



Global Workshop on Source-to-sea Management



BRINGING LIFE BACK TO THE TAGUS RIVER

THE TAGUS ESTUARY CLEAN-UP PROJECT

www.adp.pt

session 4

*“Tackling marine
pollution at the source”*

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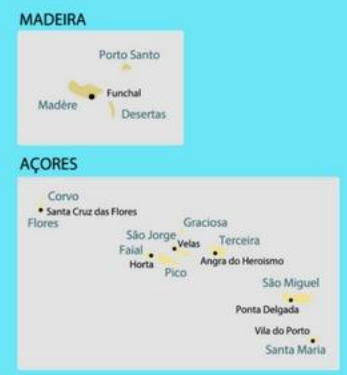


WHAT WAS THE PROBLEM?

Bringing life back to the Tagus Estuary

The Tagus estuary is located in Portugal where the transnational river with the same name meets the Atlantic Ocean, near the capital city of Lisbon and its metropolitan area. This estuary plays a fundamental role from the ecological and economic points of view. However, the concentration of densely urbanized areas and industrial clusters in the region has resulted in environmental degradation that could only be curbed through combined efforts and integrated solutions.

WHERE IS THE ESTUARY?





TAGUS ESTUARY

**THE LARGEST ESTUARY IN WESTERN EUROPE
(34,000 HECTARES)**

Important Natural Reserve

A protected area that is the largest wetland in Portugal and one of the most important in Europe

80.629 square kilometers

(24.800 square kilometers in Portugal)

Total area of the Tagus basin

19 Municipalities

in the Estuary

2.8 million inhabitants

the highest population concentration in Portugal

Ecosystem affected by highly polluting activities

receiving wastes from agricultural and industrial activities and from large urban centres

TRIGGERS

EXPO'98 - LISBON INTERNATIONAL EXHIBITION

DEFINED SCHEDULE AND PLANNED OBJECTIVES

POLITICAL WILL

AVAILABLE EUROPEAN FUNDING

ECOLOGICAL AWARENESS

**GROWING IMPORTANCE OF TOURISM AND
LEISURE ACTIVITIES (BATHING, SURFING, SAILING)**

**TECHNICAL COMPETENCE
OF AdP GROUP COMPANIES**



COMBINED EFFORTS BY MANY ENTITIES

THE REQUALIFICATION INCLUDED

DEPOLLUTION
OF THE
WATERLINES

SLUDGE
REMOVAL
AND
TREATMENT

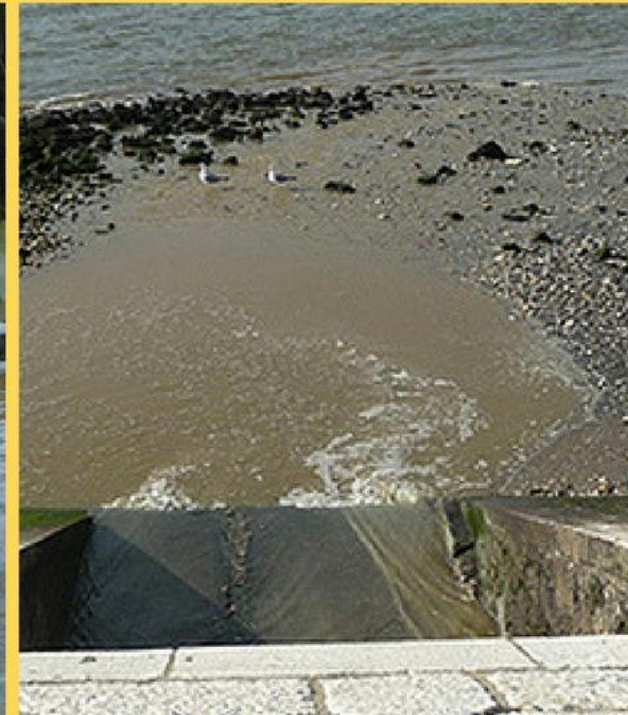
FLUVIAL
REGULARIZATION
AND FLOOD
CONTROL

REFORESTATION

REQUALIFICATION
OF
RIVERFRONTS

ISSUES

- Unreliable wastewater treatment facilities
- Functional failure of sewage network during storm events
- Constant and devastating floods
- Untreated domestic and industrial wastewater discharged in the river
- Strong and growing environmental degradation
- Trancão river, an affluent to the Tagus, was the most polluted river in Europe at the time
- Polluted beaches





AdP GROUP INTERVENTION

THE TAGUS ESTUARY CLEAN-UP PROJECT

The intervention of Águas de Portugal involved **several multi-municipal systems** that gathered together **3 wastewater AdP Group companies** and **19 municipalities**.



Integrated supra-municipal governance model that took into account the physical reality prevailing in the river basin, **gathering together skills, sharing management structures, rationalising investments and enabling economies of scale.**

HIGH SCALE AND TECHNICAL COMPLEXE INTERVENTION

680 million euros
Invested by AdP Group

3.8 million equivalent inhabitants
served by these sanitation systems

100%
wastewater treated
before discharge

35 beaches
suitable for bathing
next to the estuary



GUIDELINES

The treatment level of the WWTP's (secondary, tertiary and tertiary with disinfection) comprised the discharge location and the quality requirements of the receiving waters for specific uses and also the re-use of treated water.

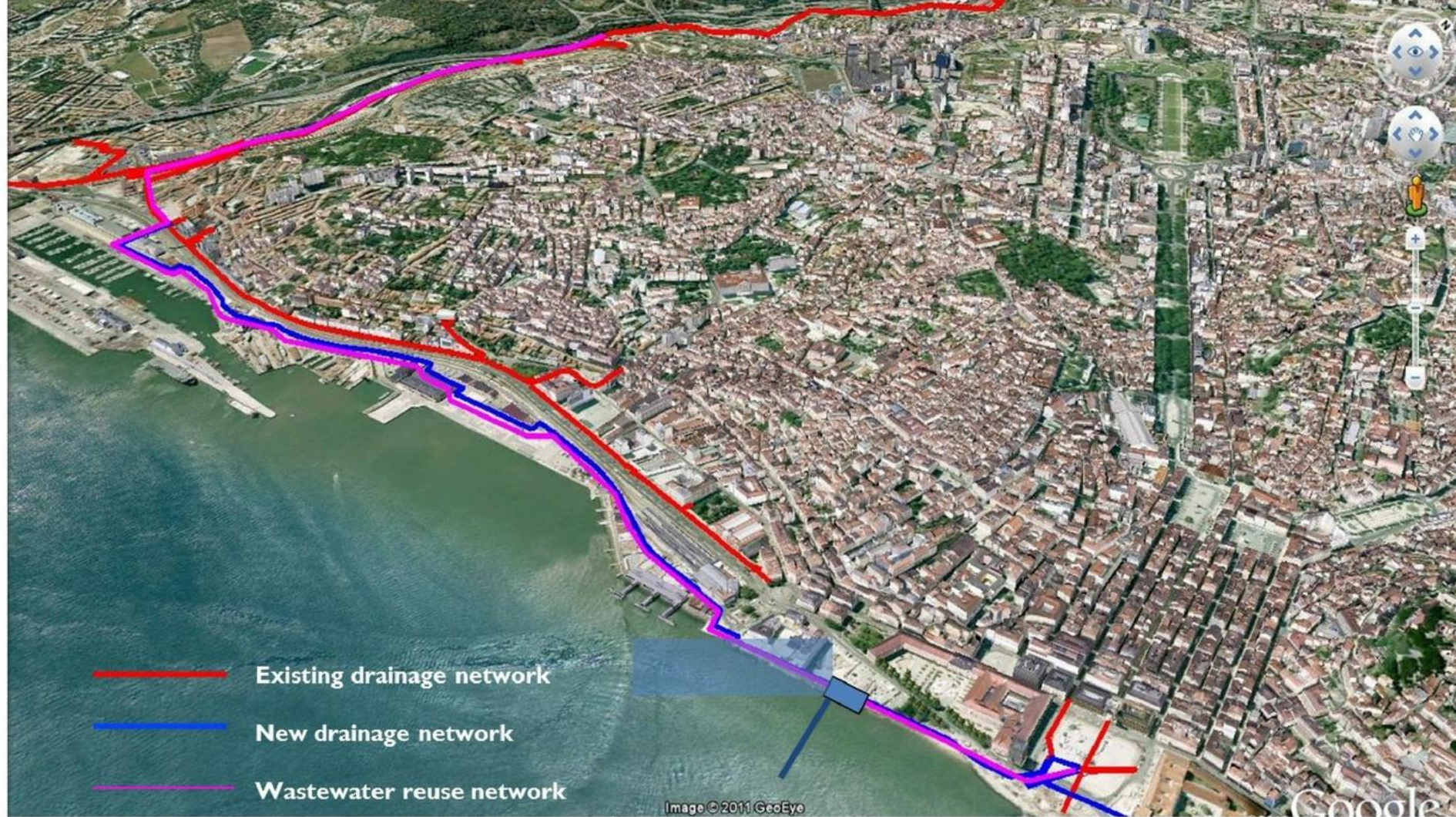
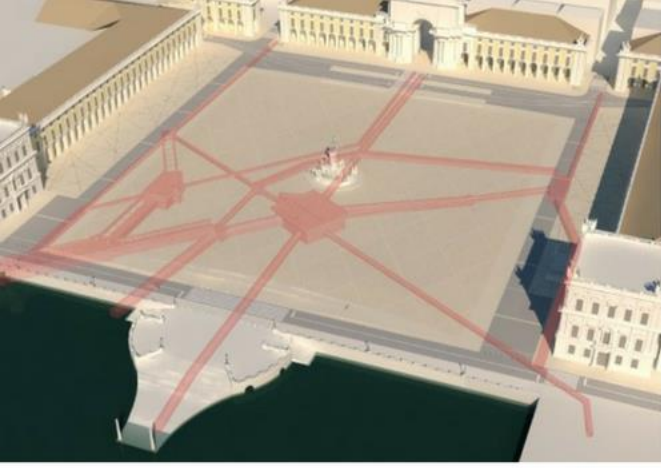
All technological solutions considered the integration of the infrastructures in the landscape, with minimization of environmental impacts.

Smart asset management based on innovation, sustainability and resilience.



ALCANTARA WWTP

The Alcantara WWTP treats urban wastewater from approximately 900 thousand households in Lisbon and its outskirts. Today, Alcantara WWTP is an international case study. The intervention included the WWTP expansion of the most important WWTP in Portugal and the improvement of its treatment standards (to secondary treatment + disinfection), reducing odours and landscaping.



SANITATION INTERVENTION PLAN

Construction of 2 interception chambers (with tidal valves) in the old 18th century drainage pipes, and the construction of interceptors and wastewater pumping stations for the routing of the flow to the Alcantara WWTP, comprising a total of 20 contracts.

OPPORTUNITY FOR I&D

AQUASAFE: INTEGRATED DECISION SUPPORT SYSTEM

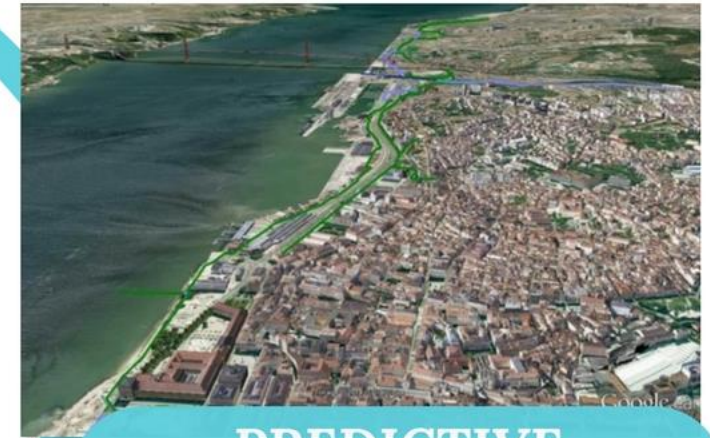
WET WEATHER SMART OPERATION
(DATA + MODEL'S)



PREDICTIVE
CSO IMPACTS



AQUASAFE



PREDICTIVE
FLOOD WARNING



AN INTERNATIONAL CASE STUDY BY ITS COMPLEXITY AND EXCELLENT RESULTS

INCREASED EFFICIENCY IN TERMS OF OPERATION AND THE
OVERALL PERFORMANCE OF THE SANITATION SYSTEMS

SIGNIFICANT REDUCTION OF POLLUTANT DISCHARGE

BIODIVERSITY CONSERVATION AND HABITAT RESTORATION

SIGNIFICANT INCREASE IN THE NUMBER
OF BLUE FLAGS BEACHES







 **ÁGUAS DE
PORTUGAL**