

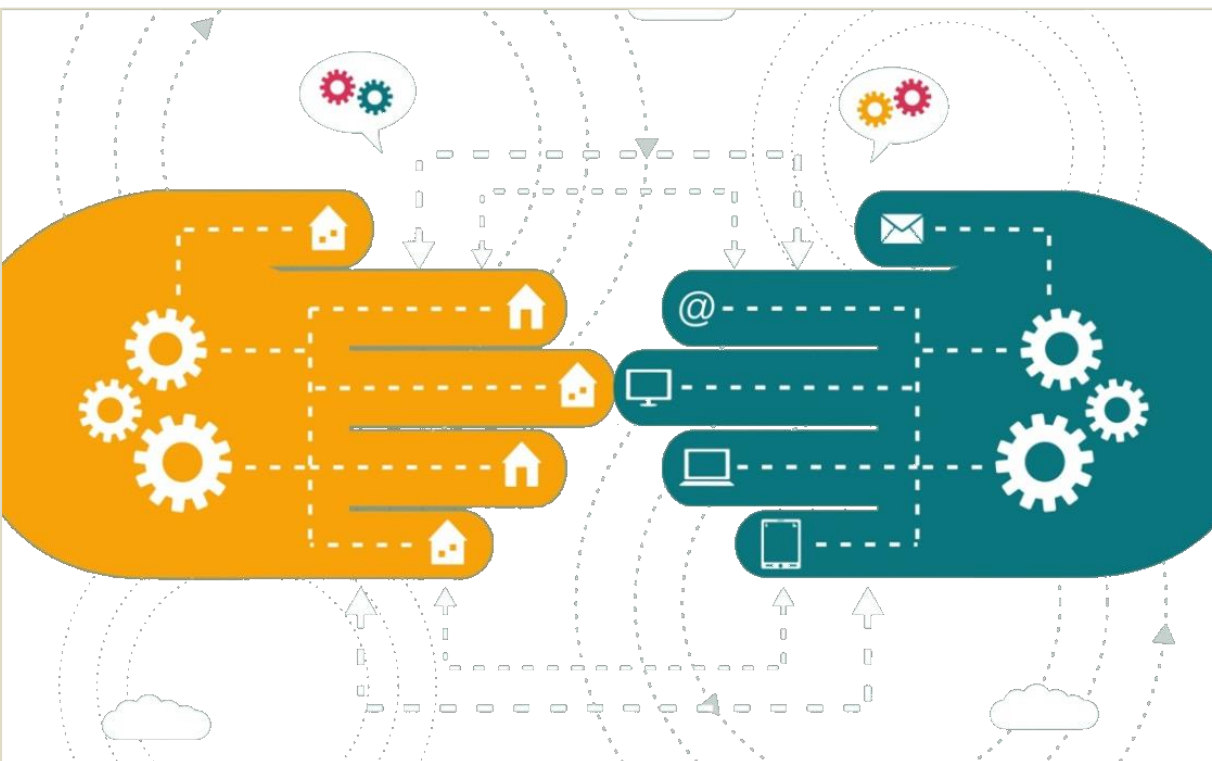


Portuguese Water
Partnership



WESTERN
MEDITERRANEAN
COOPERATION

2nd ECONOMIC BUSINESS FORUM (5+5 Dialogue)



WATER SOLUTIONS MADE IN PORTUGAL

SOLVING WATER

CHALLENGES THROUGH

INNOVATIVE

PARTNERSHIPS

Alexandra Serra, PWP board member

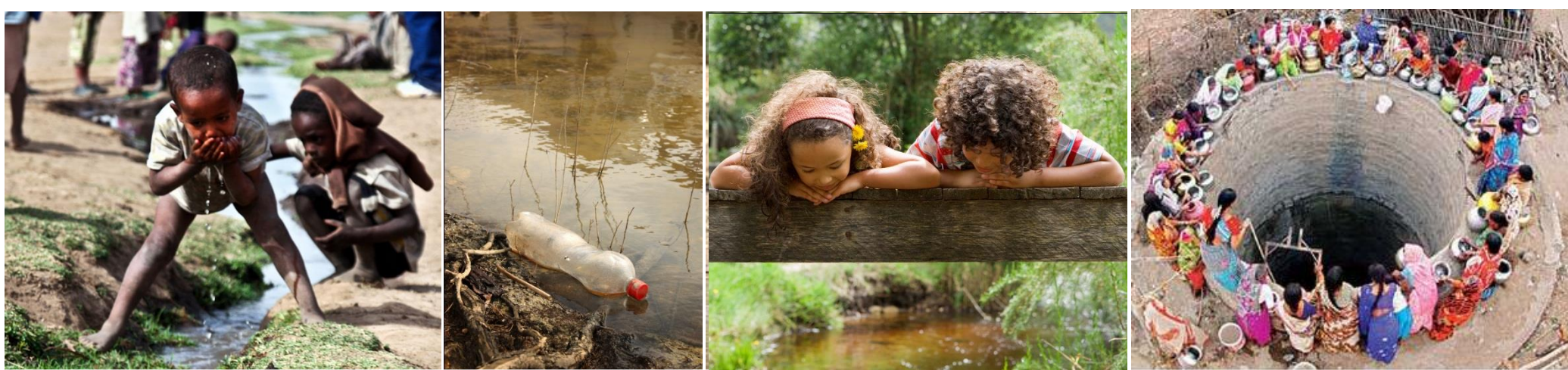
21st may 2014

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**



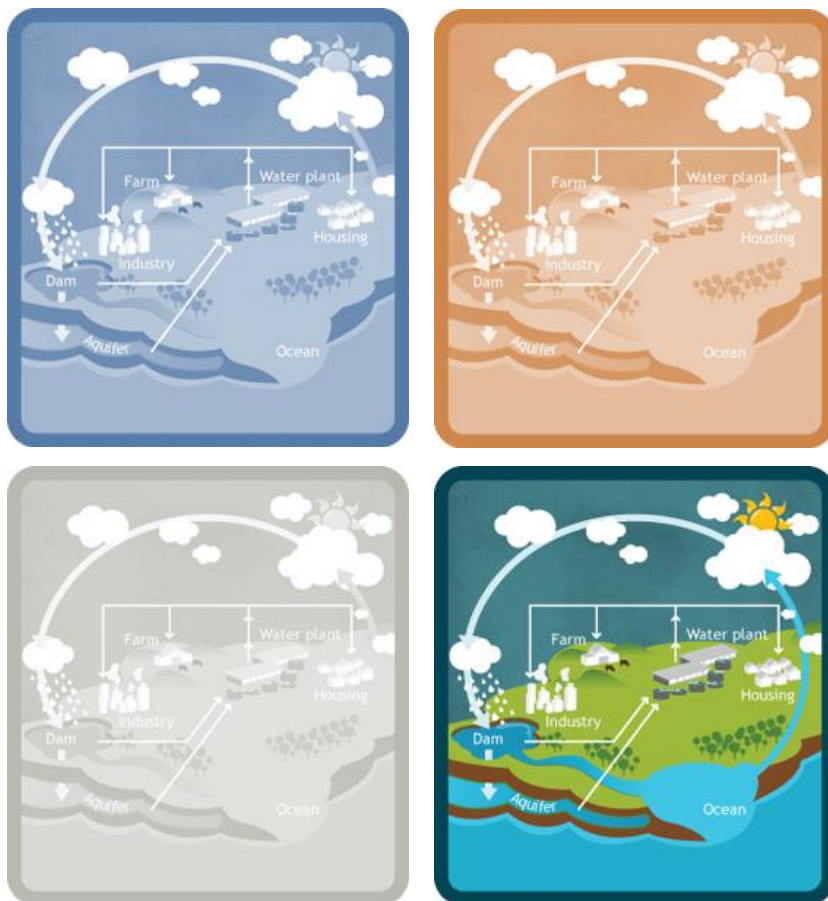
What is needed nowadays when addressing water issues:



**The same problems with approaches differently shaped
throughout history**



But those different approaches aim at the same result:



**sustainable provision of
water for all uses,
at an affordable price,
managed by a proficient
governance system.**

The Portuguese Water Partnership



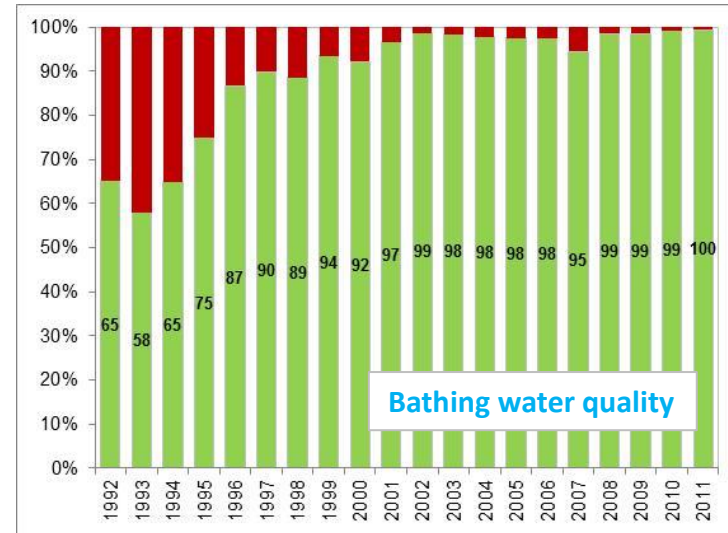
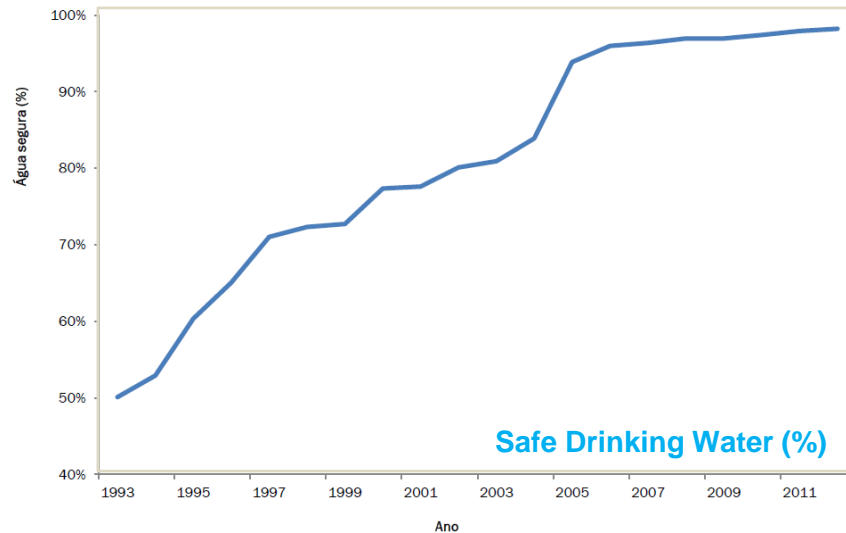
A Portuguese contribution for a global and sustainable
water development



Portuguese Water
Partnership

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

Water Resources | Water Services | Large Hydraulic Schemes | Coastal Management | Governance and Water Institutions



Surface water intakes	299 un		
Groundwater intakes	5735 un		
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

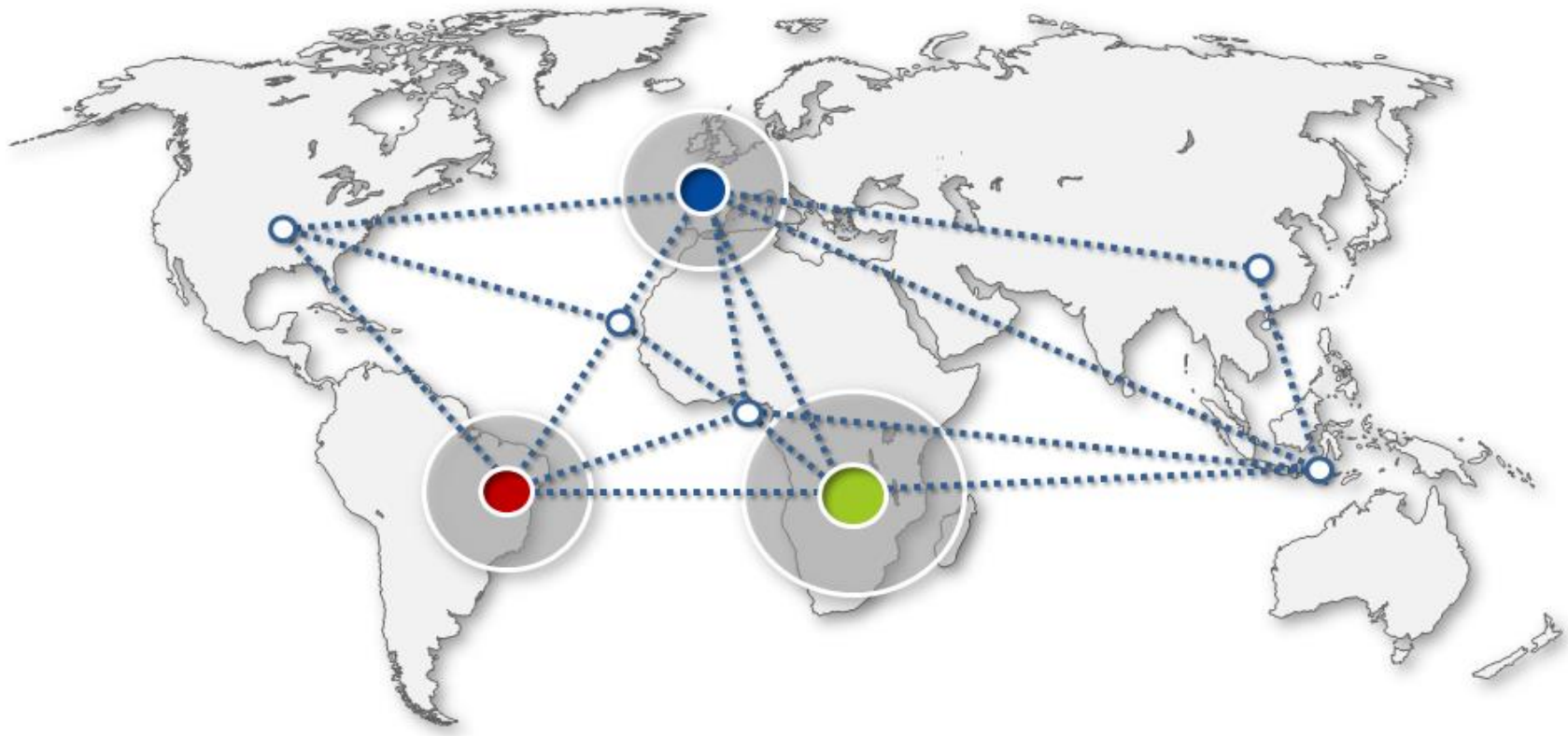


dedicated to water





Several of those institutions have business or developed
close links abroad



Associated in a
Portuguese Water Partnership
synergies can be
developed and the
potential maximized



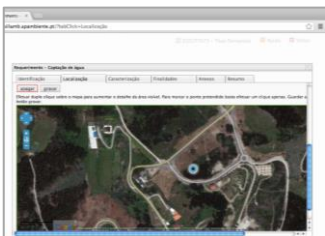


Portuguese Water
Partnership

Some Examples

Solutions MADE IN PORTUGAL

**SOLVING WATER CHALLENGES THROUGH
INNOVATIVE PARTNERSHIPS**



IMPROVING SERVICES THROUGH INNOVATIVE INFORMATION SYSTEMS

National Licensing System for Water Uses



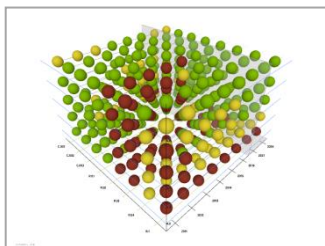
RISK MANAGEMENT IN A CHANGING ENVIRONMENT

Dam Safety



RESOURCES EFFICIENCY

Anaerobic Digestion: Making money out of it.



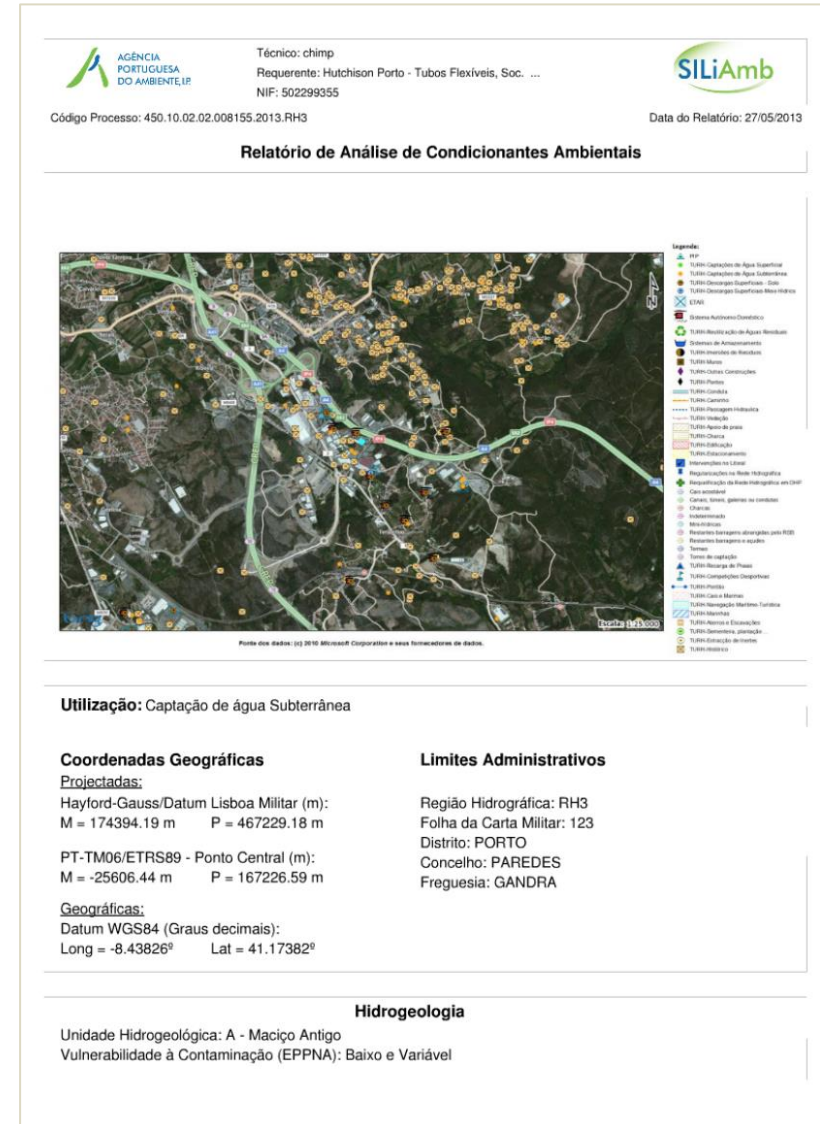
WATER INFRASTRUCTURES SUSTAINABILITY

Strategic asset management

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.

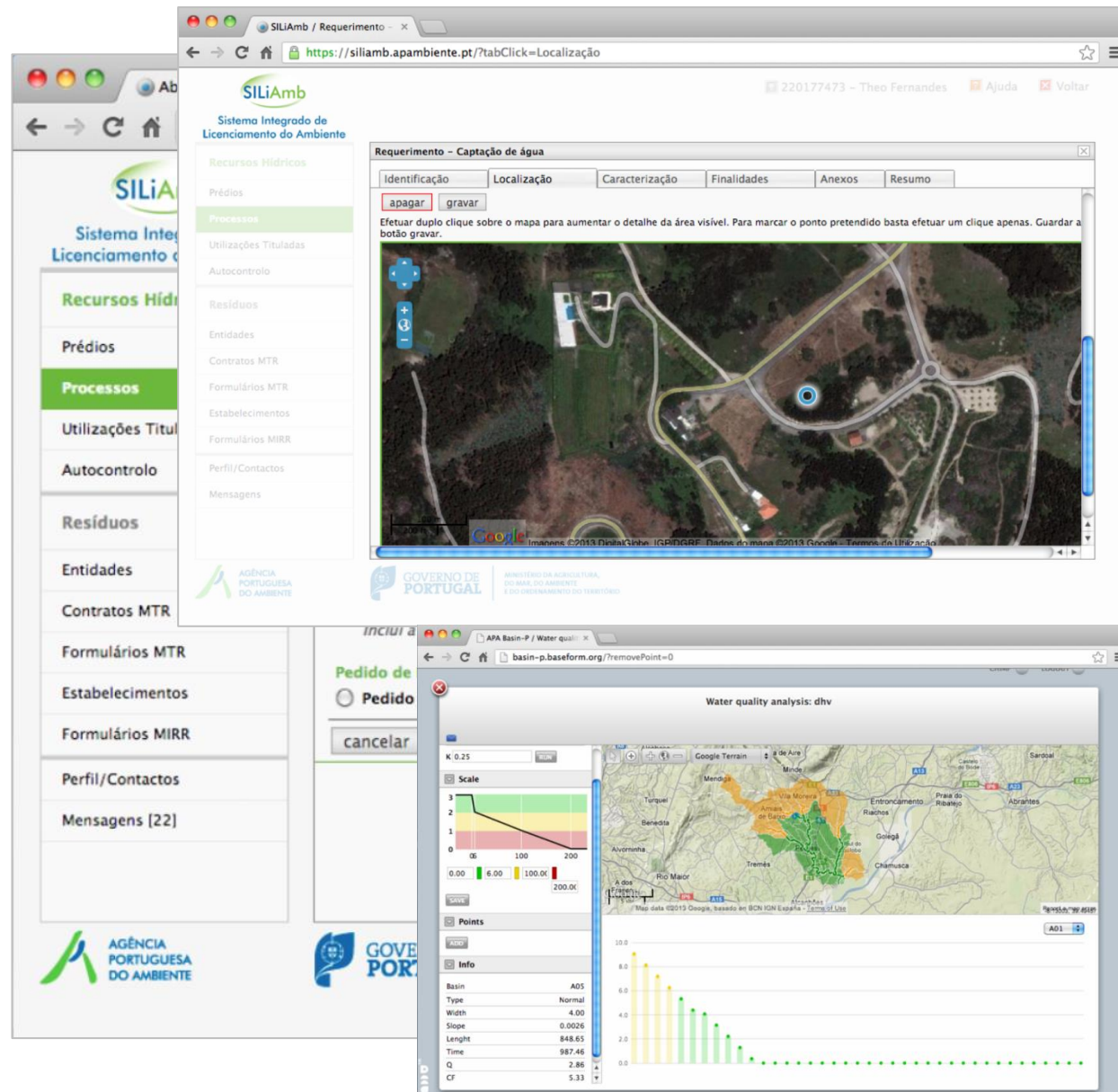
A recent European benchmarking study refers it as a unique state-of-the-art platform developed by central administration





IMPROVING SERVICES THROUGH 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.



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:

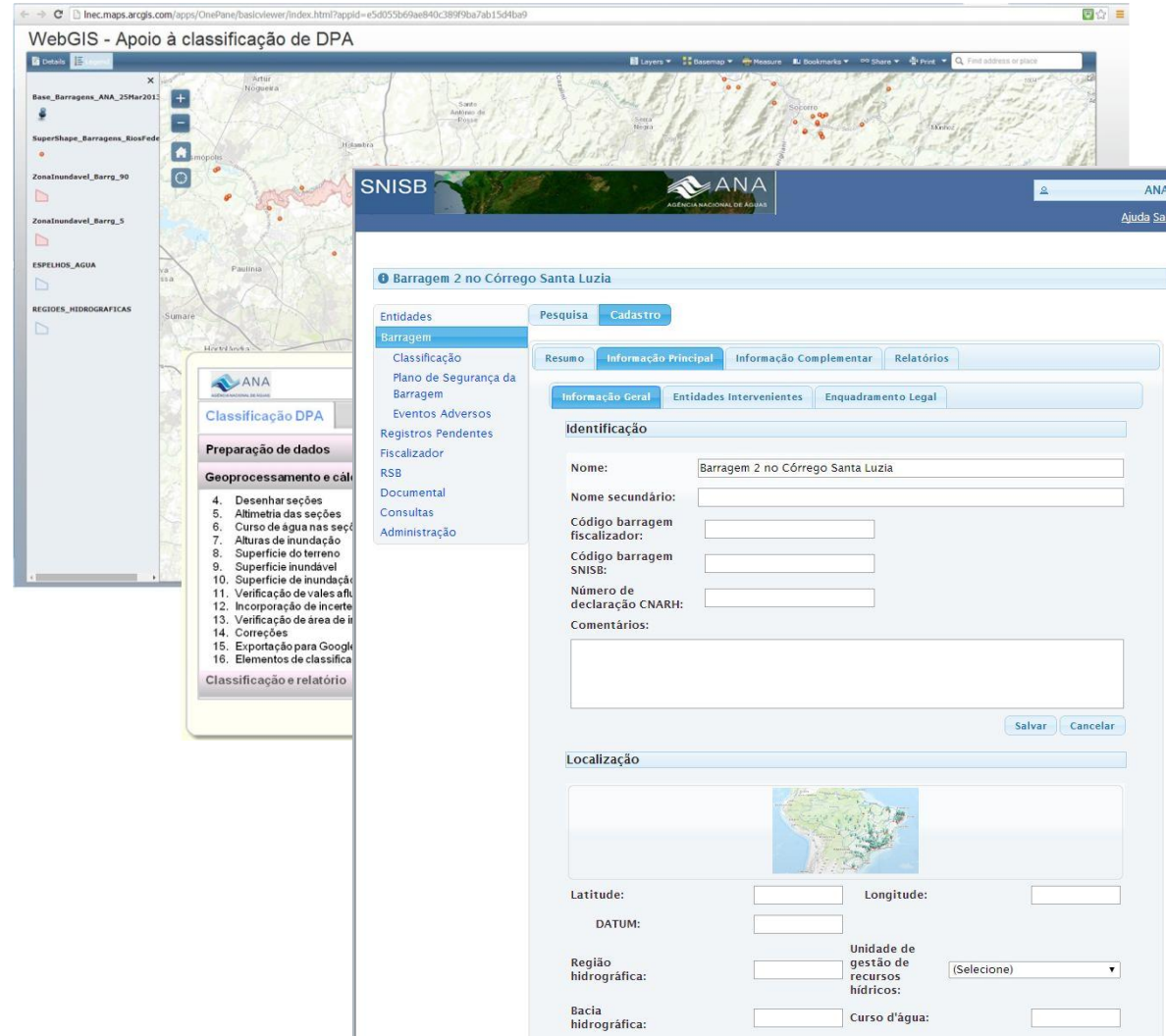
- Reinforce the dam safety regulatory framework (**review norms, standards, regulations, guidelines and manuals**)
- Assist in the **monitoring inspections** and evaluation of dam safety activities, reporting, and communication of findings to the authorities and to the public
- Suport in the design of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



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



WebGIS - Apoio à classificação de DPA

Layers Basemap Measure Bookmarks Share Print Find address or place

Base_Barragemx_ANA_25Mar2011
SuperShape_Barragemx_BioSede
ZonaInundavel_Barrg_90
ZonaInundavel_Barrg_5
ESPELHOS_AGUA
REGIOES_HIDROGRAFICAS

ANA
AGÊNCIA NACIONAL DE ÁGUAS

Ajuda Sair

Barragem 2 no Córrego Santa Luzia

Entidades Pesquisa Cadastro

Barragem

Classificação
Plano de Segurança da Barragem
Eventos Adversos
Registros Pendentes
Fiscalizador
RSB
Documental
Consultas
Administração

Preparação de dados
Geoprocessamento e cálculos

4. Desenhar seções
5. Altimetria das seções
6. Curso de água nas seções
7. Alturas de inundação
8. Superfície do terreno
9. Superfície inundável
10. Superfície de inundação
11. Verificação de vales afluentes
12. Incorporação de incertezas
13. Verificação de área de influência
14. Correções
15. Exportação para Google Earth
16. Elementos de classificação

Classificação e relatório

Resumo Informação Principal Informação Complementar Relatórios

Informação Geral Entidades Intervinentes Enquadramento Legal

Identificação

Nome: Barragem 2 no Córrego Santa Luzia
Nome secundário:
Código barragem fiscalizador:
Código barragem SNISB:
Número de declaração CNARH:
Comentários:

Salvar Cancelar

Localização

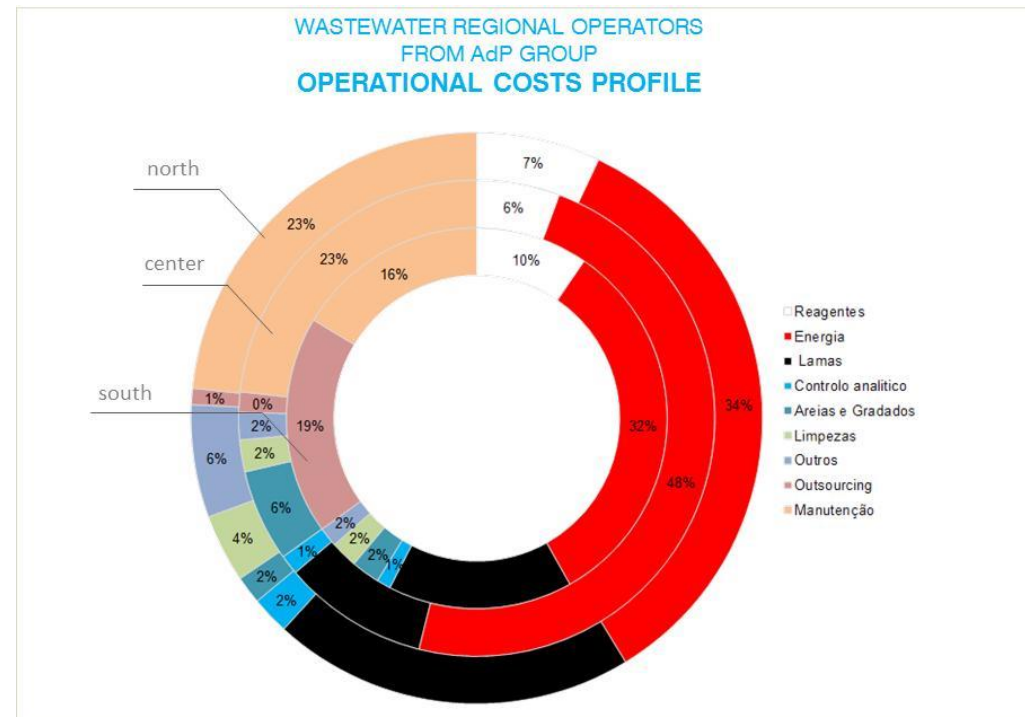
Latitude: Longitude:
DATUM:
Região hidrográfica: Unidade de gestão de recursos hídricos: (Selecione)
Bacia hidrográfica: Curso d'água:

Anaerobic Digestion: Making money out of it.



Water utilities are pressured to decrease OPEX

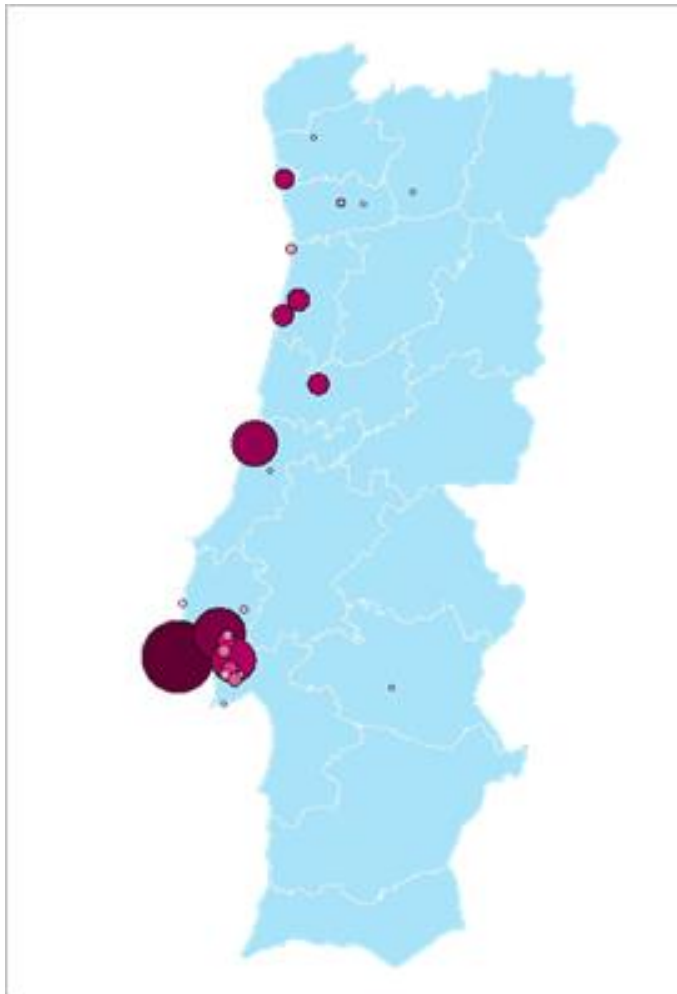
Energy is one of the most important components of OPEX





Anaerobic Digestion: Making money out of it.

30 WWTP
160 000 m3 Digester's Capacity



OPERATOR	WWTP	Nº digestores	V total (m³)	Nº cogeneradores	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
	ETAR Seixal	2	3.926	1	348	Autoconsumo
SIMARSUL	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

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

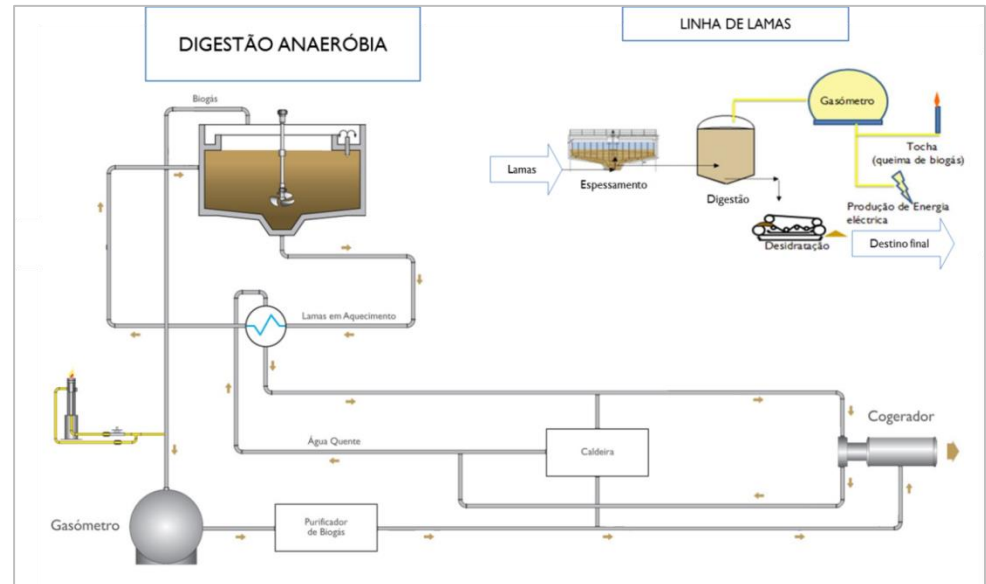
Performance analysis and optimization of the sludges digesters operation to maximize energy production.

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	Nm³/d	54.800	58.100	136.400
Electric energy production	GWh/ano	36	46	109

→ 1.000.000 Euros

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

Research Centers | SME | Water Utilities

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
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- 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

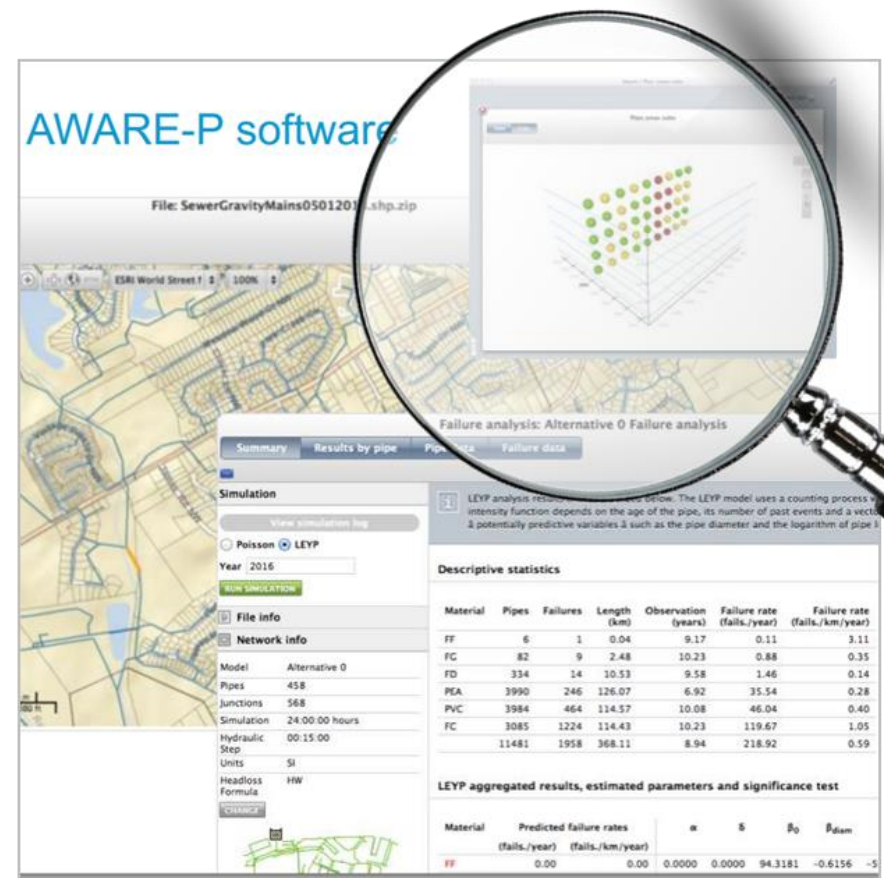


AWARE P | From a collaborative approach to a pro-active partnership to overcome a national challenge

Research Centers | SME | Water Utilities

SOLUTION

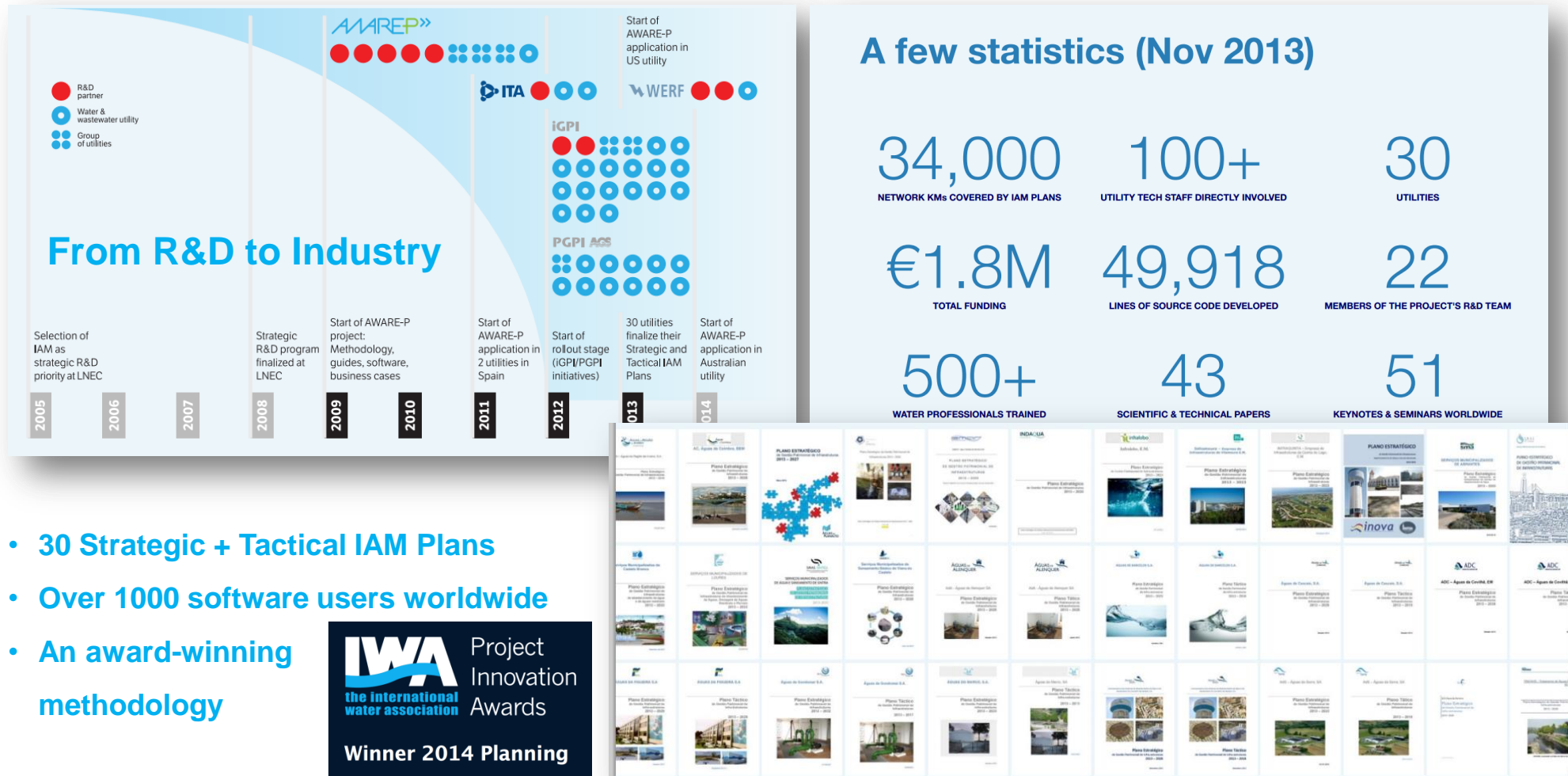
- Built upon a seed R&D project led by LNEC
- Creation of a mixed consortium (R&D, Water Utilities, Technology Partners) to develop a scalable methodology for strategic asset management plans
- Software to support the implementation stage and the decision-making processes
- Incremental and diversified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



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

Research Centers | SME | Water Utilities

RESULTS





Portuguese Water
Partnership

SMEs with Solid Expertise
Top Research Centers
Modern institutions

Open to international partnerships

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



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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World Water Congress

21 – 26 September 2014

Lisbon

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!