



**Interreg**  
Atlantic Area  
European Regional Development Fund



**MONITOOL**   
new tools for water quality monitoring

# New tools for monitoring the chemical status in transitional and coastal waters under the Water Framework Directive

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# MONITOOL 8 Full Partners



# MONITOOL 10 Associated Partners (stakeholders & end users)



AGENCE FRANÇAISE  
POUR LA BIODIVERSITÉ  
ÉTABLISSEMENT PUBLIC DE L'ÉTAT



The largest European consortium  
working on DGTs

# MONITOOL Project EAPA\_565/2016

Interreg Atlantic Area Transnational Cooperation Programme

3 years (2017-2020)

Total cost: 1.92 M€

ERDF 75 %: 1,5 M€

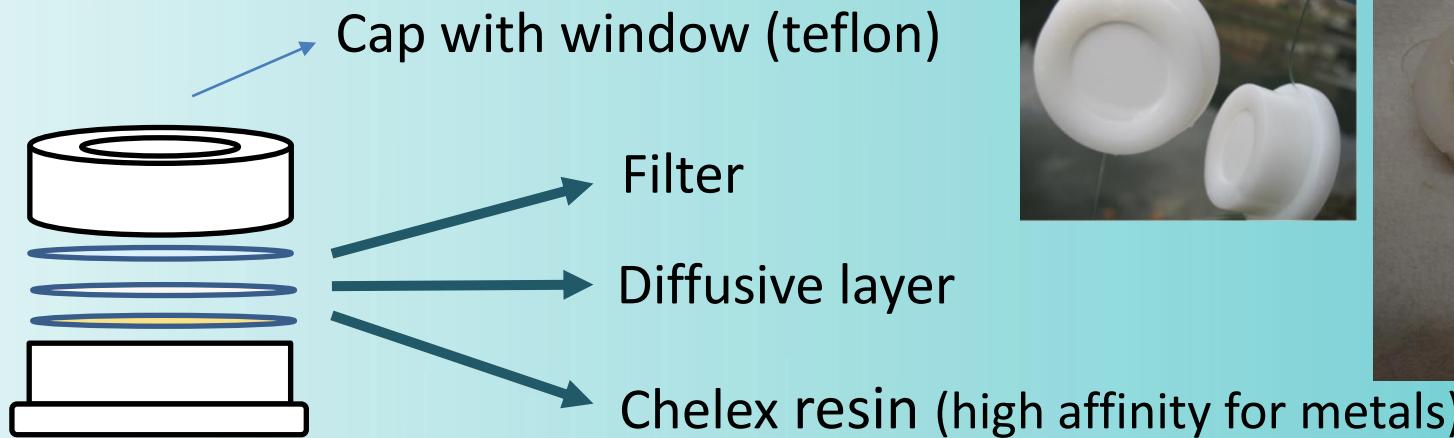


## **Main objectives:**

- To define Environmental Quality Standards and protocols for the use of DGTs in chemical monitoring within the European Water Framework Directive
- To develop a network of laboratories focused on the use of DGTs within the European Water Framework Directive

# Passive samplers for metals DGT type

- DGT: Diffusive Gradient in Thin Films
- Disc of  $\pm 4$  cm of diameter and 2.0 cm of diameter of the exposition window
- Filled by three membranes:
  - Polysulfone filter ( $0.45 \mu\text{m} \varnothing$ ; avoid particle abrasion)
  - Diffusive layer of hydrogel (0.8 mm thickness; **Polyacrylamide**)
  - **Chelex-100** resin immersed in polyacrylamide (0.4 mm thickness; cations exchange)



# WP5: Monitool Sampling Sites



TOTAL nº of sites:  
21 coastal sites  
13 estuarine sites

Over 250 DGTs and  
over 500 seawater  
samples from wet and  
dry campaign

- Concentration of metal (DGT)  
- Concentration of metal (water)  
- Physico-chemical parameters  
water (DOC, turbidity, SPM,  
temperature, salinity, dissolved  
oxygen, biofouling)

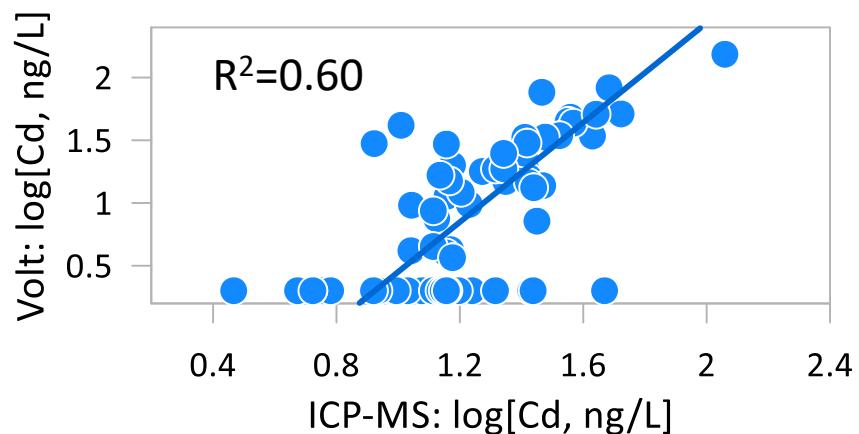
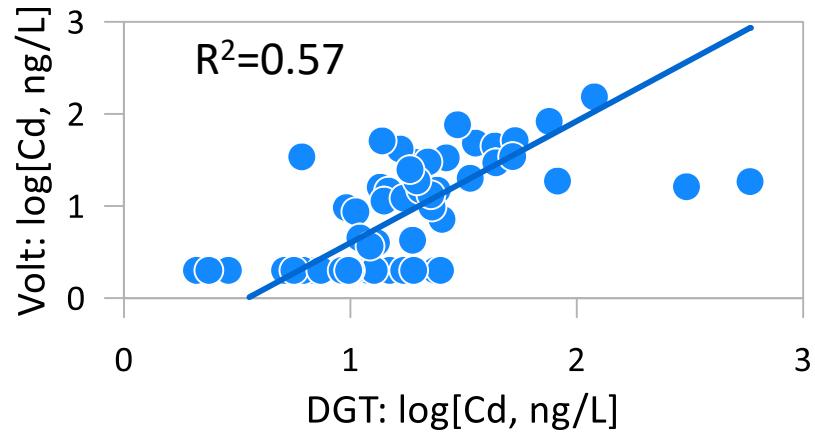
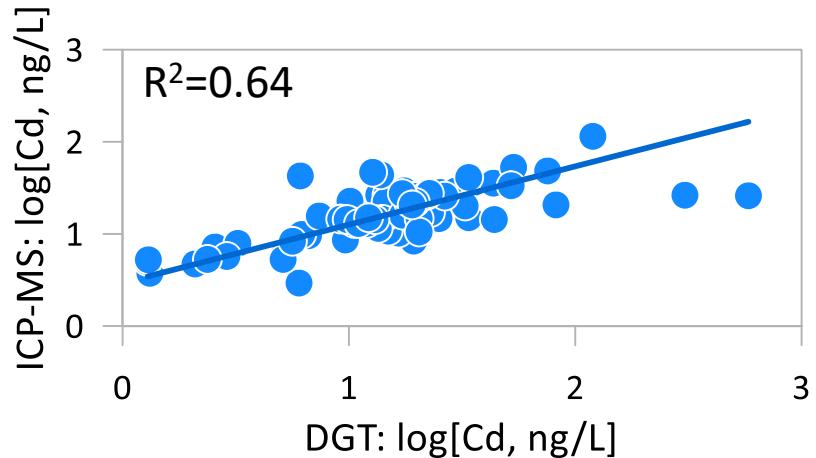
**The adaptation of EQS (dissolved metal) for  
DGT labile metal would permit the use of  
DGT for rutinary monitoring under the WFD**



Concentration of metal ( $\text{ng L}^{-1}$ )

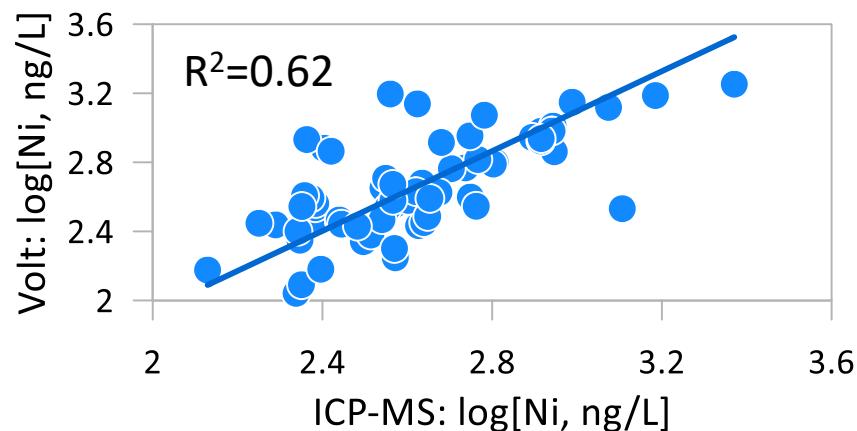
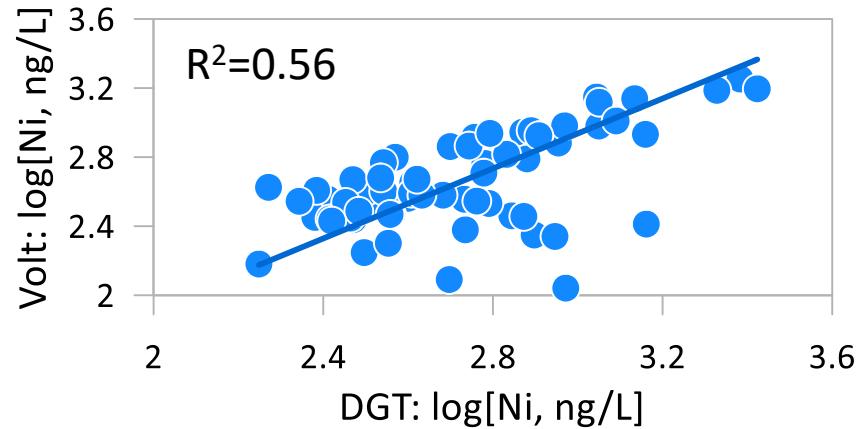
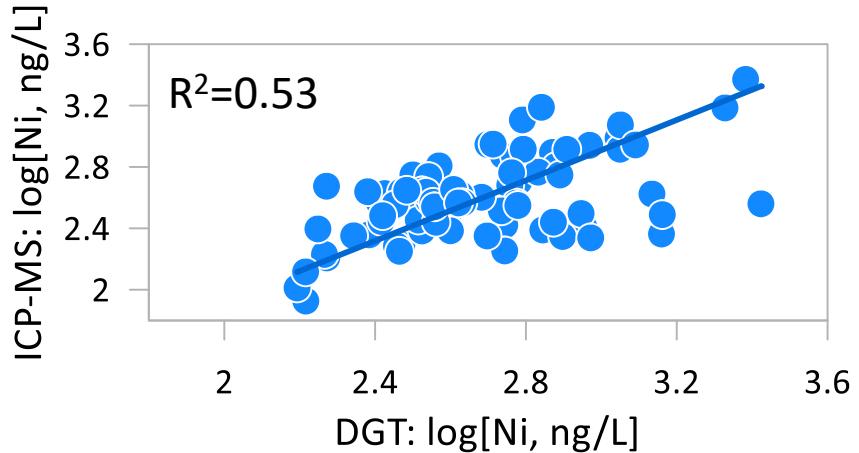
# Results: correlations

Cd, EQS = 200 ng/L (2,30 ng/L in log)



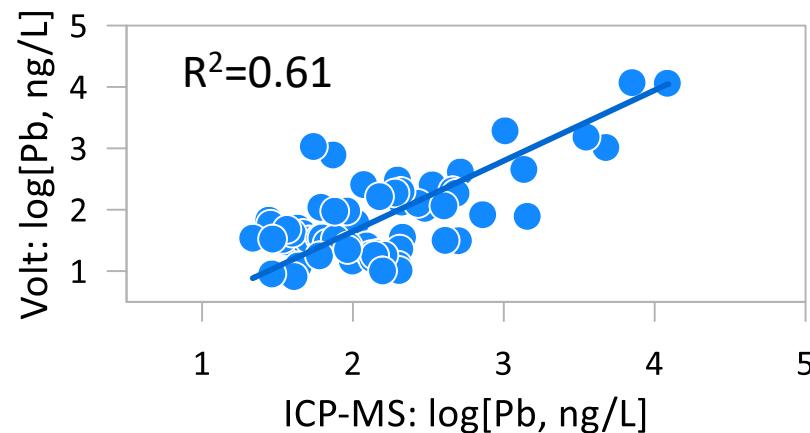
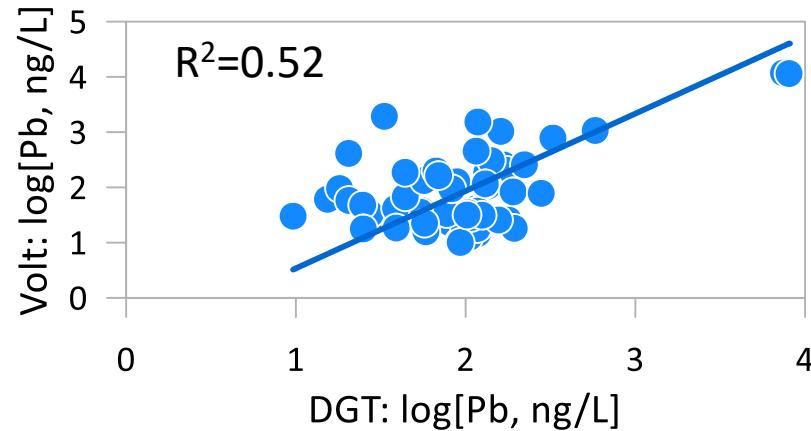
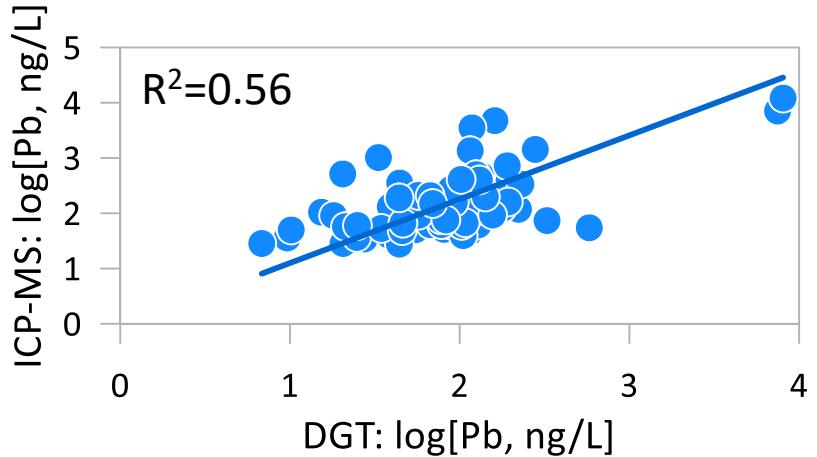
# Results: correlations

Ni, EQS = 8600 ng/L (3,93 ng/L in log)



# Results: correlations

Pb, EQS = 1300 ng/L (3,11 ng/L in log)





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YOUR  
ATTENTION!!

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