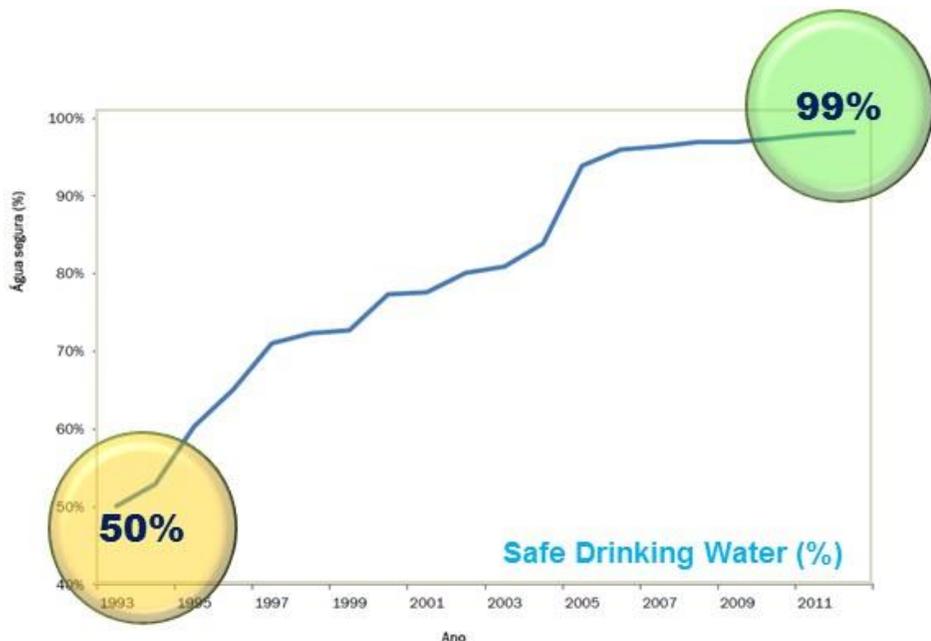
Coastal Management

**Governance and Water
Institutions**





In the last 20 years, Portuguese Water Sector has evolved in a very successful way



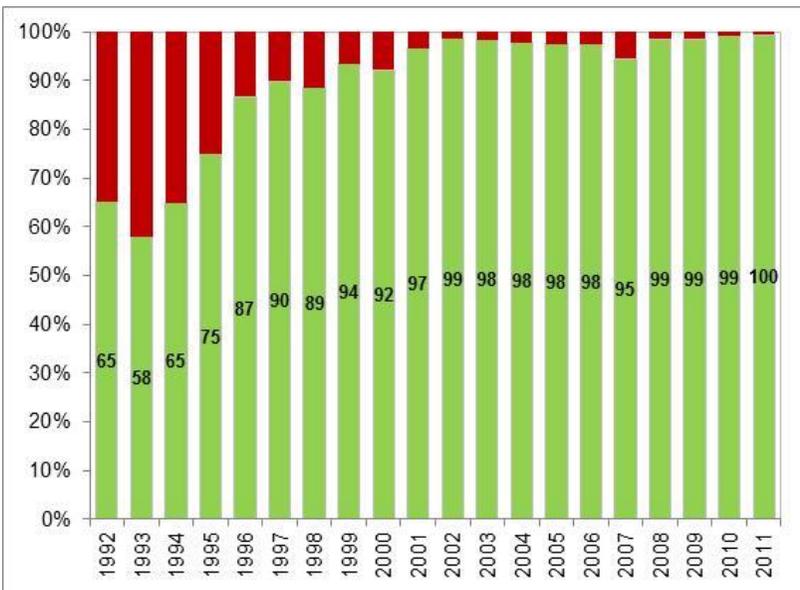
A boom in attendance and quality of service!!!





In the last 20 years, the Portuguese Water Sector has evolved in a very successful way

Bathing water quality



Portuguese Companies had a key role in this process:

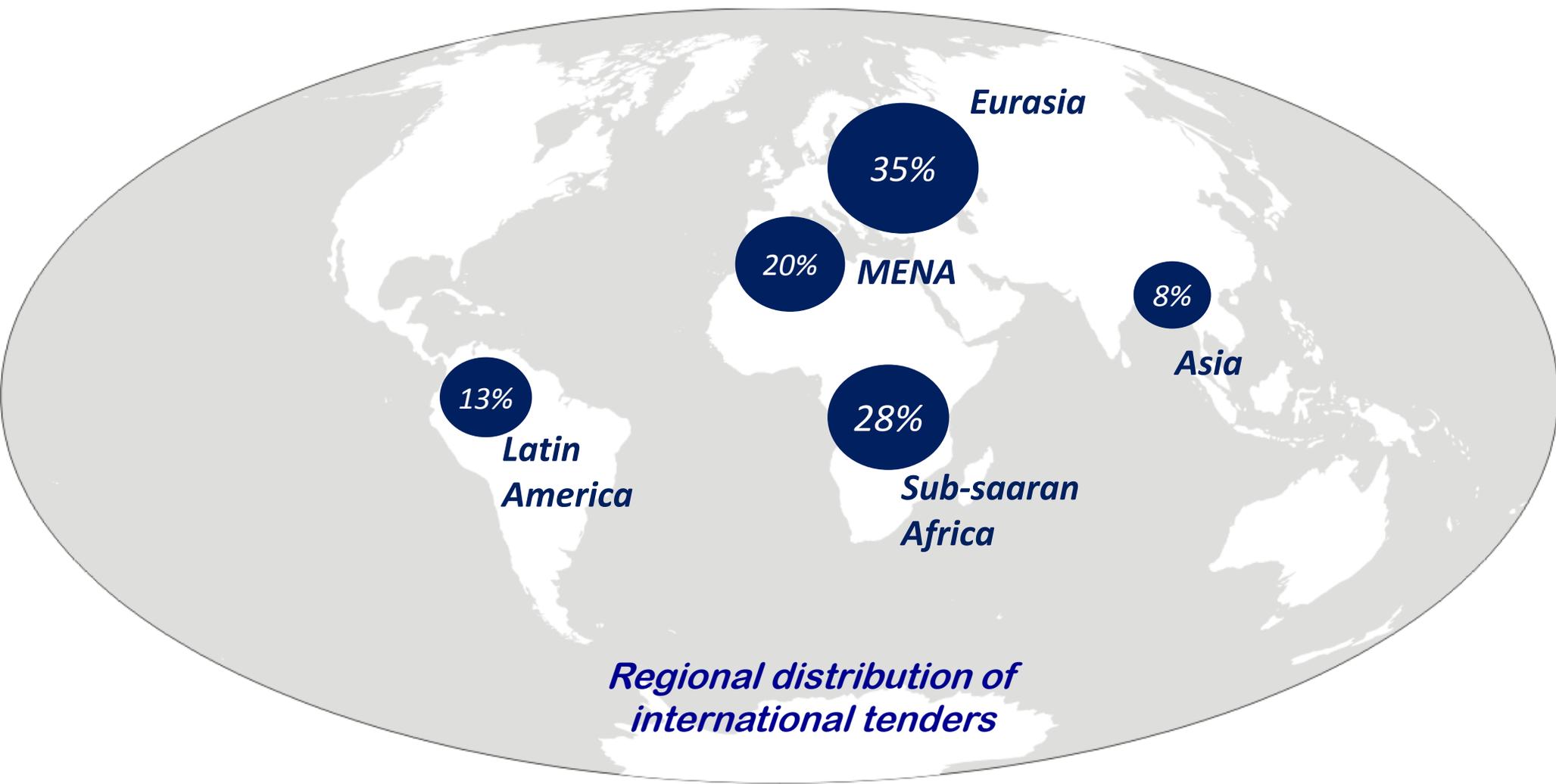
- Design
- Construction
- Supervision
- Equipment's
- Operation & Maintenance

Some figures about the water and sanitation infrastructures

Surface water intakes 299 un
 Groundwater intakes 5735 un
 Drinking Water Treatment Pla 229 un
 Pumping Stations 2372 un
 Reservoirs 8391 un
 Water pipes 99674 km

Wastewater treatment plants 2438 un
 Pumping stations 4350 un
 Drainage systems 50400 km
 Outfalls 26 km

Portuguese firms are actively engaged in international projects in the water sector



Most of these International Financial Institutions are active in financing the Jordanian water sector



31%



20%



16%



European Bank
for Reconstruction and Development

12%



ASIAN DEVELOPMENT BANK

8%



Inter-American Development Bank

5%



4%



2%



1%



1%



Uniting against Poverty



Portuguese Water
Partnership

Some Reasons why Portuguese Water Companies can be added value partners





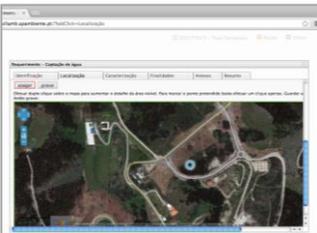
THE CORPORATISATION OF THE WATER SERVICES

The way for quality services, efficiency and sustainability



INSTRUMENTS TO SUPPORT STRATEGIC PLANNING

Transforming data into information for decision



WATER SERVICES BENCHMARKING

Two faces of the same coin: regulator focus and the operator complement.



WATER AND SANITATION SAFETY PLANS

Portuguese capacities



Members of the Portuguese Delegation to Jordan



Acquawise Consulting



CERIS – a Research Centre of IST



AdP - Águas de Portugal



Douro ECI



Aquasis



ERSAR - The Water and Waste Services Regulation Authority



APRH - Portuguese Water Resource Association



LABORATÓRIO NACIONAL DE ENGENHARIA CIVIL

National Laboratory for Civil Engineering, (LNEC)



AdP – Águas de Portugal



Eng. Cláudio de Jesus, Executive Board Member

AdP - Águas de Portugal Group carries out the **MISSION** of designing, building, exploring and managing **Water Supply** and **Waste Water Treatment** systems.

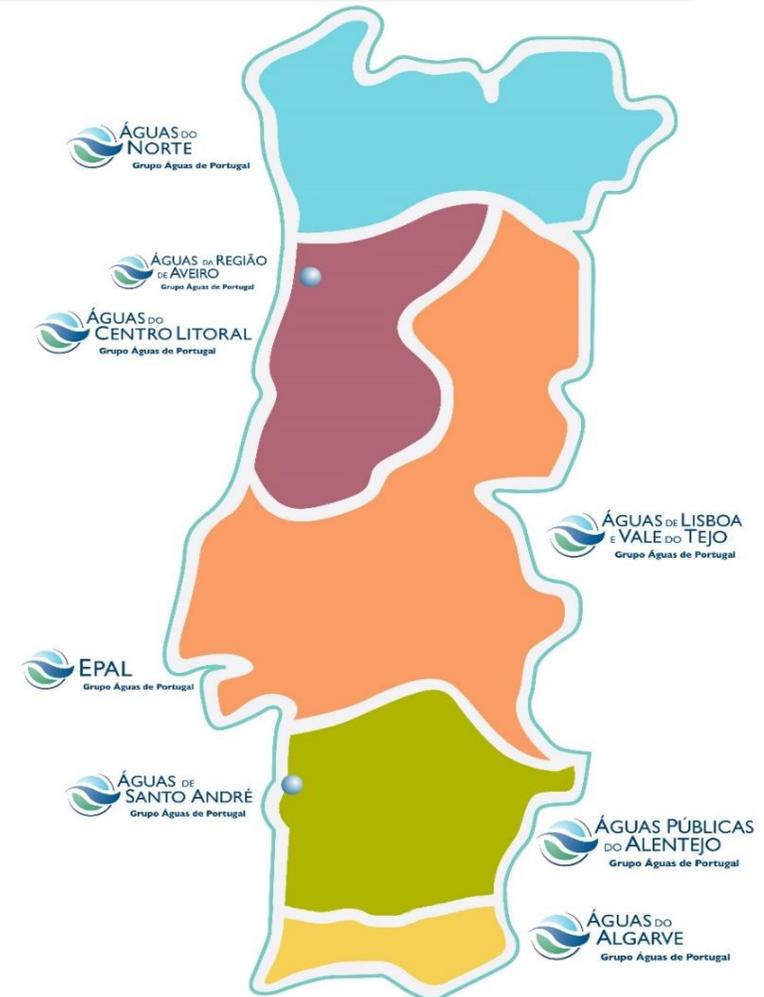
150 WTP

573 million m³
of water produced

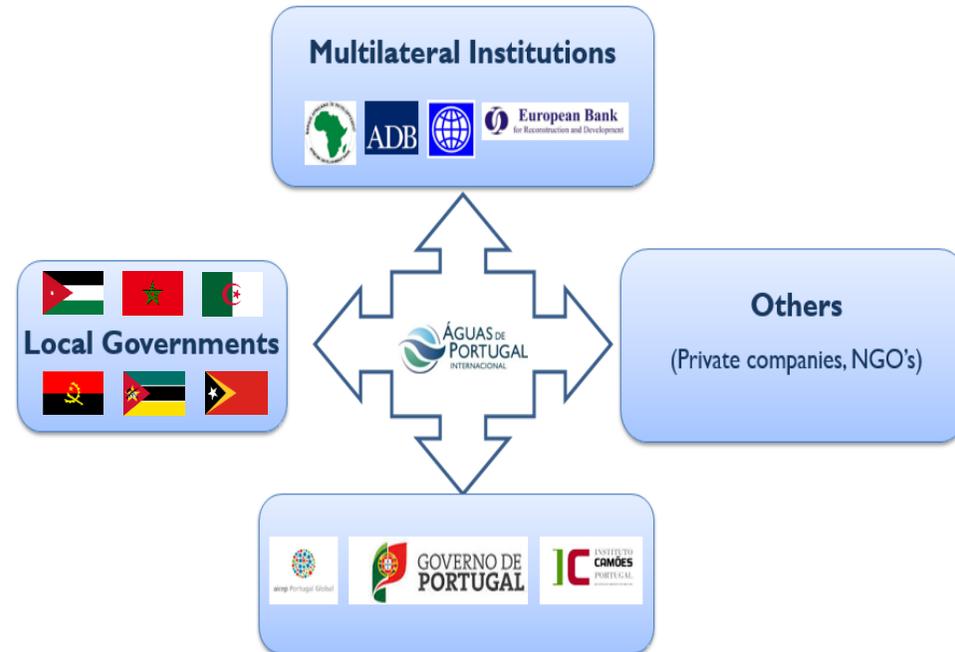


953 WWTP

547 million m³
of wastewater treated



AdP Internacional was created in 2001 to conduct the business of the **Águas de Portugal Group** abroad, acting as **showcase for the capacity** of the Group and establishing **strategic partnerships** with the **main players** in the **water sector**.



AdP Internacional develops its activity to ensure the effective **transfer of know-how** to local human resources, through:

Technical Assistance



Capacity Building / Training



Operation and Management





CERIS – Instituto Superior Técnico

CERIS : Civil Engineering Research
and Innovation for
Sustainability

***Prof. Francisco Nunes Correia, Full Professor of
Environment and Water Resources***

Mission and objectives:

To create and disseminate scientific knowledge, promoting innovation in the built and natural environment areas, through the active involvement in fundamental research, applied research, and high-level consultancy, at the national and international levels.



4 thematic strands that cut across all areas:

- 1 Product Development in Civil Engineering Industries
- 2 Risk and Safety in Built and Natural Environments
- 3 Rehabilitation of Built and Natural Environments
- 4 Response to Natural and Societal Changes

CEHIDRO is the branch highly specialized in water:

- 1 Water Resources, Water Services and Environment
- 2 Hydrogeology and Geo-systems
- 3 Fluvial and Maritime Hydraulic Systems



Main areas of research:

Fluid mechanics

hydraulic structures and installations



harbours and coastal studies

hydrology and water resources

natural and built environment



pollution control and sanitary engineering

sustainability criteria and indicators



water and environmental policies

principles of water governance





Douro ECI



Eng. Diogo Talone, Managing Director

INNOVATIVE BUSINESS MODEL

STRUCTURED AND FLEXIBLE



EXPERIENCE ACQUIRED ON THE WATER SECTOR

WE DO

ENGINEERING

- WATER SUPPLY
- WASTEWATER
- TREATMENT
- RAINWATER
- WATER RESOURCES
- IRRIGATION
- INFORMATION SYSTEMS
- O&M SUPPORT TOOLS

CONSULTANCY

- CONSULTING AND TECHNICAL ASSISTANCE
- PROJECT MANAGEMENT
- NON-REVENUE WATER AND INFILTRATION AND INFLOW MANAGEMENT
- INFRASTRUCTURE ASSET MANAGEMENT
- WATER QUALITY AND SAFETY
- PROCUREMENT AND LOGISTICS SUPPORT

INNOVATION

- DEVELOPMENT OF TECHNOLOGICAL SOLUTIONS FOR EFFICIENT USE OF WATER
- APPLIED INNOVATION FOR INCENTIVE PROGRAMS AND OPERATIONAL MANAGEMENT
- KNOWLEDGE TRANSFER

WE ARE



EXPERIENCE AND PRESENCE IN DEVELOPING COUNTRIES

WE WORK FOR

GOVERNMENTAL ENTITIES / UTILITIES



INVESTMENT BANKS



CONSULTING COMPANIES



CONSTRUCTION COMPANIES



WHY JORDAN ?

WE WANT TO SHOW TO THE WORLD WHAT WE ARE DOING



WE WANT TO GROW TO THE WORLD

INVESTMENT BANKS

WORLDWIDE





ERSAR – The Water and Waste Services Regulation Authority



Dr. Orlando Borges, President

ERSAR – The Water and Waste Services Regulation Authority

- Regulates drinking water, wastewater and solid waste management services.
- The main objective is to ensure:
 - universality of access, continuity and quality of the services;
 - efficiency and equity in terms of affordable tariffs;
 - respect to the environment.
- National agency, independent from executive powers at functional, organic and financial levels.
- Regulates 500 operators, serving nearly 10.000.000 inhab. provided by State owned, municipally owned and private utilities.
- 75 employees skilled on legal sciences, economy, engineering, water quality.
- Budget: 8 million €/year exclusively financed through levies over operators.

ERSAR – The Water and Waste Services Regulation Authority

- ERSAR has a consolidated model for regulating water services;
- Has developed significant cooperation work at the international level as member of several international regulation networks (WAREG, OECD, ENDWARE, RegNet);
- ERSAR has organized, together with IWA, the *1st International Water Regulators Forum*, in September 2014, in Lisbon;
- One of the main outcomes of this meeting was the "*Lisbon Charter for public policy and regulation of drinking water supply, sanitation and wastewater management services*"
- ERSAR would be interested in understanding what kind of regulatory frameworks are in place in Jordan and in the nearby countries and in sharing best practices with similar counterparts.



Aquasis



AQUASIS

Grupo Águas de Portugal

Eng. Alexandra Serra, President



AQUASIS is an **IT Services Provider** specialized in the Urban Water Sector, since 1990.

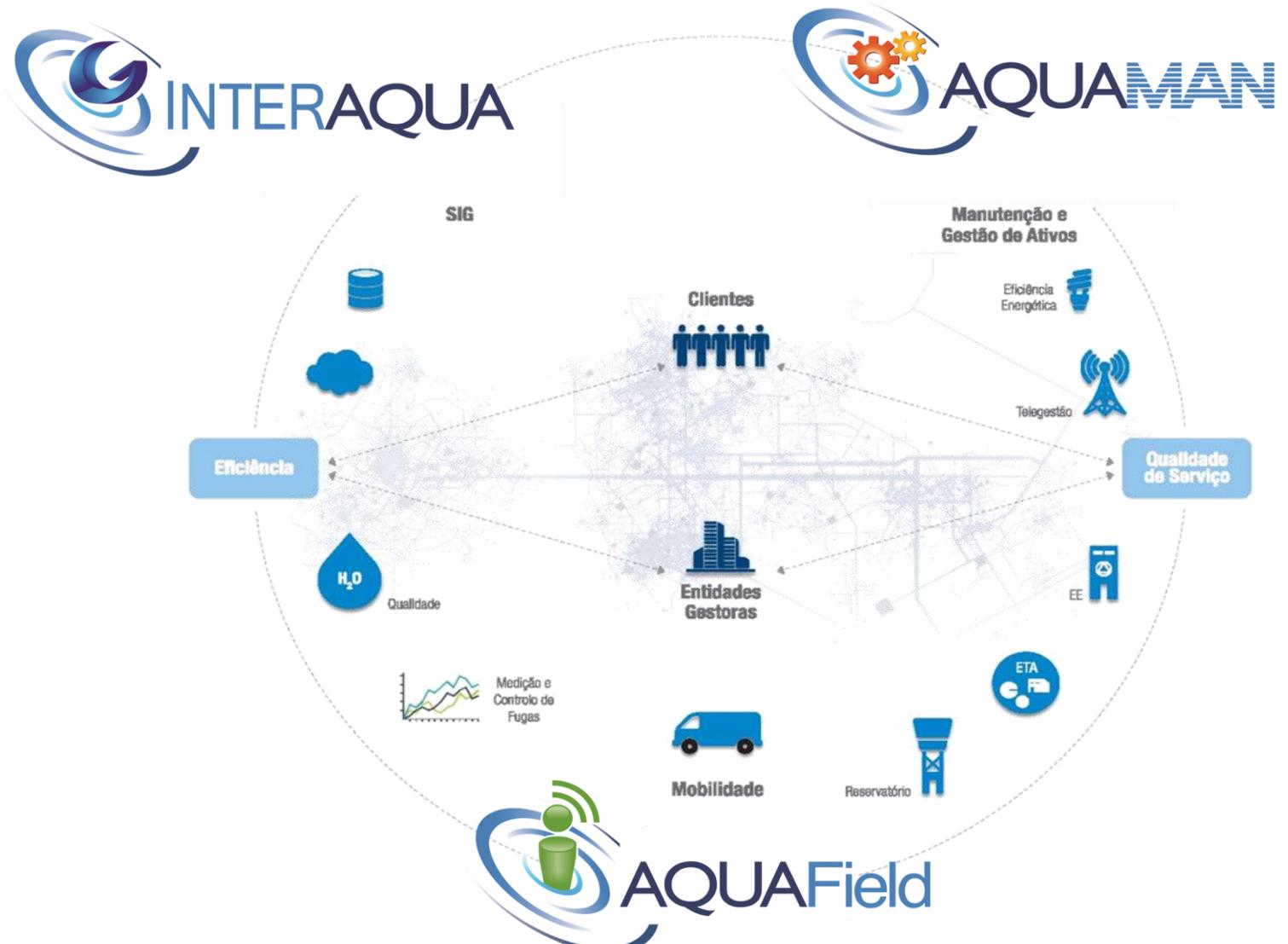
AQUASIS Planet





AQUASIS

AQUASIS Solutions





APRH – Portuguese Water Resource Association



Eng. Alexandra Serra, Board Member

The Portuguese Water Resource

Association is a

non-profitable scientific and

technical

association

created 33 years ago

The Portuguese Water Resource Association is:

A Professional Association...



... with strong links in the Lusophone Space...

... and a Global vision on water issues.

Our mission is to ...

**Stimulate the
interdisciplinary and cross-
sectoral approaches
regarding water
management issues,
consolidating a forum for
professionals from different
academic backgrounds and
sectors acting in the water
resources domain.**



APRH is focused in ...

Knowledge Advances |

Collaboration | Discussion |

Debate | Multidisciplinary

Integration | Cooperation and

Stakeholders Participation |

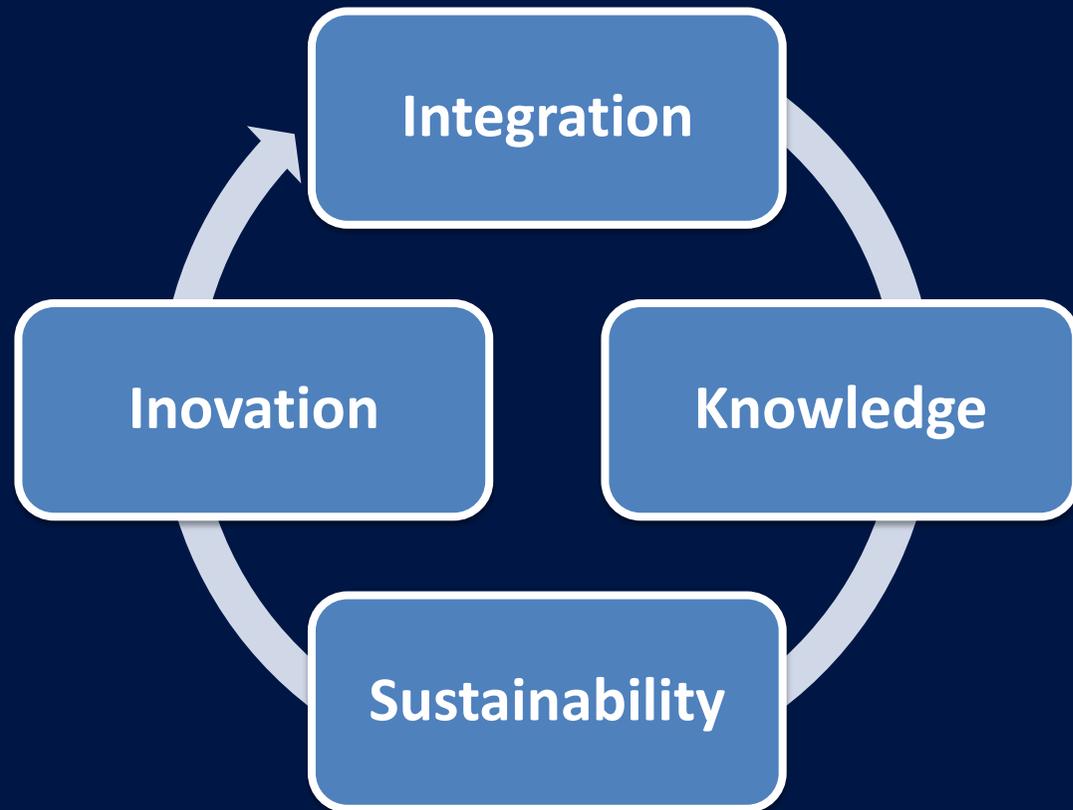
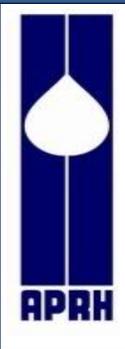
Water Resource Policies |

Scientific and Technologic

Developments | Professionals

International Partnerships |

Communication |





Acquawise



Eng. Rafaela Matos, PWP Board Member



Portuguese company specialized in **management, operation and safety** of drinking water supply and sanitation systems.

Since 2011, Acquawise has provided technical support to more than **60** public and private water utilities.

In total approximately **2 million people** have benefited with Acquawise's services!!



WATER & SANITATION
SAFETY PLANS



INFRASTRUCTURE
ASSET
MANAGEMENT



WATER LOSS
MANAGEMENT



AUDITS & TRAINING

There's a need for more integrated and sustainable management practices to ensure people's access to better health and environment
and Acquawise can help in this process



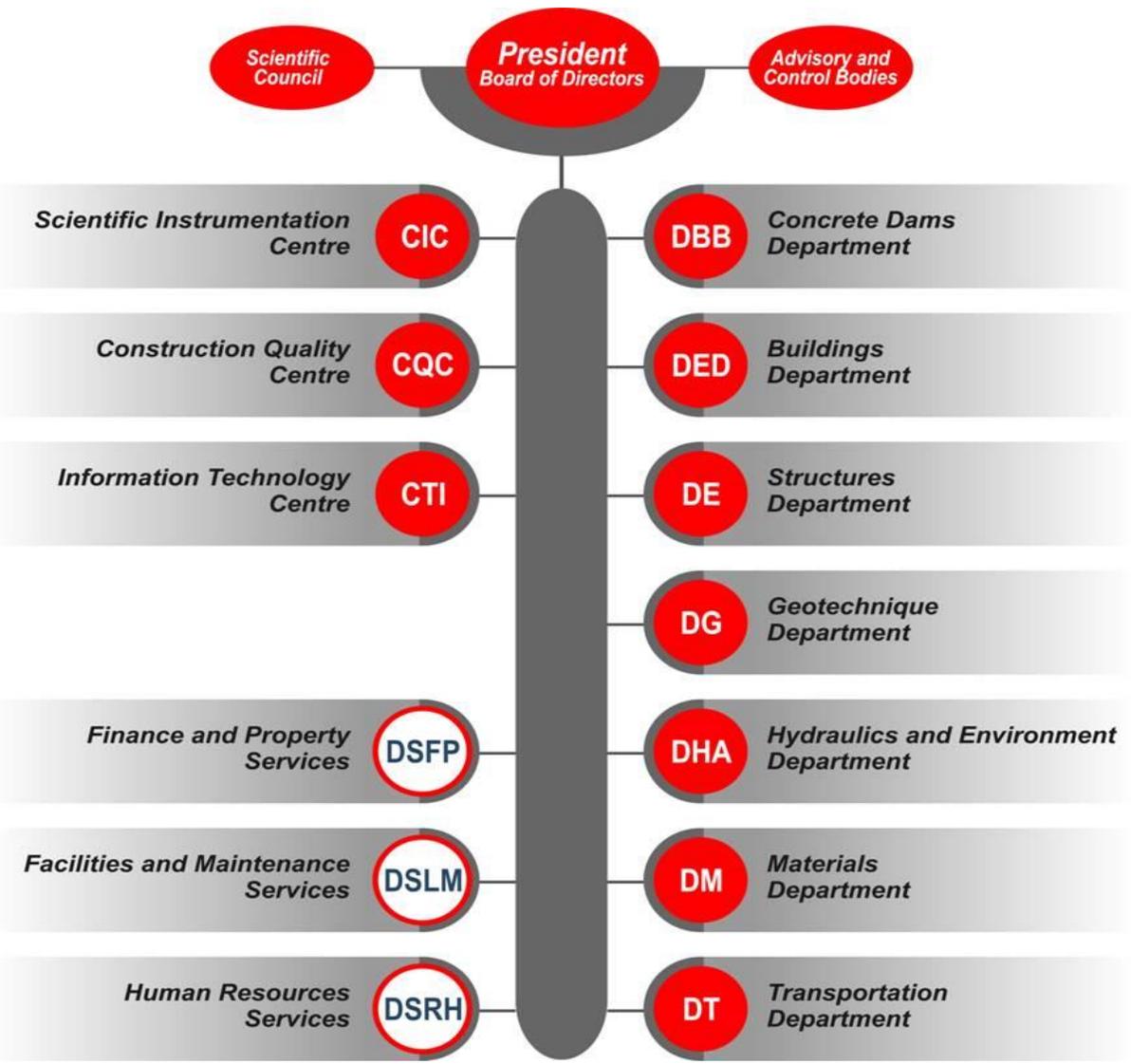
LNEC – National Laboratory of Civil Engineering



LABORATÓRIO NACIONAL
DE ENGENHARIA CIVIL

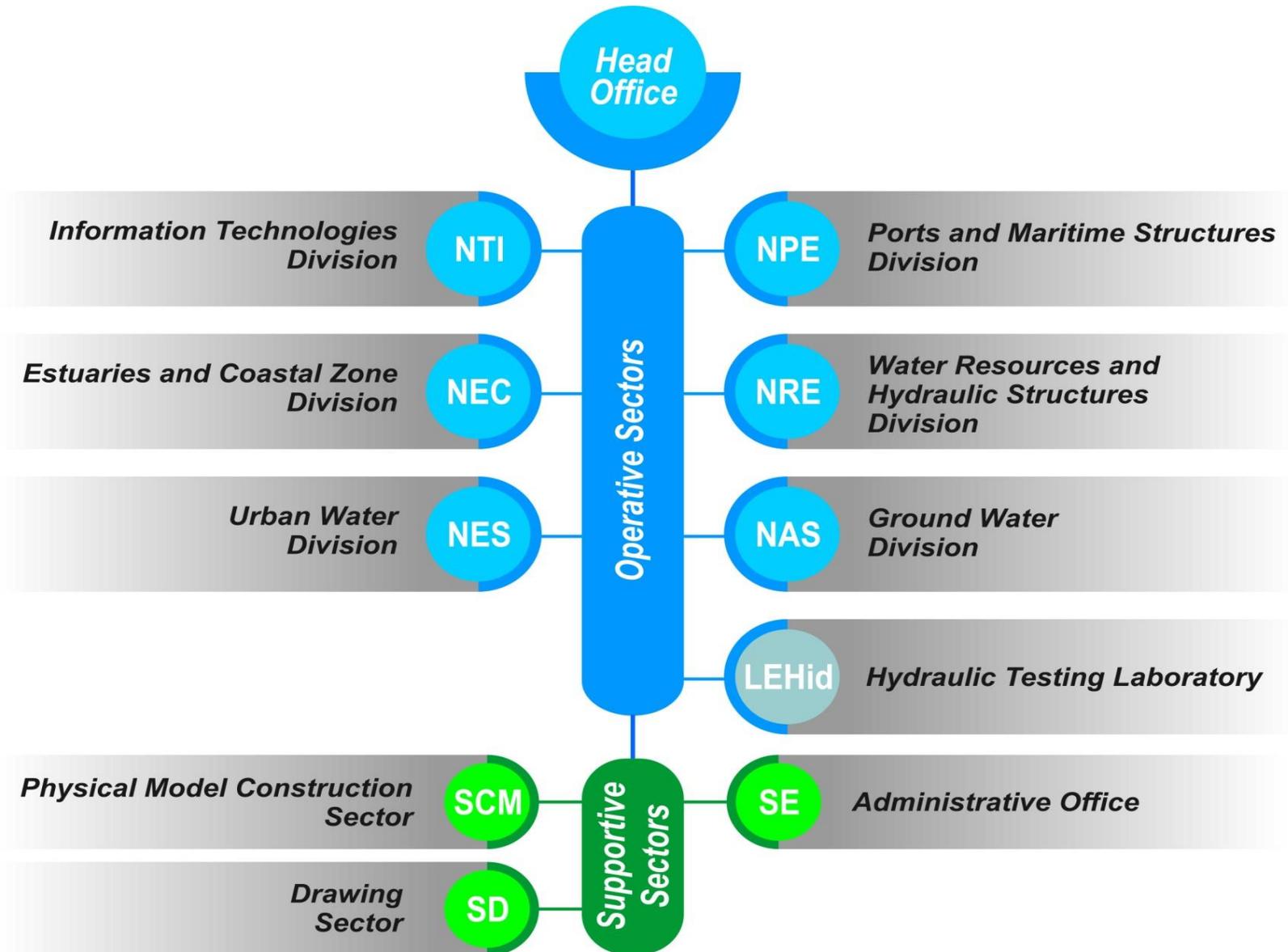
***Eng. Rafaela Matos, Head of Hydraulics
and Environment Department***

LNEC in a glance



The DHA at a glance...

Organizational Structure



DHA Relevant Areas of R+D+I

- **INTEGRATED WATER RESOURCES MANAGEMENT**
 - o Water Framework Directive implementation tools
 - o Extreme events, reservoirs management
 - o Artificial recharge of aquifers

- **PHYSICAL INFRASTRUCTURES (FLUVIAL & MARITIME)**
- **WATER AND ENERGY IN URBAN ENVIRONMENT**
 - o Safe drinking water quality
 - o infrastructure asset management
 - o Efficient use of water and energy

- **RISK MANAGEMENT AND SAFETY INCLUDING CLIMATE CHANGE ADAPTATION MEASURES**
 - o Hydraulic structures (fluvial and maritime)
 - o Urban infrastructures
 - o Coastal zones
 - o Water resources (surface and ground water)

- **EXPERT INFORMATION SYSTEMS APPLIED TO HYDRAULICS AND ENVIRONMENT**
 - o Real time Control
 - o Data mining
 - o DSS Tools

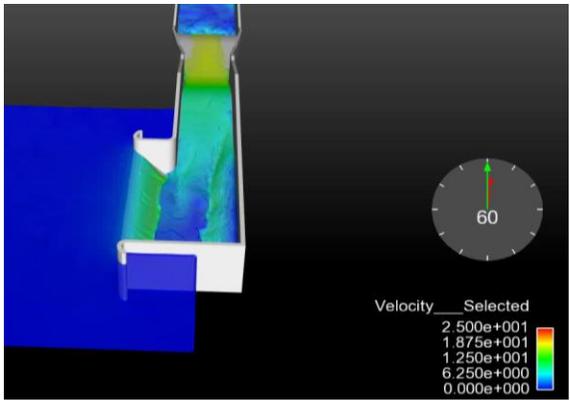
- **COASTAL MANAGEMENT**
 - o Morphodynamics of tidal inlets
 - o Water Quality Monitoring and modeling
 - o Coastal aquifer management

DHA – Physical Modelling

Hydraulic structures / dams

Dermoun (Algeria) (scale 1/70)
Design discharge - 1327 m³/s.

- ALGERIA: Chertioua
- Dermoun
- Charchar



Chertioua (Algeria)



Charchar (Algeria)

DHA – Physical Modelling - Harbour and coastal structures

DITOWEC - Physical model near the water chamber for different instants



Measuring ship movements in physical model scale



Damage progression analysis using a stereo-photogrammetric survey technique



Submerged reef stability: structural sinking and bed erosion





BINGO
a better future under
CLIMATE CHANGE

Bringing INnovation to onGOing Water Management

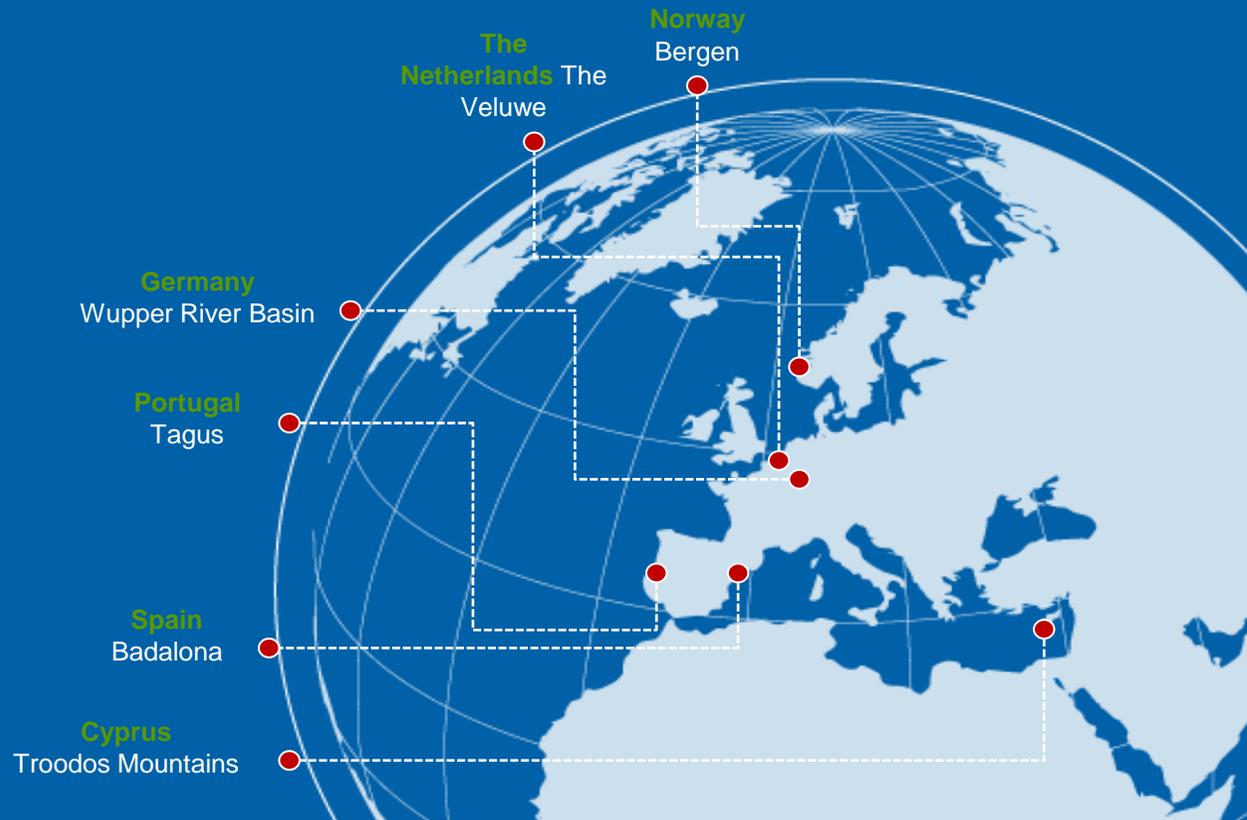
Funded by Horizon 2020

Coordinated by LNEC - Portugal

www.projectbingo.eu

BINGO aims at providing practical knowledge and tools to end users, water managers, decision and policy-makers, to better cope with all climate projections, including droughts and floods.

- WP1**  Coordination
- WP2** Climate predictions and downscaling
- WP3**  Analysis of the water cycle
- WP4** Impacts of extreme weather events
- WP5** Risk treatment and adaptation strategies
- WP6** Excellence and Actionable Research
- WP7**  Dissemination, communication and exploitation



The BINGO project has received funding from the European Union's Horizon 2020 Research and Innovation programme, under the Grant Agreement number 641739.



The background features a stylized graphic of overlapping waves in various shades of blue (dark, medium, and light) and white. The waves are layered, creating a sense of depth and movement. The top portion of the image is dominated by a large, dark blue wave that curves across the frame. Below it, several other waves in lighter shades of blue and white are visible, some appearing to be behind or in front of the others.

Portuguese Water Partnership

Thank you !