



# BRODISE

BROWNFIELD DECONTAMINATION  
IN SOUTHERN EUROPE

## 2016 EU Innovation Procurement event

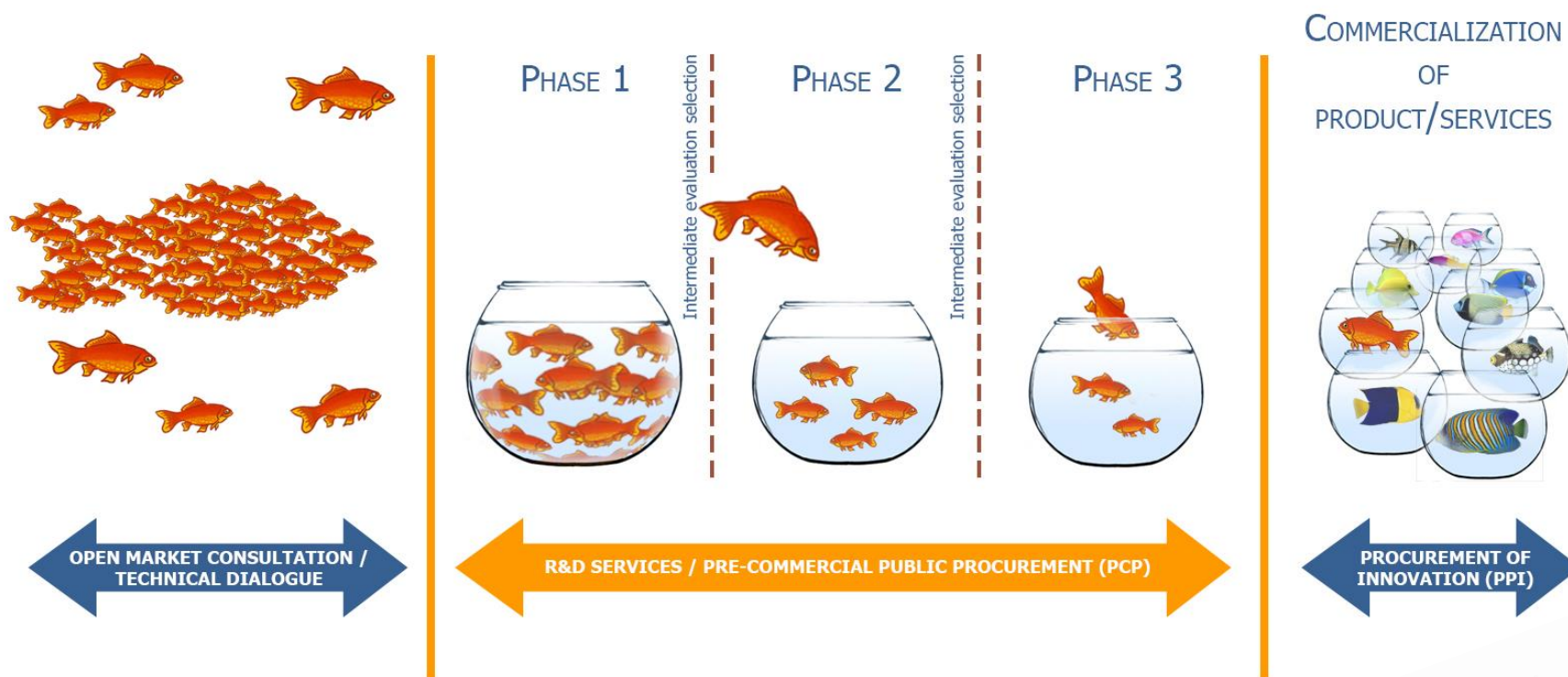
**Session on soil decontamination domain**  
in which H2020 Funding is planned in 2017

*18–19th October 2016, Athens*

*The research leading to these results has received  
funding from the European Union, Horizon 2020  
under the agreement nr 642045*



## Fostering competition during the execution and preventing future lock-in situation



Source: (2014) S.Bedin, EU Event on Innovation Procurement, Milan. All rights reserved

by  
Bedin & Tundo



# **BILBAO: AN INNOVATION-DRIVING URBAN LAB**



**...If one does not know to which port one is sailing, no wind is favorable (*Seneca*)**




# Brodise at a glance


BRODISE: HORIZON

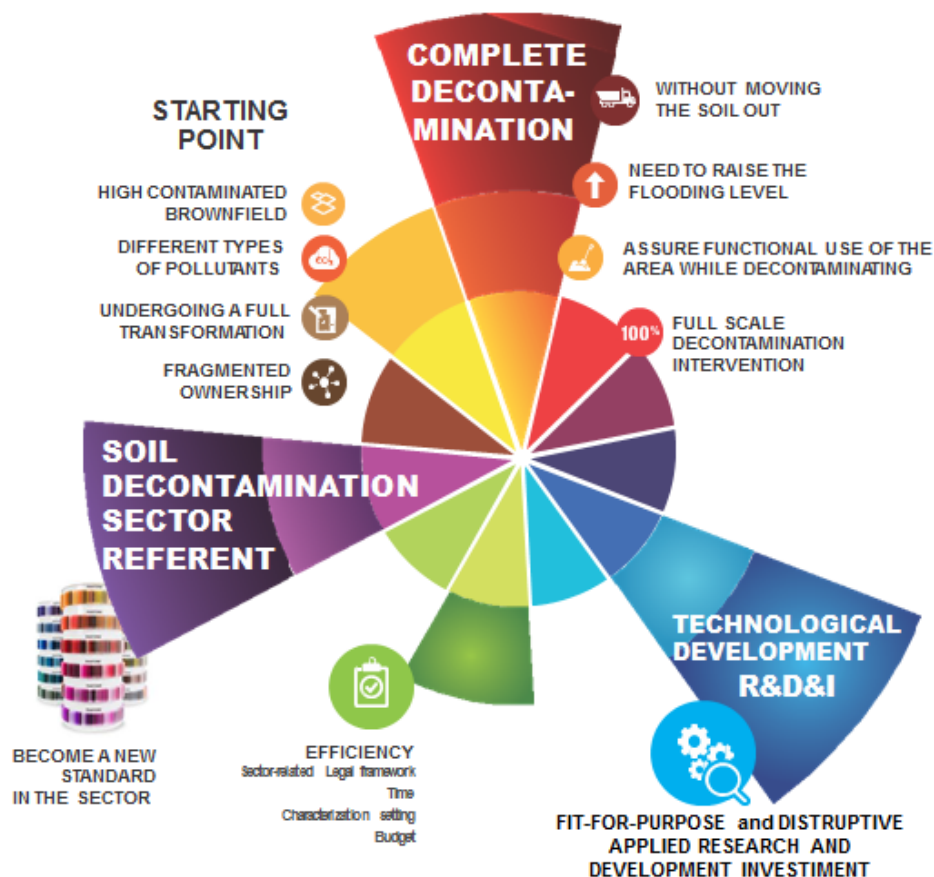
2020 S6.8.2014:  
Joint and collaborative  
preparation of a PCP aimed to develop  
new solutions for the brownfield decontamination

## Partners and budgets

 BILBAO CITY COUNCIL  
MAS  
ABOGADOS  
TECNALIA  
BC3

 AREA SCIENCE TRIESTE  
EZIT  
CITTALIA  
SARA BEDIN

 BAA DO TEJO  
CÁMERA MUNICIPAL  
SEIXAL  
PARQUE MADAN



## INNOVATION PUBLIC PROCUREMENT



CHANGE ENGAGEMENT  
RULES



EXPAND THE PUBLIC  
PROCURING GROUP

### Contacts and further information:

- Ayuntamiento de Bilbao\_e\_rincon@bilbao.eus
- SaraBEDIN\_sara.bedin@appaltoprecommerciale.it
- MAS Abogados\_bbg@grupomas.net

# Starting point



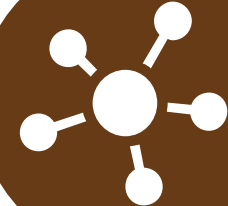
**HIGH-  
CONTAMINATED  
BROWNFIELD**



**MIXTURE OF  
INDUSTRIAL  
WASTE and  
CONTAMINANTS**



**UNDERGOING  
FULL  
TRANSFORMATION**



**FRAGMENTED  
OWNERSHIP**

# Decontamination challenge



**AVOID “OFF-SITE” TREATMENT  
(NO MORE DIG AND DUMP)**



**PREVENT BUILDING AND INSTALLATIONS  
FUTURE STRUCTURAL DAMAGES (NEED TO  
RAISE THE FLOODING LEVEL)**



**AVOID ACTIVITIES INTERRUPTION AND  
ASSURE FUNCTIONAL USES AND  
ACCESSES PRESERVED**



**FULL-SCALE DECONTAMINATION  
INTERVENTION**



**FITTING and DISRUPTIVE  
APPLIED RESEARCH AND  
DEVELOPMENT INVESTMENT**



**EFFICIENCY DRIVERS**

LEGAL constraints

TIME constraints

PHISICAL constraints

BUDGET constraints



# Contributing to the emergence of new cost-effective and de-facto standard



**STANDARD**



# **BILBAO, TRIESTE and SEIXAL: A COMMON CHALLENGE BEYOND STATE-OF-THE ART PERFORMANCE TARGETS**

# The 3 contaminated brownfield participating in BRODISE

Bilbao



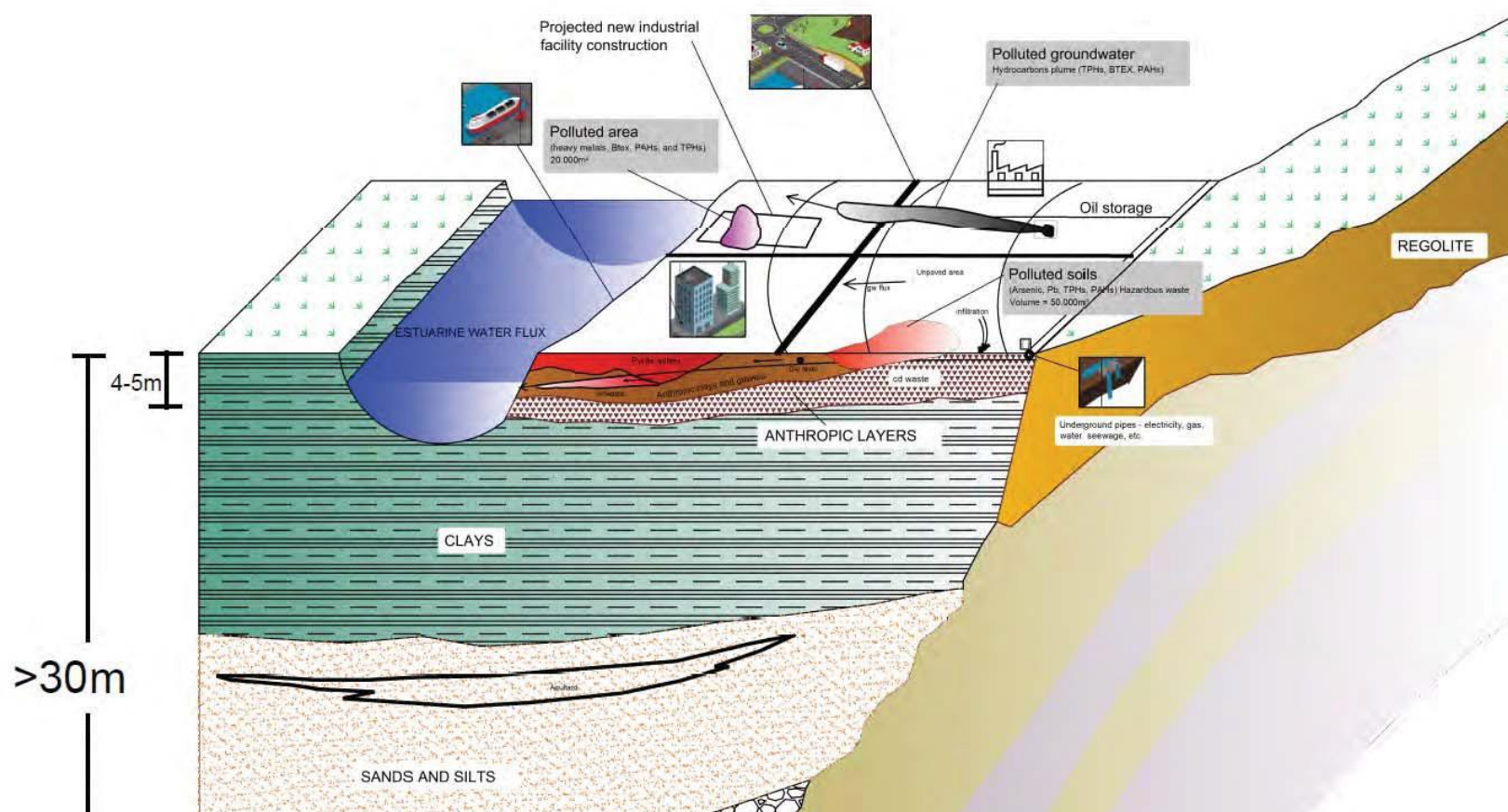
Seixal



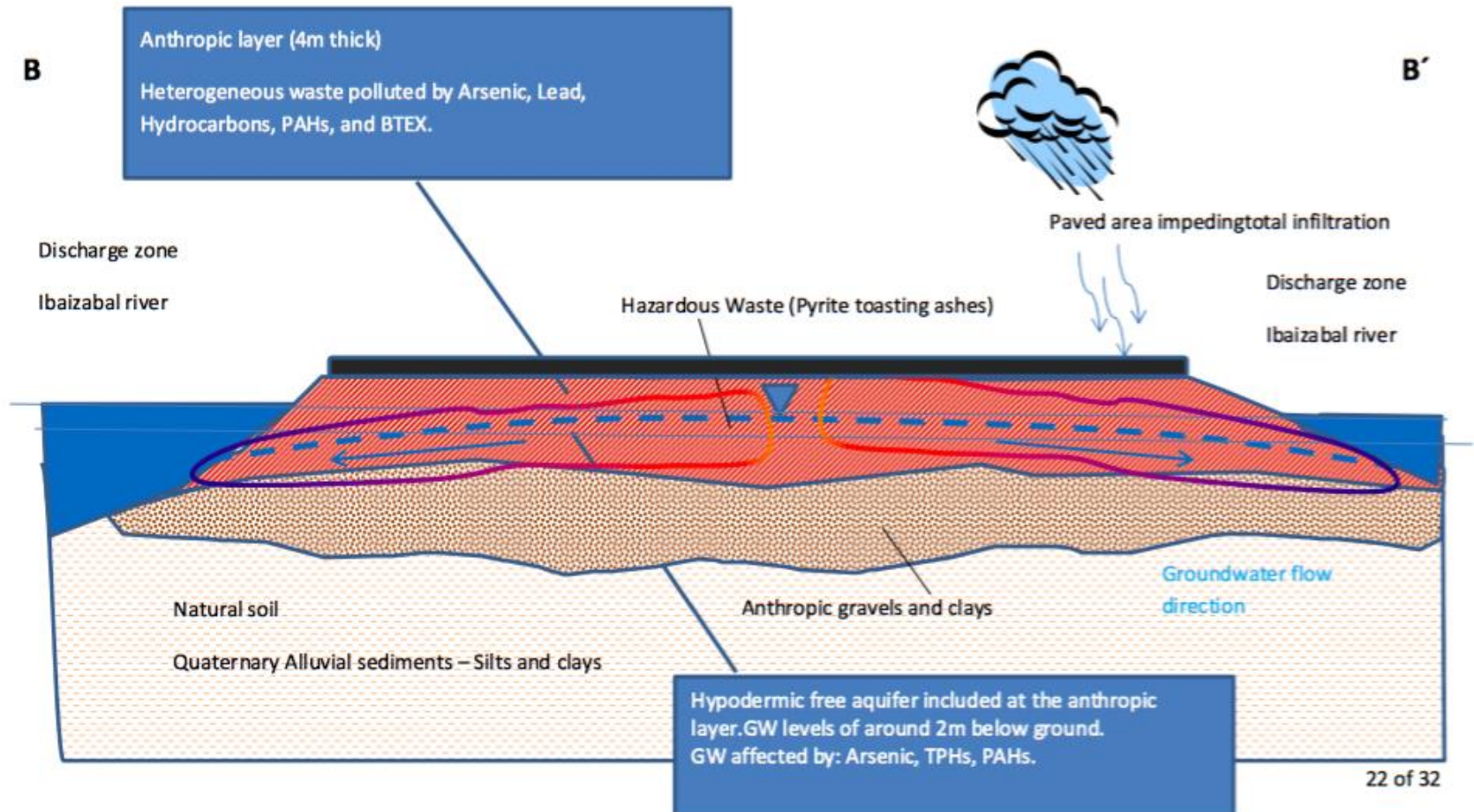
Trieste



# The Common Conceptual Model (CCM)



# The characterization of Bilbao (Spain)





# The characterization of Seixal (Portugal)

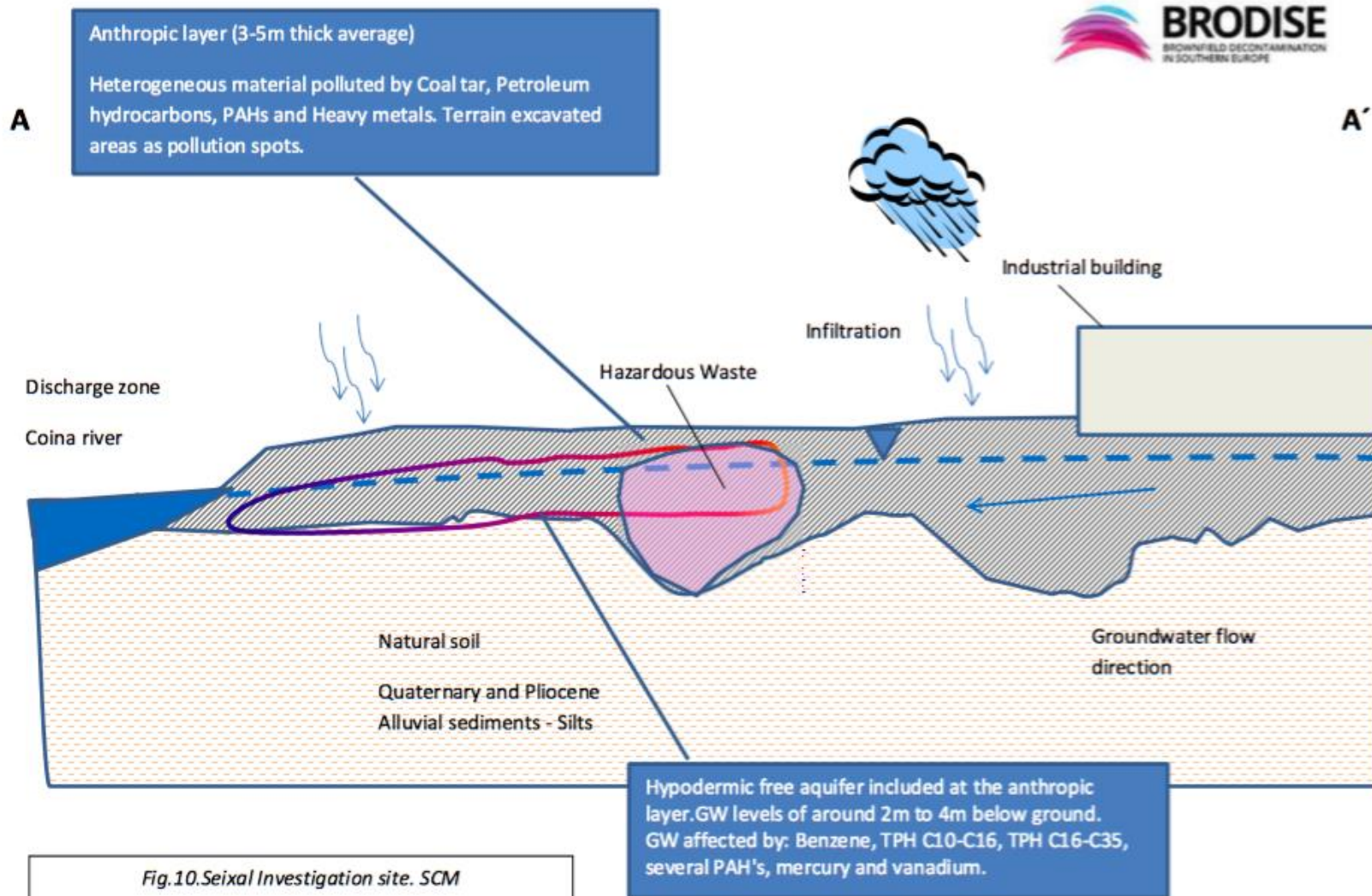
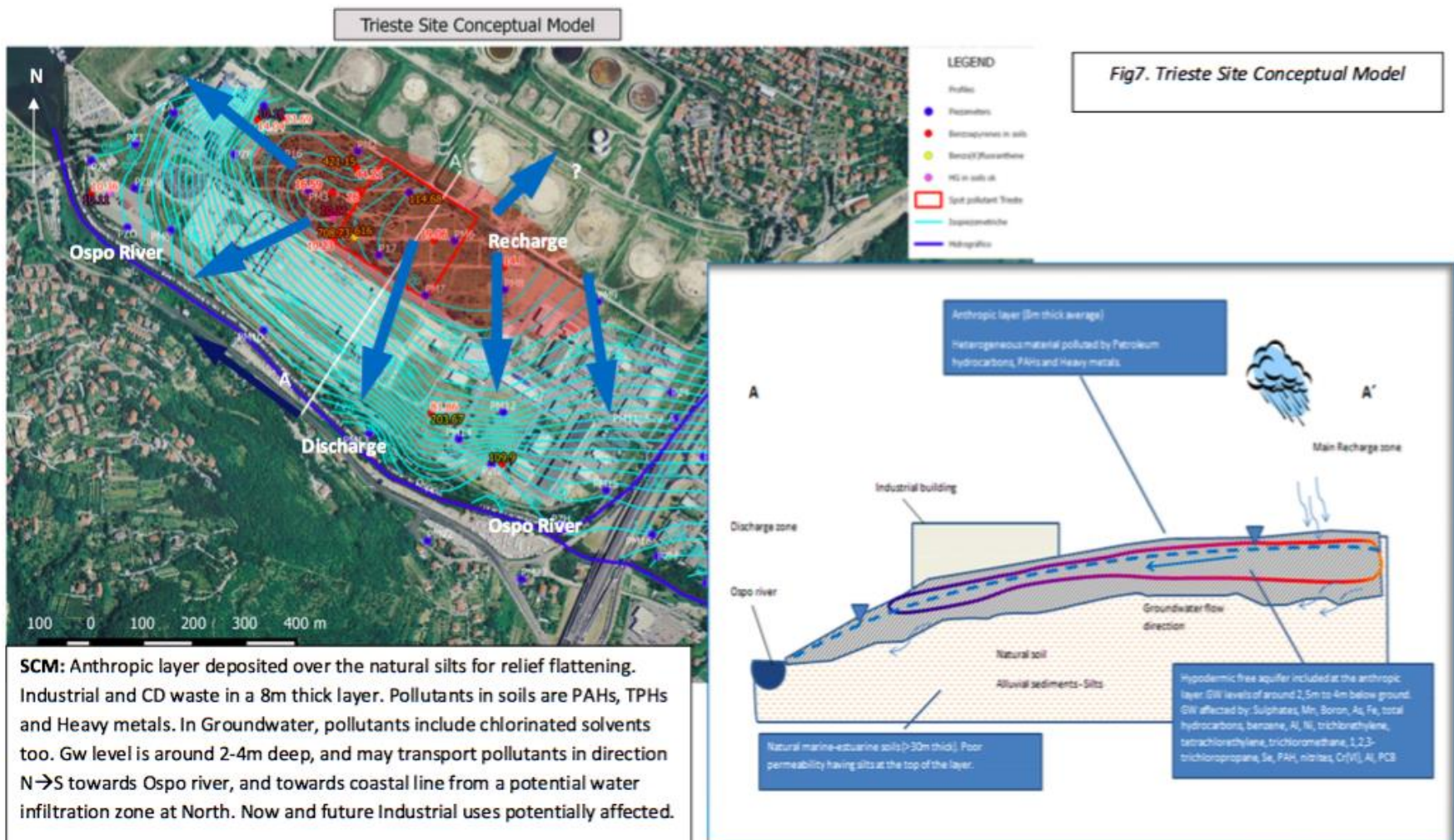


Fig.10.Seixal Investigation site. SCM

# The characterization of Trieste (Italy)



# The common challenge

1

**A soil and groundwater remediation innovative technology**

2

**An in situ technology**

3

**A technology capable of decontaminate heterogeneous anthropic soils in a coastal area located brownfield**

- The target contaminants in the soil are petroleum hydrocarbons (TPHs and PAHs) and heavy metals (Arsenic and Lead);
- The target contaminants in the groundwater are petroleum hydrocarbons (TPHs and PAHs) and Arsenic;
- The environmental matrices are highly polluted by petroleum hydrocarbons (TPHs and PAHs) and heavy metals (Arsenic and Lead) in respect of national thresholds.



# Come with us to **prepare the future** for brownfield decontamination and regeneration !

## Call for expression of interest

*BRODISE offer an opportunity to all interested procurers across EU to re- think and re-design their concrete investments and proceedings for the local brownfields decontamination and remediation plans for the coming years.*

- The call for expression of interest requires to public authorities affected by serious case of brownfield contamination to describe the site to be decontaminated, based on technical assessment already carried out, in order to identify common characteristics with the three pilots implemented in the project.
- For more info please contact (not later than December 15<sup>th</sup> 2016)

sara.bedin@appaltoprecommerciale.it,

bbg@grupomas.net, e.rincon@bilbao.eus, brodise@bilbao.net

