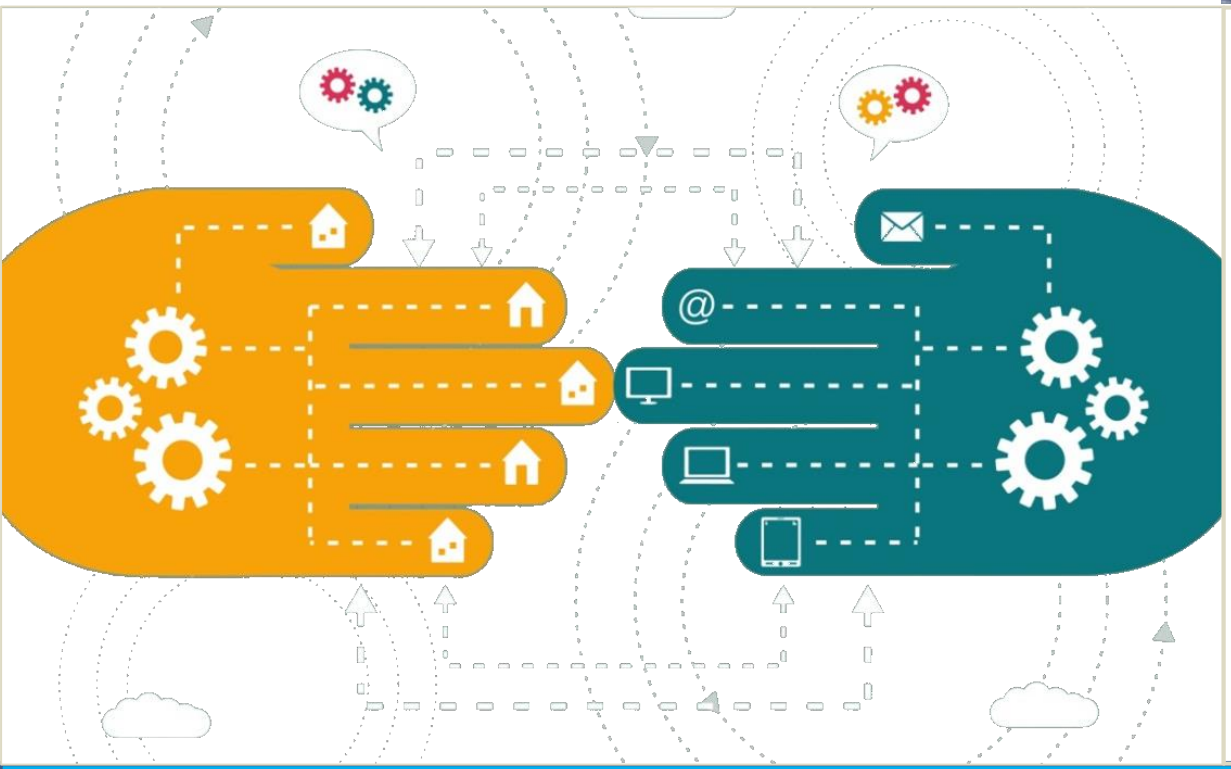
Portuguese Water Partnership

World Water Congress

International Water Association

21 – 26 September 2014

Lisboon



SHARING PERSPECTIVES AND EXPERIENCES ON WATER CHALLENGES

BILATERAL WORKING SESSION
ISRAEL-PORTUGAL 22September 2014

Francisco Nunes Correia
President of PWP

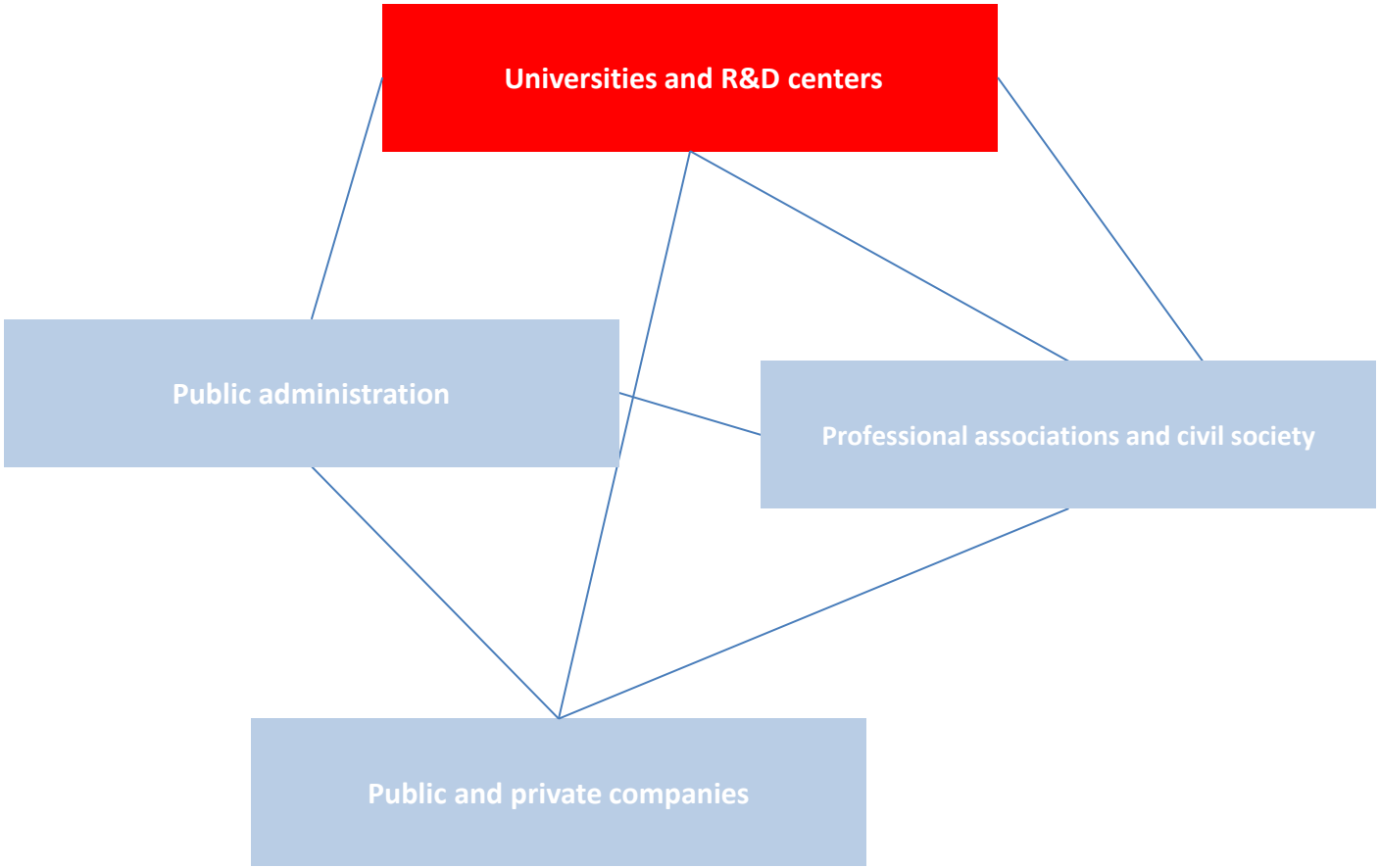
Portuguese Water Partnership

The Portuguese Water Partnership

A Portuguese contribution for a global and sustainable water development

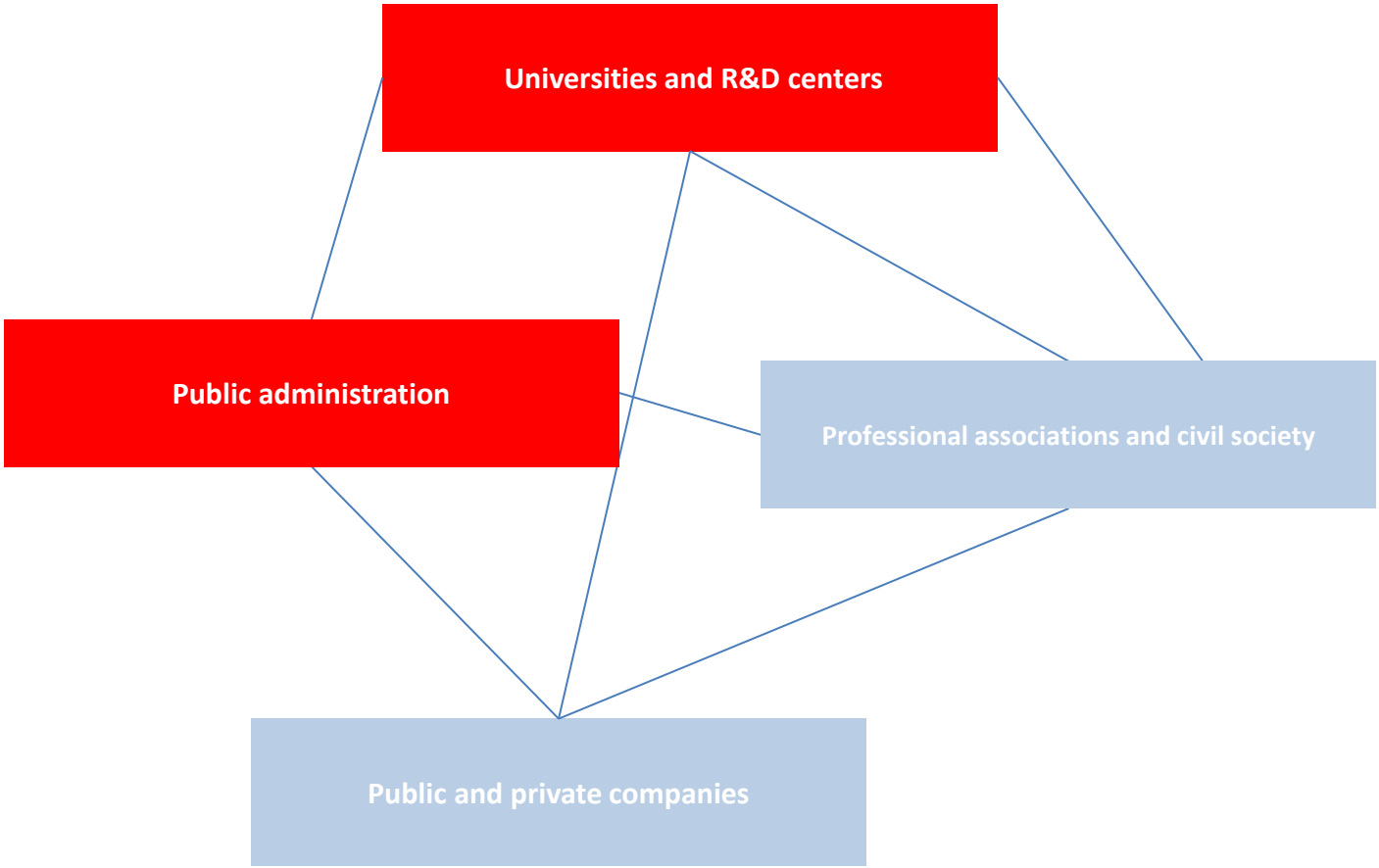
Portuguese Water Partnership

The Partners



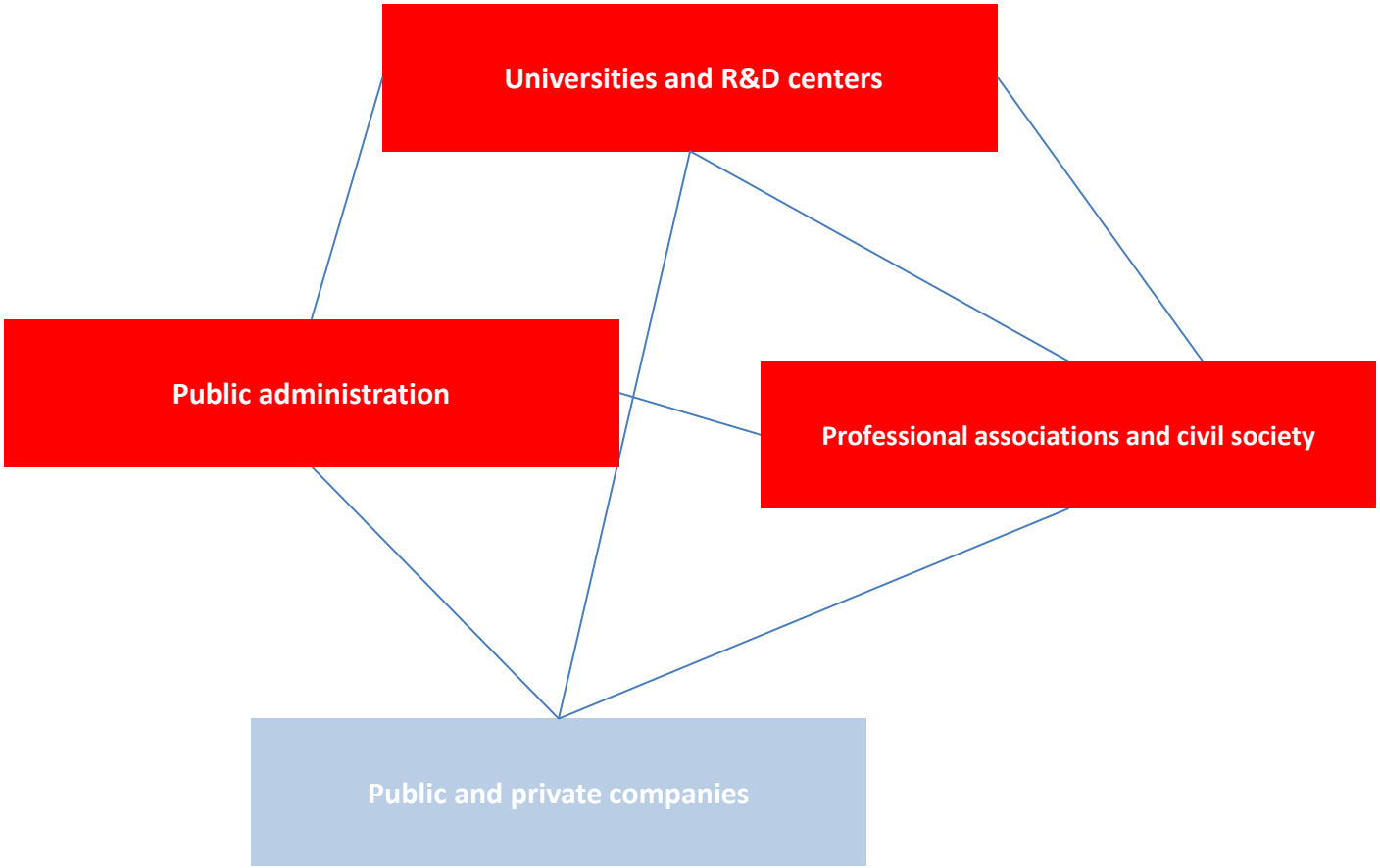
Portuguese Water Partnership

The Partners



Portuguese Water Partnership

The Partners



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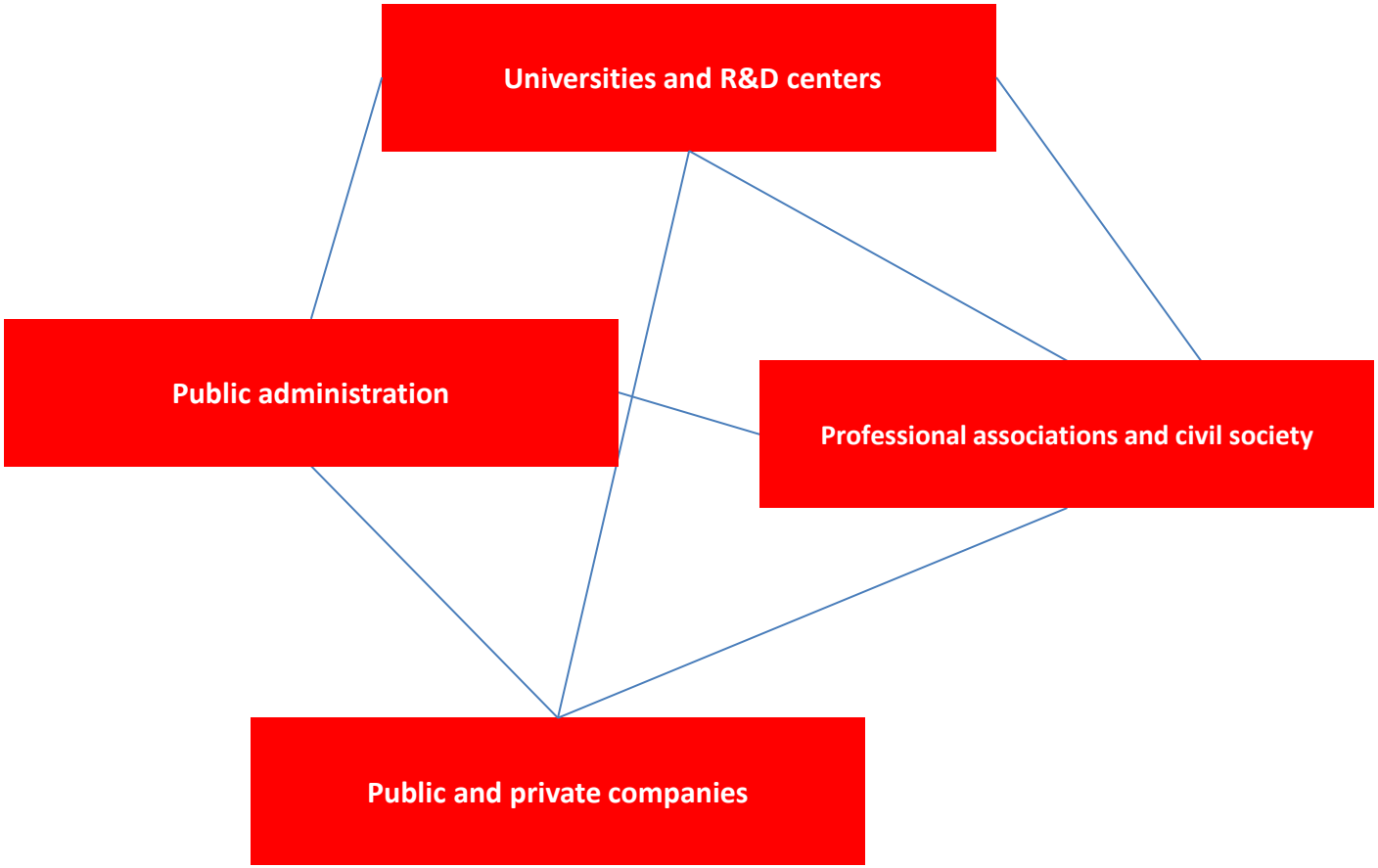
The Partners



Portuguese Water Partnership

PLANNING AND MANAGEMENT OF WATER RESOURCES	WATER SERVICES	HYDRAULIC DEVELOPMENTS	COASTAL MANAGEMENT	GOVERNANCE

Portuguese Water Partnership

Portugal has been for centuries a country open to the world

This attitude gives us a great motivation and openness for dealing with all nations and continents, regardless of their cultures and beliefs

Portuguese Water Partnership

This is *what* is needed nowadays when addressing water issues:




A clear understanding that we face basically the same problems with approaches differently shaped throughout history

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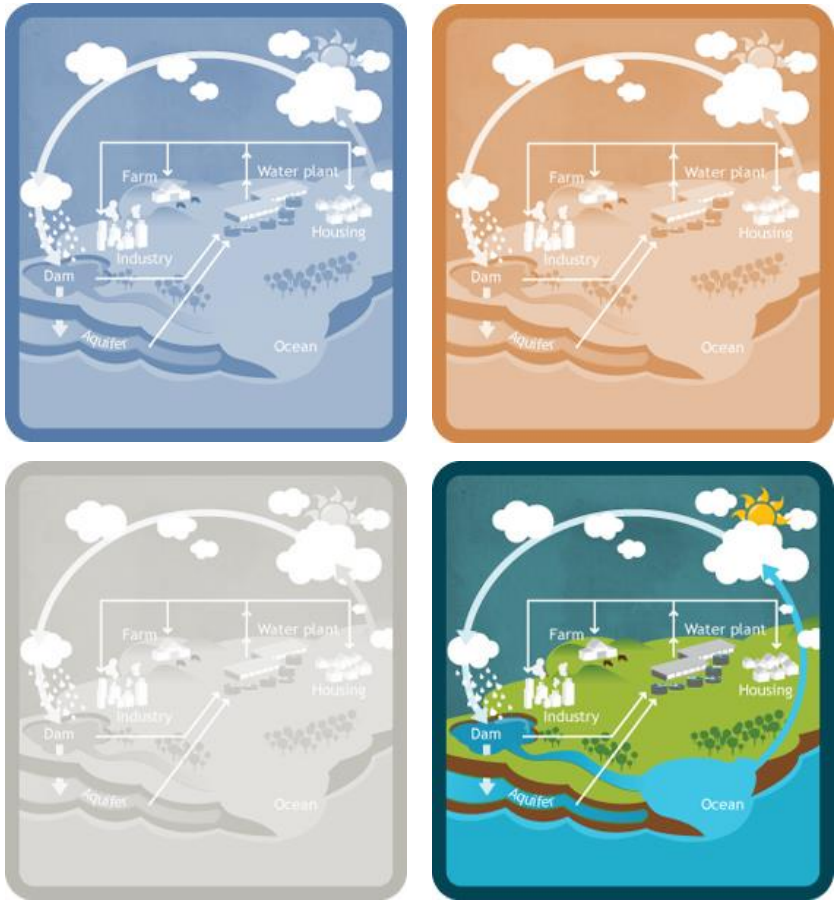
… but those different approaches aim at the same result:



sustainable provision of

water for all uses,

at an affordable price,

managed by a fair system

of governance !

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Evolution of the water sector in 1993-2013 and current targets

Percentage of households with access to public water supply systems

Households with access to public systems for waste water disposal with adequate treatment

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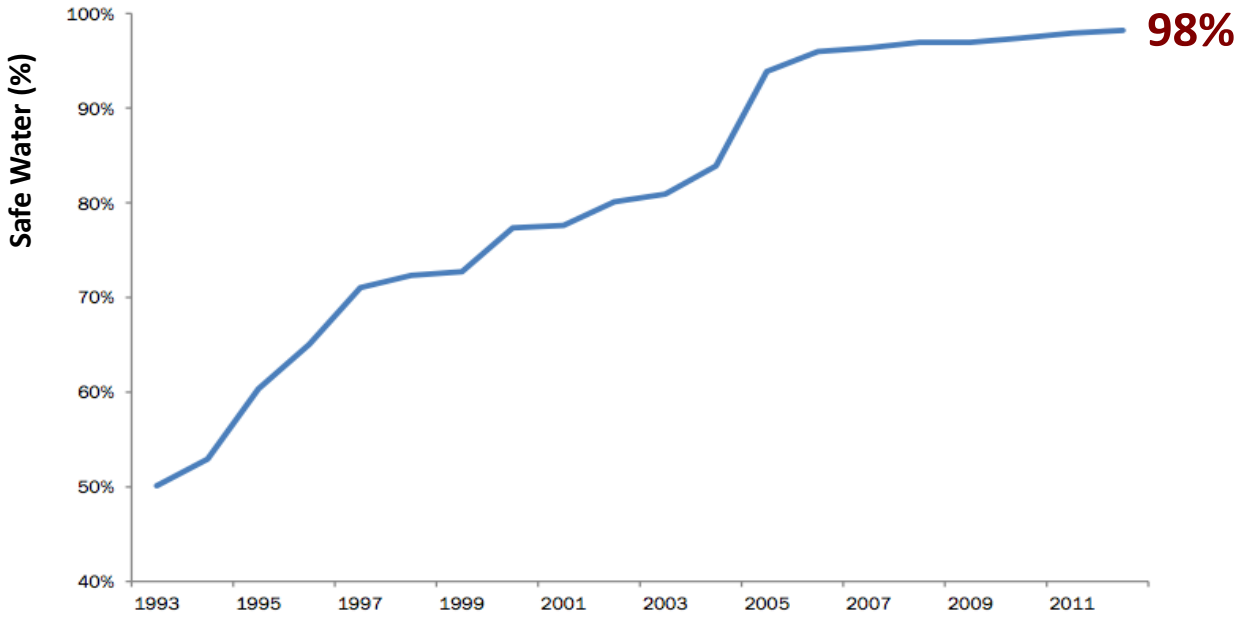
Quality controlled water supply in accordance with national and EU standards



A boom in attendance and quality of service!!!

"The Portuguese miracle..."

Paul Reiter, Former Executive Director of IWA

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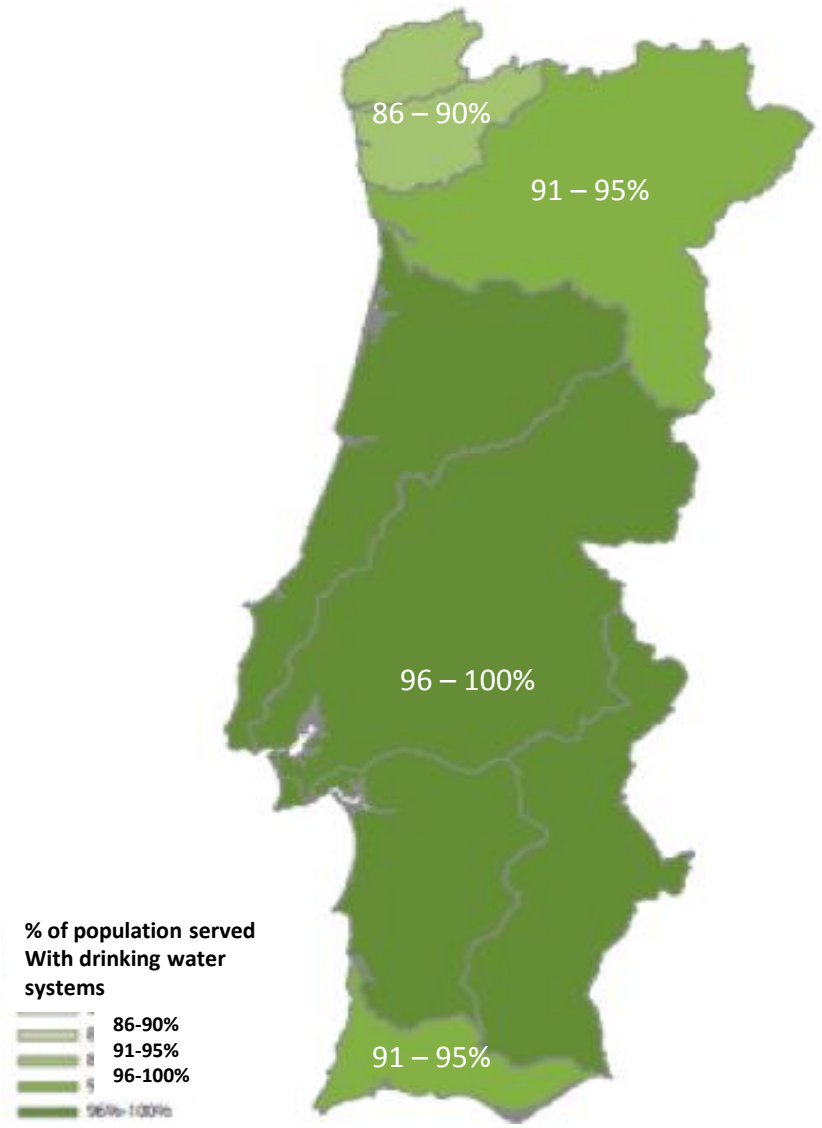
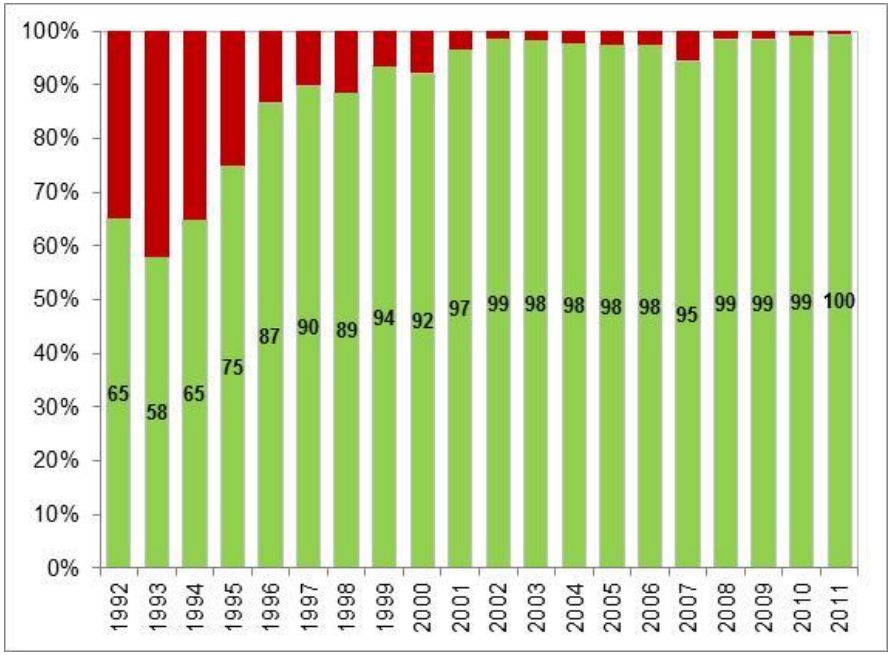
In the last 20 years, Portuguese Water Sector has acquired and developed significant expertise in:



Bathing water quality



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These achievement's were implemented by a solid and mature cluster of private and public institutions **dedicated to water**

Portuguese Water Partnership

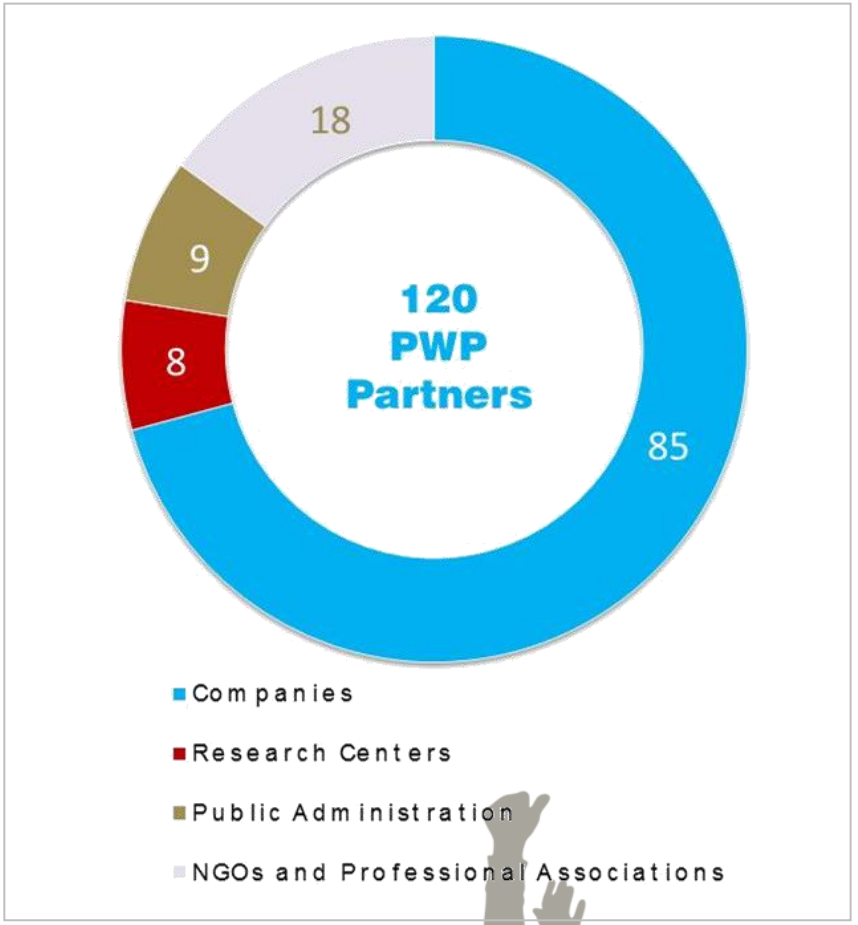
Associated in a

Portuguese Water Partnership

synergies can be

developed and the

potential maximized



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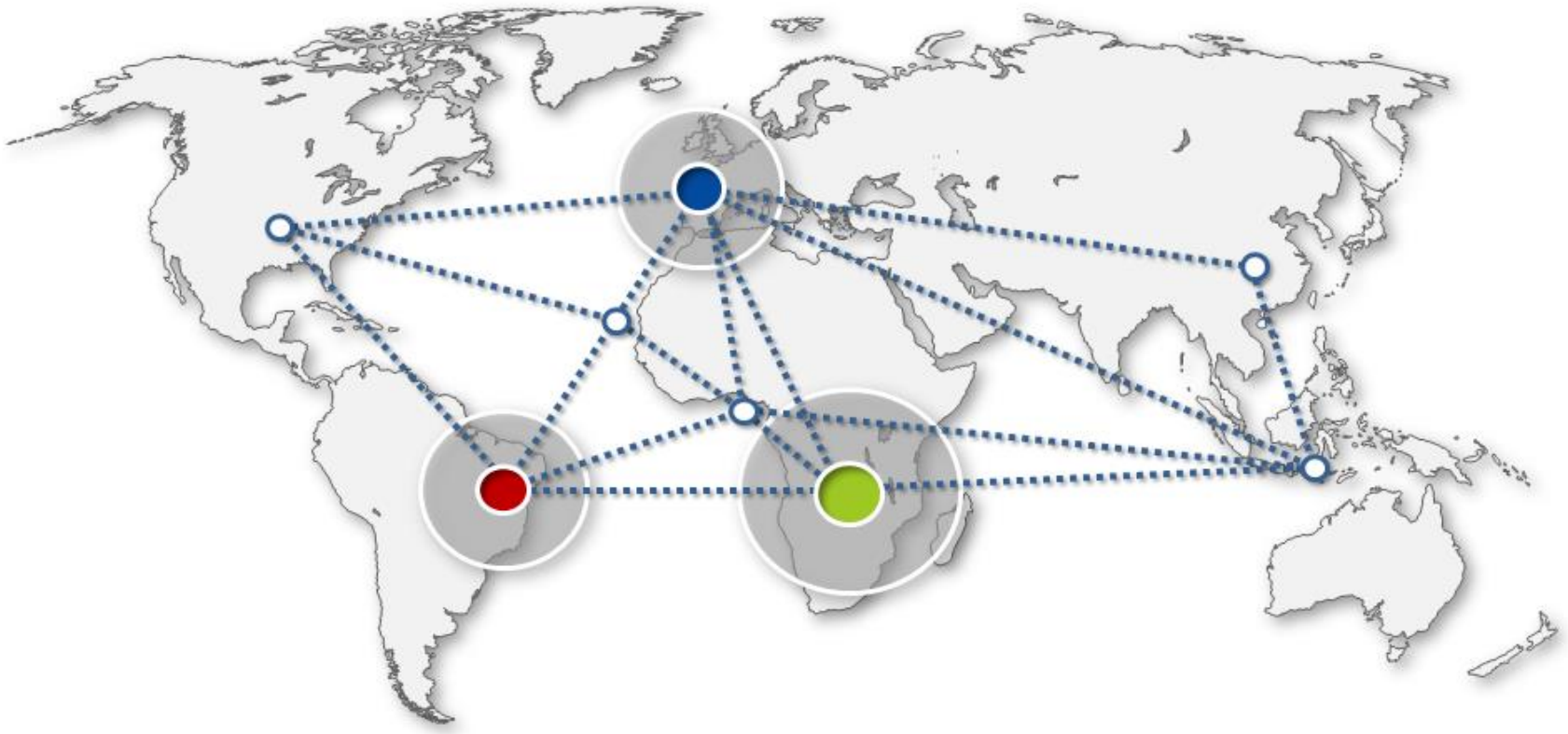
Several of those institutions have business or developed close links abroad



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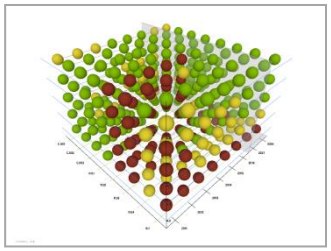
Some Examples

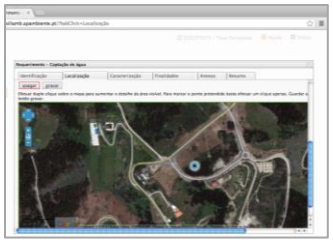
Solutions MADE IN PORTUGAL

SOLVING WATER CHALLENGES THROUGH INNOVATIVE PARTNERSHIPS



WATER INFRASTRUCTURES SUSTAINABILITY

Strategic asset management



IMPROVING SERVICES THROUGH INNOVATIVE INFORMATION SYSTEMS

National Licensing System for Water Uses

RESOURCES EFFICIENCY

Anaerobic Digestion: Making money out of it.

RISK MANAGEMENT IN A CHANGING ENVIRONMENT

Dam Safety

Portuguese Water Partnership

WATER INFRASTRUCTURES SUSTAINABILITY
Infrastructure asset management of urban water services

AWARE P | **From a collaborative approach to a pro-active partnership to overcome a national challenge**

Research Centers | SME | Water Utilies

DRIVERS

Drinking Water Treatment Pla	229	un	Wastewater treatment plants	2438	un
Pumping Stations	2372	un	Pumping stations	4350	un
Reservoirs	8391	un	Drainage systems	50400	km
Water pipes	99674	km	Outfalls	26	km

- Capital-intensive sector needs solid approaches to asset management
- Lack of instruments to support investment decision- making
- Scarce financial resources increase the pressure for virtuous investments
- A successful track record of R&D and Water Operators working together in innovative projects for the industry

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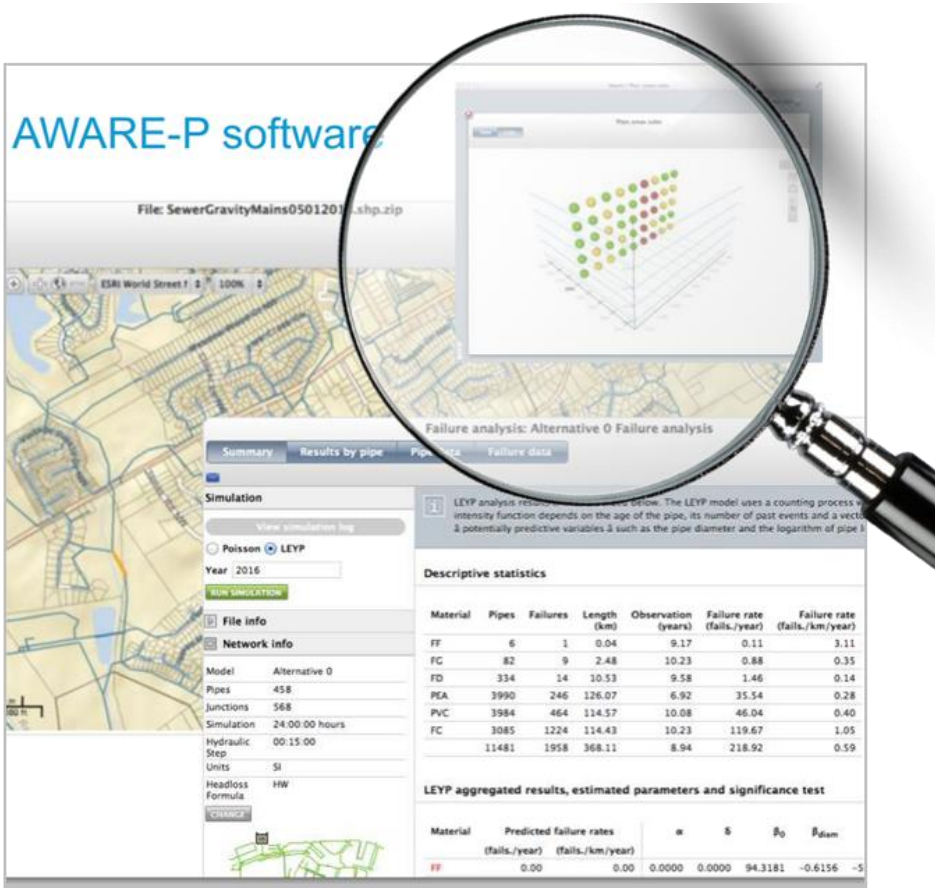
WATER INFRASTRUCTURES SUSTAINABILITY
Infrastructure asset management of urban water services

AWARE P | **From a collaborative approach to a pro-active partnership to overcome a national challenge**

Research Centers | SME | Water Utilies

SOLUTION

- Built upon a seed R&D project led by LNEC
- Creation of a mixed consortium (R&D, Water Utilities, Technology Partners) to develop a scalable methodology for strategic asset management plans
- Software to support the implementation stage and the decision-making processes
- Incremental and diversified financing sources



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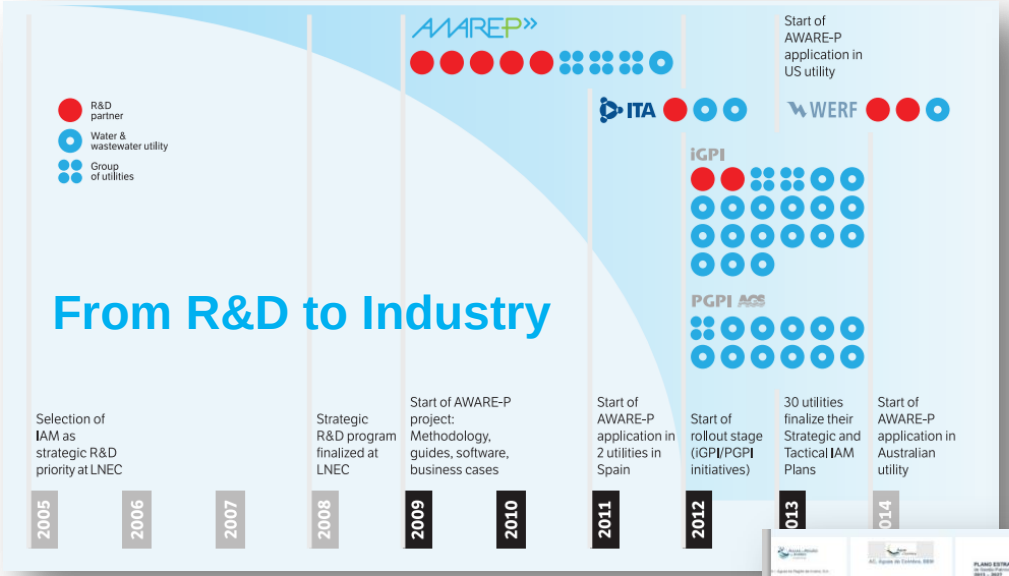
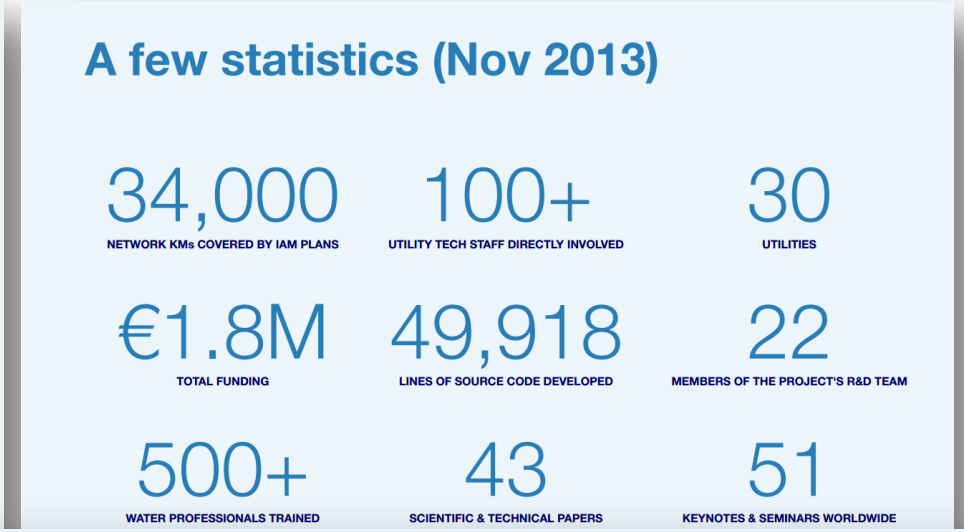
WATER INFRASTRUCTURES SUSTAINABILITY
Infrastructure asset management of urban water services

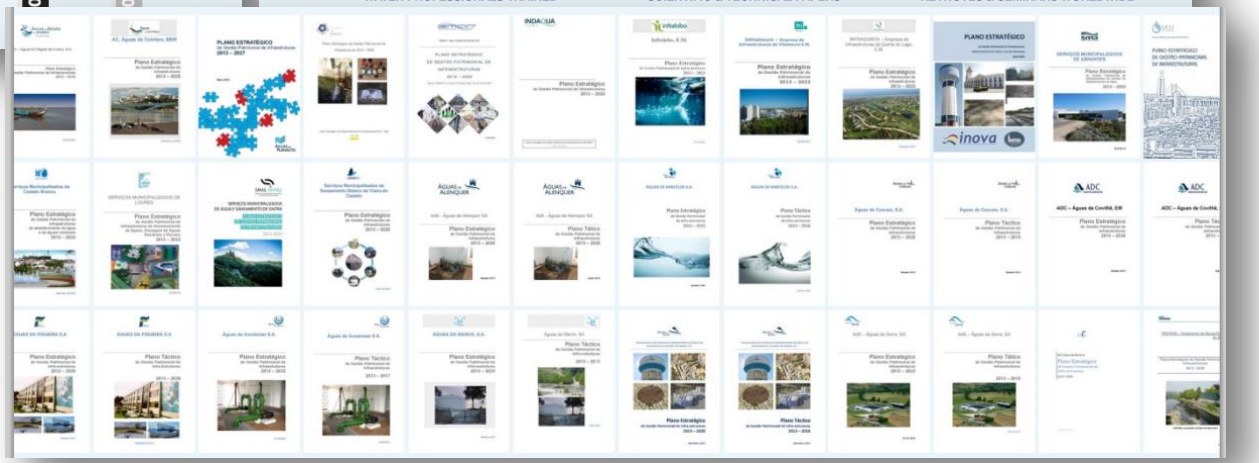
AWARE P | From a collaborative approach to a pro-active partnership to overcome a national challenge

Research Centers | SME | Water Utilies

RESULTS







- 30 Strategic + Tactical IAM Plans
- Over 1000 software users worldwide
- An award-winning methodology

IWA the international water association Project Innovation Awards
Winner 2014 Planning

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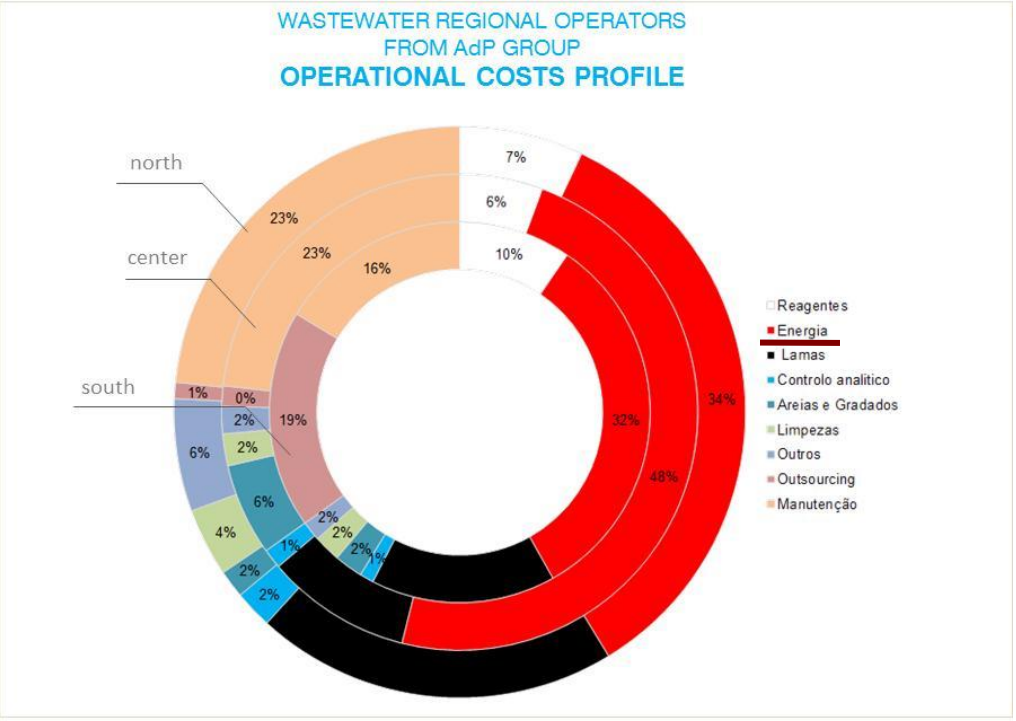
Anaerobic Digestion: Making money out of it.

Water utilities are pressured to decrease OPEX

Energy is one of the most important components of OPEX



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RESOURCE EFFICIENCY

Anaerobic Digestion: Making money out of it.

The partners

Services Provider and Regional Water Utilities

The objective

Maximize the electrical energy production through the sludge's digestion process for internal use or selling.

The approach

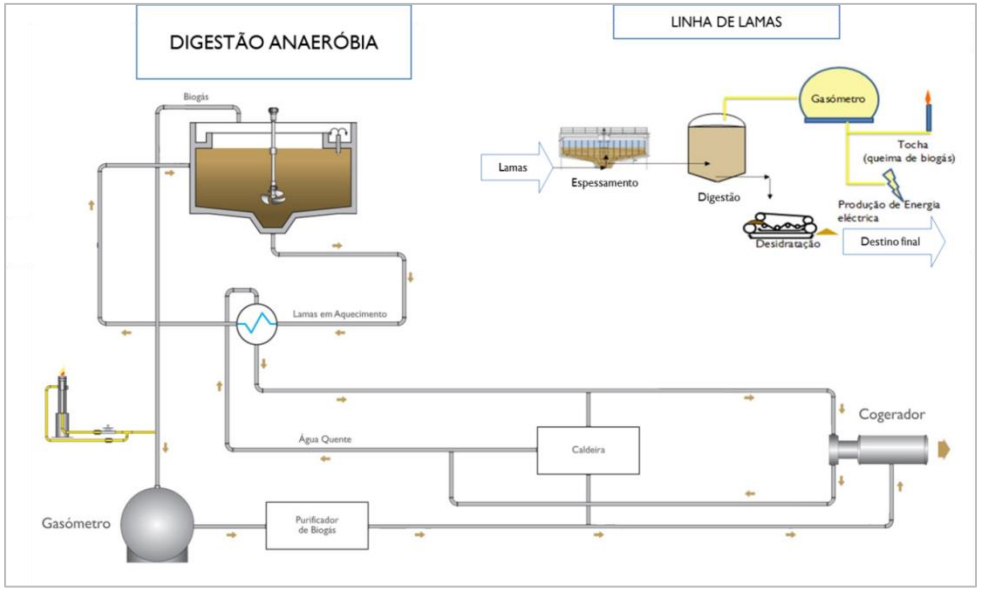
Performance analysis and optimization of the sludges digesters operation to maximize energy production.

Who wins?

Consultants, Water Utilities and Consumers

Business Model

Operators transfers the benefits achieved in the first year after optimization to the services provider



		TODAY	POTENTIAL WITH PRESENT LOAD	POTENTIAL AT MAXIMUM LOAD
Digested sludges	ton MS/ano	32.100	28.000	102.000
Biogás production	Nm^3/d	54.800	58.100	136.400
Electric energy production	GWh/ano	36	46	109

1.000.000 Euros

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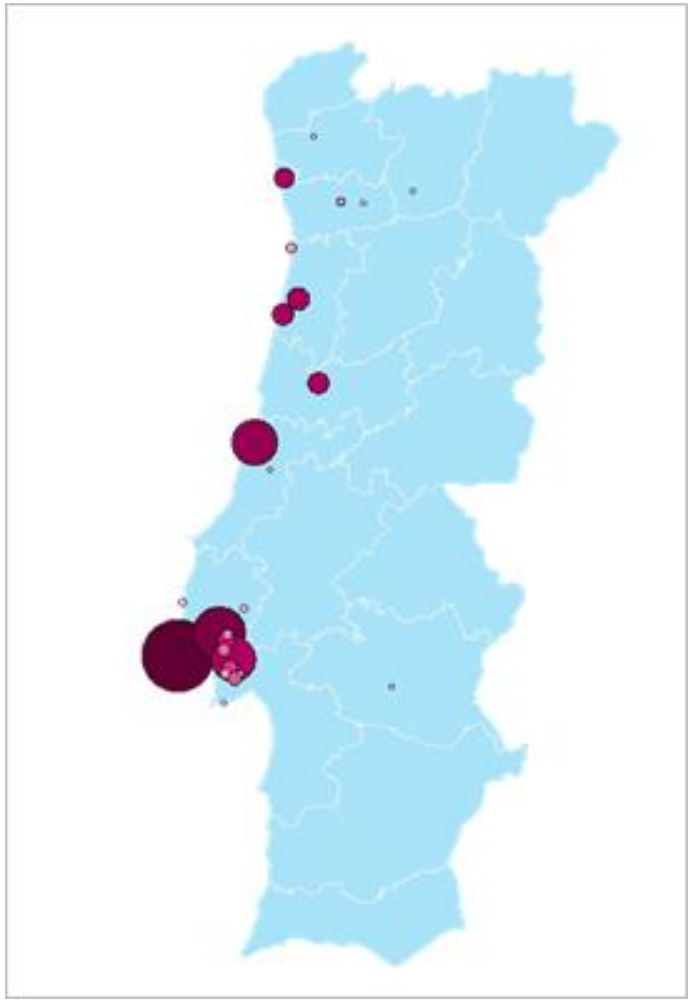
RESOURCE EFFICIENCY

Anaerobic Digestion: Making money out of it.

30 WWTP
160 000 m3 Digester's Capacity



OPERATOR	WWTP	Nº digestores	V total (m^3)	Nº cogeradores	P total (kW)	Energy use regime
SANEST	ETAR Guia (OUT-MAI)	3	21.504	3	2910	Autoconsumo
SIMTEJO	ETAR S. João da Talha	2	3.750	2	304	Autoconsumo
	ETAR Frielas	4	16.000	2	450	Autoconsumo
	ETAR Chelas	2	3.600	2	284	Autoconsumo
	ETAR VF Xira	1	1.800	1	174	Venda minigeração
	ETAR Beirolas	2	4.940	2	322	Autoconsumo
SIMARSUL	ETAR Seixal	2	3.926	1	348	Autoconsumo
	ETAR Qta do Conde	2	3.980	2	402	Autoconsumo
	ETAR Sesimbra	2	1.200	2	120	Autoconsumo
	ETAR Barreiro-Moita	2	6.664	1	609	Venda regime especial
AdCA	ETAR Évora	1	1.602	1	180	Autoconsumo
SIMRIA	ETAR Norte	2	12.864	2	720	Venda minigeração
	ETAR Sul	2	6.000	1	725	Venda minigeração
	ETAR Espinho	2	5.170	2	800	Venda regime especial
SIMDOURO	ETAR Gaia Litoral	2	8.000	1	475	Autoconsumo
AdNW	ETAR Ave	2	5.944	2	796	Venda regime especial
	ETAR Sousa	1	2.145	1	250	Autoconsumo
SIMLIS	ETAR Norte	3	13.500	3	1035	Venda regime especial
	ETAR Olhalvas	1	1.100	2	150	Autoconsumo
AdMo	ETAR Choupal	2	6.848	1	30	

Energy production Potential 110 GWh/year

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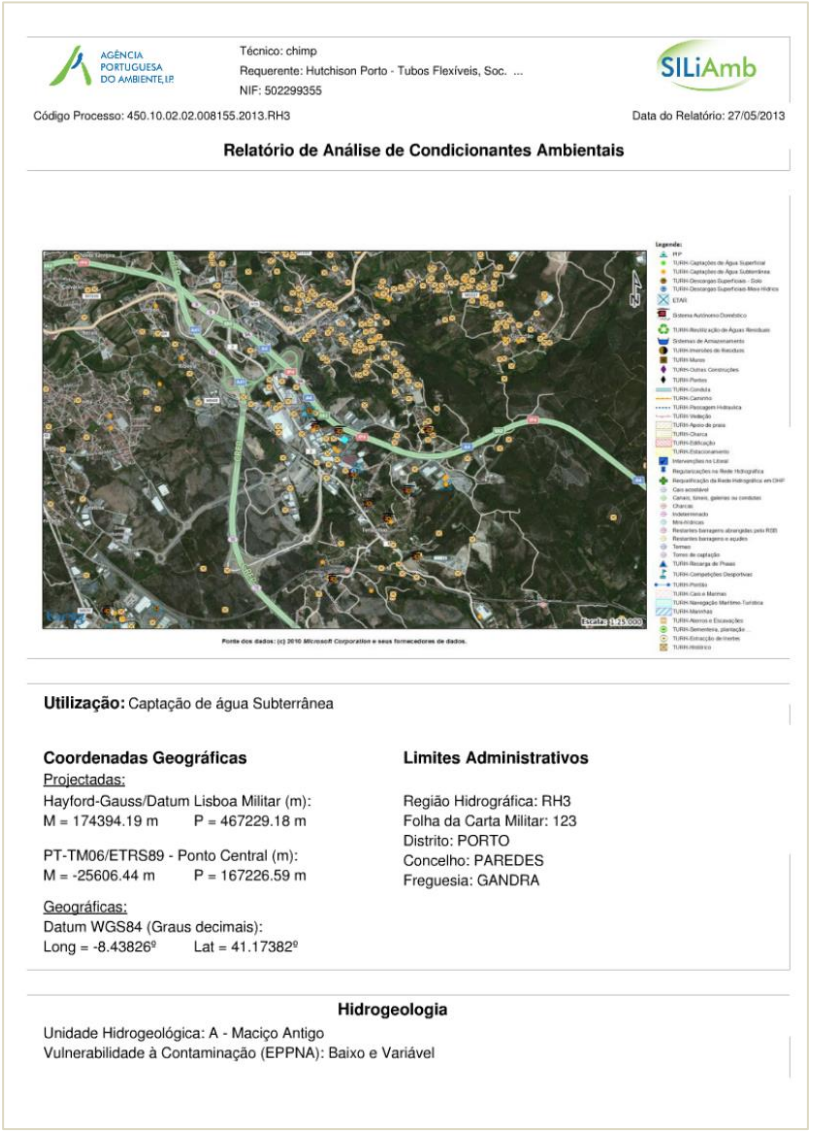
IMPROVING SERVICES THROUGHT
Innovative information systems for national licensing

SILIAMB | **National Licensing System for Water Uses**

- More than **250 000 registered users**.
- More than **50 000 licensing processes** in 3 years.
- **Water users** requests completely managed in the electronic platform that engages GIS with electronic workflow transactional forms.
- **Public administration** in different river basins use the same decision matrix of the platform regarding the licensing of water uses.

A recent European benchmarking study refers it as a unique state-of-the-art platform developed by central administration



AGÊNCIA PORTUGUESA DO AMBIENTE, I.P.

Técnico: chimp
Requerente: Hutchison Porto - Tubos Flexíveis, Soc. ...
NIF: 502299355

SILiAmb

Código Processo: 450.10.02.02.008155.2013.RH3

Data do Relatório: 27/05/2013

Relatório de Análise de Condicionantes Ambientais

Utilização: Captação de água Subterrânea

Coordenadas Geográficas

Projectadas:
Hayford-Gauss/Datum Lisboa Militar (m):
M = 174394.19 m P = 467229.18 m

PT-TM06/ETRS89 - Ponto Central (m):
M = -25606.44 m P = 167226.59 m

Geográficas:
Datum WGS84 (Graus decimais):
Long = -8.43826º Lat = 41.17382º

Limites Administrativos

Região Hidrográfica: RH3
Folha da Carta Militar: 123
Distrito: PORTO
Concelho: PAREDES
Freguesia: GANDRA

Hidrogeologia

Unidade Hidrogeológica: A - Maciço Antigo
Vulnerabilidade à Contaminação (EPPNA): Baixo e Variável

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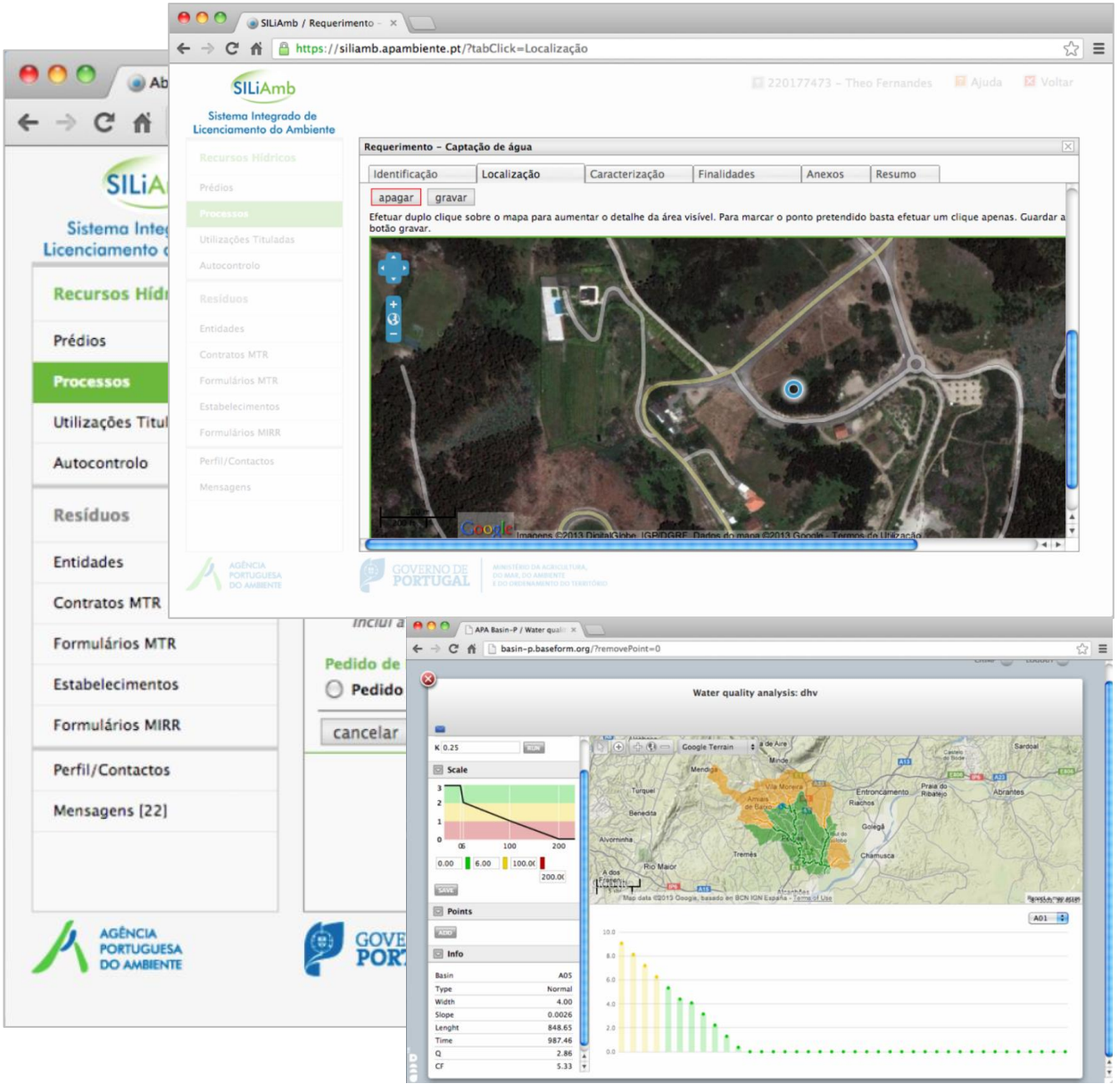
IMPROVING SERVICES THROUGHT

Innovative information systems for national licensing

- SILIAMB is out reaching almost every environmental stakeholder, either through water licensing, waste management or air emissions.
- Duration of the licensing analysis has decreased more than 70%.
- Relation between clients and public administration has become less problematic due to objectiveness and clearness of analysis.



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RISK MANAGEMENT IN A CHANGING ENVIRONMENT

Dam Safety

A nation-wide approach implemented by a highly experienced Portuguese Team (R&D and engineering consultant)

The Drivers

In mid-2011, Central administration in Brazil was newly entrusted with the mandate of regulating authority for dam safety (13 500 dams)

The objectives:

- Reinforce the dam safety regulatory framework (**review norms, standards, regulations, guidelines and manuals)**
- Assist in the **monitoring inspections** and evaluation of dam safety activities, reporting, and communication of findings to the authorities and to the public
- Suport in the design of the **National Dam Safety Information System**

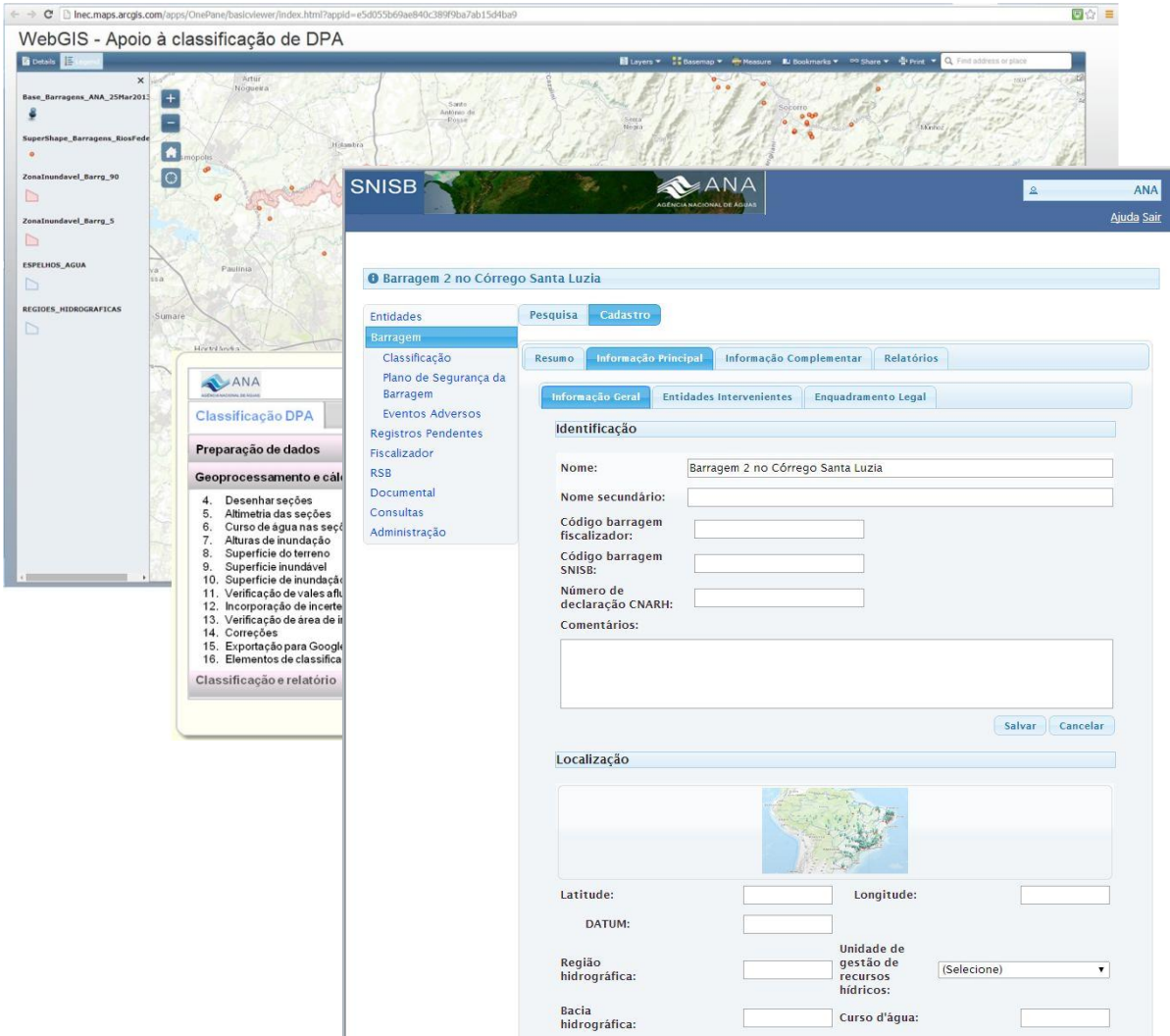
Portuguese Water Partnership

RISK MANAGEMENT IN A CHANGING ENVIRONMENT
Dam Safety

A nation-wide approach implemented by a Portuguese consortium
(R&D and engineering consultant)

The Impacts:

- Strengthening of the **dam safety** of 13,529 dams of Brazil (131 being regulated by ANA)
- Interesting **case study** for countries having important number of dams
- **Capacity building** of agencies involved in dam safety management
- **Potential of replication in the Mediterranean countries** paying attention to institutional complexities and specific contexts



Portuguese Water Partnership

Large enterprises and SMEs with international experience and solid expertise backed by top research centers and modern public institutions

Open to international partnerships

The Portuguese Water Cluster has excellent conditions for innovative win-win partnerships

Portuguese Water Partnership

Whatever we possess becomes of double value when we have the opportunity of sharing it with others !

JEAN-NICOLAS BOUILLY (1763-1842)

Portuguese Water Partnership
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Rua Tomás da Fonseca, Torre G, 8º piso
1600-209 Lisboa
Portugal

www.ppa.pt

Telephone: (+351) 210052200 | E-mail: geral@ppa.ersar.pt

International Water Association

World Water Congress

IWA World Water Congress & Exhibition will take place in Lisbon in 2014

We count on your presence!

O Congresso Mundial da Água da IWA vai realizar-se em Lisboa em 2014

Contamos com a sua presença!