



# Success of the Tarragona Symbiosis and Strategy of the Water-Smart Industry Vision Leadership

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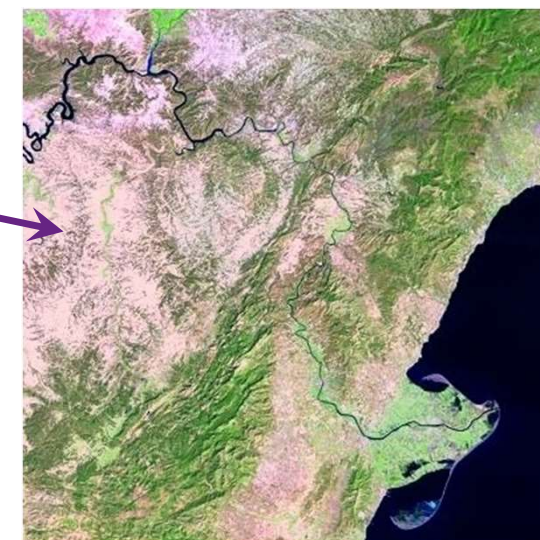
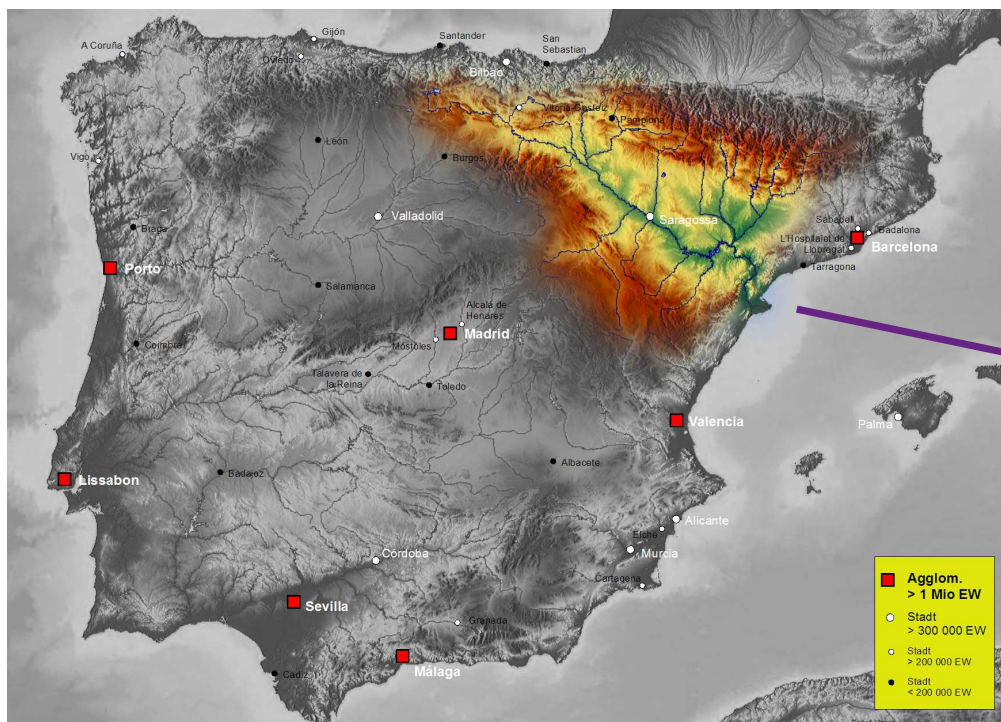
Eurecat - Centre Tecnològic de Catalunya  
Water-Smart Industry VLT, Water Europe

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# Ebre (Ebro) River

Ebre River: Largest River (volume) of Spain  
Ebre River Delta:

- 1983 categorized as Natural Park
- 2013 UNESCO Biosphere Reserve Network





# Contrasting Territories



The main economic activities in Terres de l'Ebre and the Metropolitan area of Tarragona depend on Ebre's water resources.

## Camp de Tarragona

Metropolitan area of Tarragona-Reus with an economy based on industry, tourism and agriculture.

## Terres de l'Ebre

Sub-region with an economy based on the primary sector

# Contrasting Territories



Historical water shortages affecting the Tarragona province were significantly overcome in 1989 by the formation of the Tarragona Water Consortium (CAT), a public water agency integrated by municipalities and industries, and charged with the construction and operation of a surface water transfer system from Ebro River.



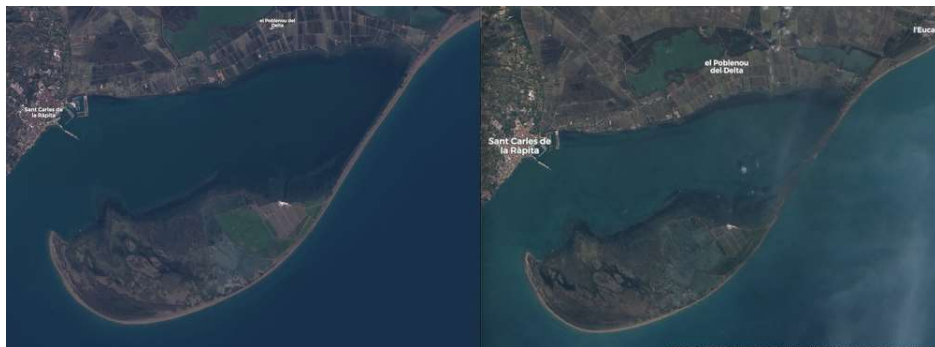
Both sub-regions are linked through water, since the Metropolitan area receives water from the Ebro River before entering the Ebro Delta through a water transfer.



# Ebre Delta

The lower Ebre River and its delta are a crucial ecosystem for the future of the whole region. Physical maintenance of the Ebro Delta depends on the inputs of water and sediments coming from the river.

Climate change adaptation is a deal in the area.



# Camp de Tarragona

Camp de Tarragona is a seasonal water stressed region, with historical water shortages.

This area takes Ebre River water for: municipal drinking water, tourism, industrial petrochemical complex and agriculture.

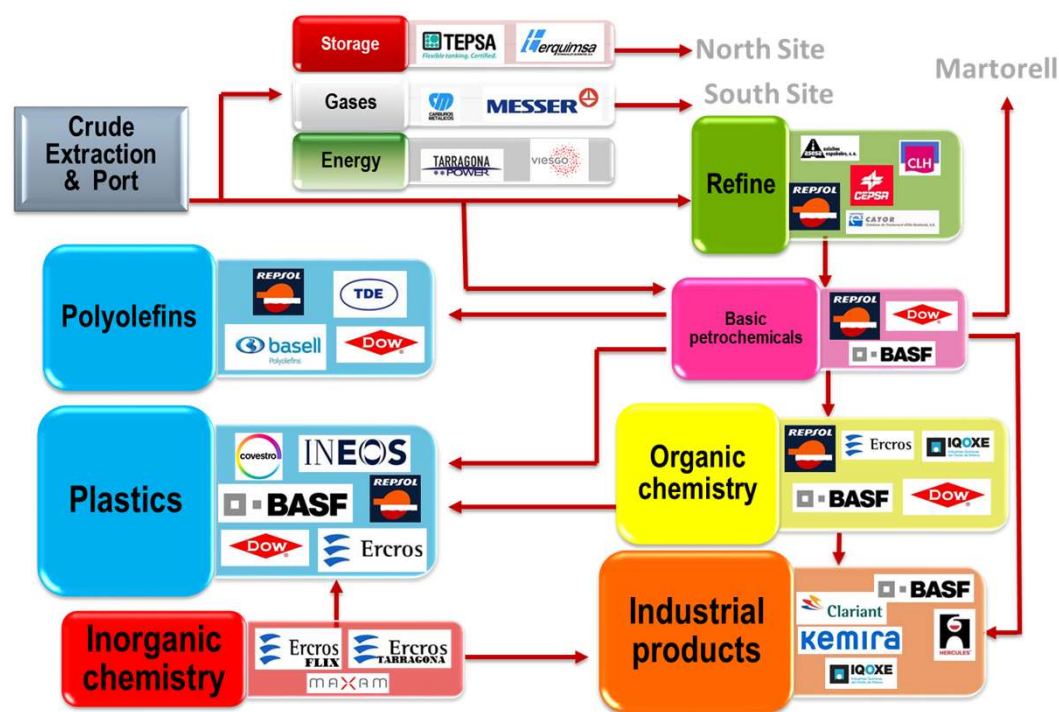




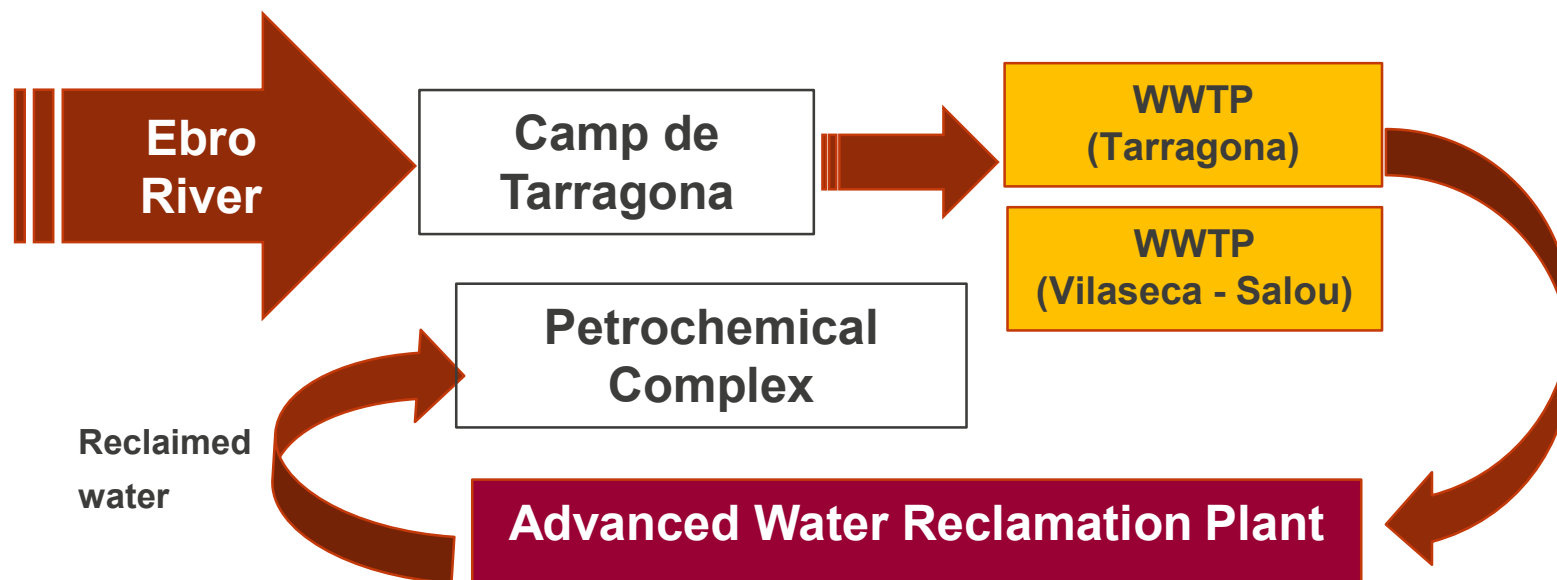
# Camp de Tarragona: Petrochemical Industry

More than 100 chemical companies of all sizes, with 25% of chemical production in Spain and > 40,000 direct and indirect workplaces

Logistics Operators:



# The Symbiotic Solution

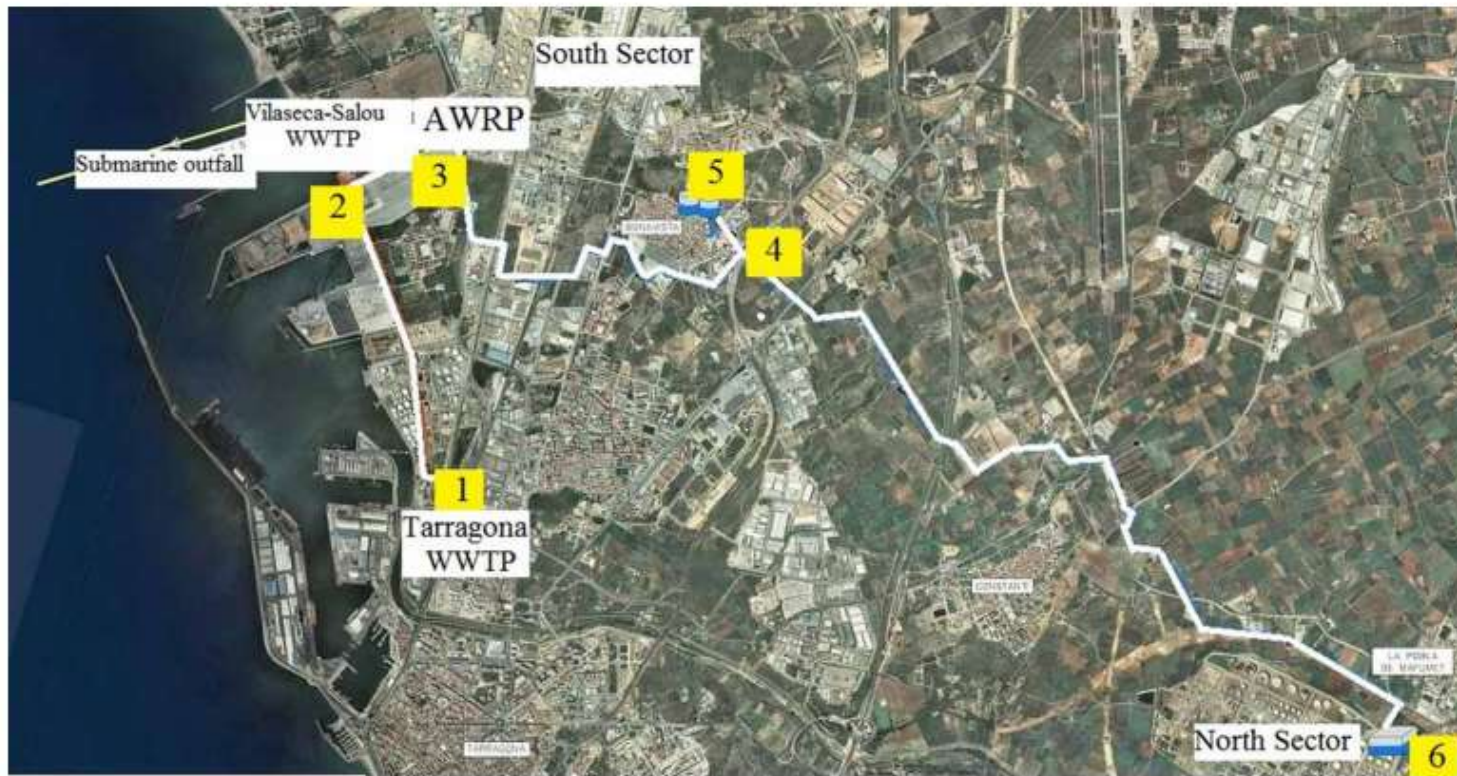


The Camp de Tarragona Advanced Water Reclamation Plant (CTAWRP) is fed with the secondary effluent water coming from Wastewater Treatment Plants (WWTP) of the nearby municipalities of Vilaseca, Salou and Tarragona.





# The Symbiotic Solution



**Figure 1** | Camp de Tarragona AWRP and reclaimed water supply network for industrial facilities at the Tarragona petrochemical park. (1) Tarragona wastewater treatment plant (WWTP); (2) diversion for submarine outfall; (3) Vilaseca-Salou WWTP and Camp de Tarragona AWRP; (4) diversion to north and south sectors of the petrochemical park; (5) reclaimed water storage tank for south sector; and (6) reclaimed water storage tank for north sector.

Reclaimed Water for the Tarragona petrochemical park. Sanz et al. (2015). Water Science & Technology Water Supply 15(2):308

# The Symbiotic Solution

Other uses in less extent:

urban Parks



golf courses



aquatic parks





# Main Actors and Facts

Tarragona Water Consortium (CAT), a public water agency integrated by municipalities and industries.

AEQT is community-based association that includes chemical corporations operating in the area. There is a Public Advisory Panel.

AITASA is formed by the chemical companies of the Tarragona industrial area. Its objective is to supply industrial water to companies (more than 10 Mhm<sup>3</sup>/y with a 43.5 km distribution network).

ACA is the public company of the Catalan Government Catalunya that is in charge of planning and water management in Catalonia.



Citizen involvement



## Main Actors and Facts

In 2004 AEQT submitted a proposal to ACA for a project that would eliminate the need to take water from the Ebro transfer and instead supply the industry with water from treatment plants.

Since 2012, AITASA operates the The Camp de Tarragona Advanced Water Reclamation Plant producing water for boilers and cooling towers.

This locally available additional water supply replaces surface water, that before was transferred from the Ebro River. An equivalent volume of water is now available for other uses. With this new water source, industrial growth has been supported.



## Regulation

Spanish RD 1620/2007

## Funding

With the contribution at 3 levels: european, spanish and catalan governments

## R&D&i

DEMOWARE (FP7), ULTIMATE (H2020), REWATCH (Life)...

## Technology

Filtration, membranes, disinfection, monitoring...

## Conclusions

Reclaimed water can be used in the industry instead of pre-treated river water with a positive impact in the environment.

Symbiosis between an industrially owned water utility and industry is successful. PPP initiative.

Industrial climate change adaptation is in progress and with an increasing relevance.

Social awareness increasing regarding water, climate change and Ebro Delta.

Demonstration of the technology is important.

Citizenship involvement is crucial.

A living project,... enlargement of the plant under study.





# VLT-Water Europe alignment

The Water-Smart Industry VLT pursue a future Water-Smart Society aligned to Water Europe's Vision with a focus on Industrial end-user needs, circular economy and climate change resilience.

The VLT will support the implementation of this Vision and look for opportunities to update it over time. In particular, the VLT will be mindful of the need to support the transition to climate neutrality and circularity as per the EU Green Deal goals as well as the Horizon Europe partnerships supported by WE (Water4All and Process4Planet).



**Thank you !**

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