#### Journées techniques 28 et 29 mai 2013

Gestion des sites et sols pollués









# Les substances volatiles : caractérisation, modélisation des transferts, surveillance

Retour d'expérience des projets CITYCHLOR, FLUXOBAT et ATTENA

# CityChlor Work and results at a glance





## Tackling urban soil and groundwater contamination caused by chlorinated solvents

#### CityChlor has 9 partners

















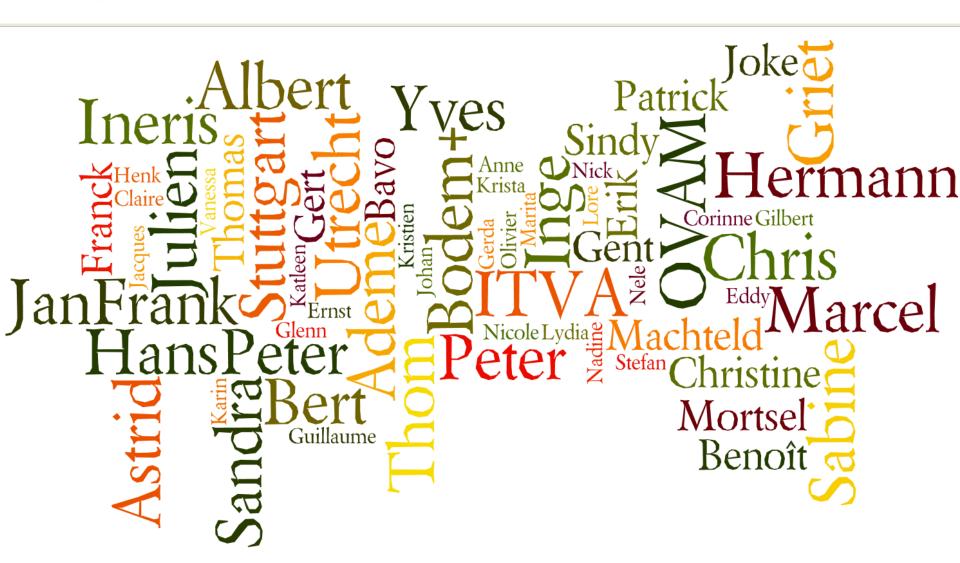














#### **INTERREG IVB North West Europe**



The aim of this financial instrument of the European Union's Cohesion Policy is to

- stimulatie transnational cooperation
- find innovative ways and tackle shared problems in the NWE region.
- touch the lives of citizens and thus contribute to a more cohesive EU society

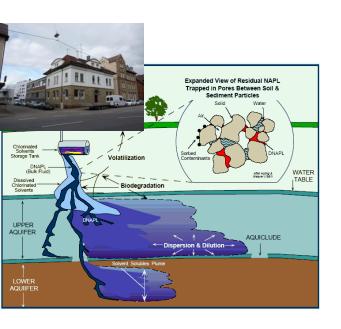
The total research budget of CityChlor was 5.2 M. euro of which 50% is financed by Interreg IVB

www.nweurope.eu





# Project's objectives: improve the quality and minimize the pollution of soil and groundwater



#### **Problem?**

chlorinated solvents in soil and groundwater: hard to remediate and risk for health and environment

often caused by companies with little capital

urban environment poses additional limiting conditions for research and remediation

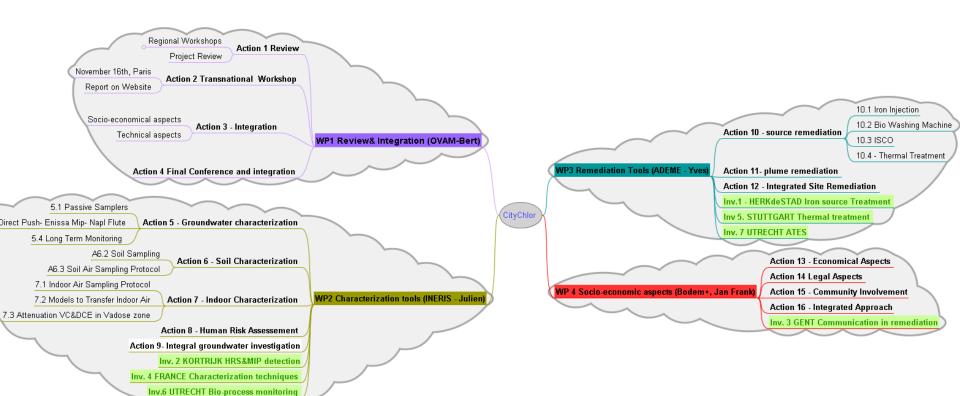
common problem in all European cities

integrated approach

technical communciation, socio-economic and organizational



# Project steps to an Integrated Approach





### Review and integration



#### Workshops and demonstrations



>450 Linkedin members









> 3000 experts on CityChlor workshops













Characterization Techniques

models for

transfer to indoor air



soil and groundwater

LTMO

groundwater passive sampling

direct push

technology



**Pilot test Kortrijk:** 

Enissa Mip + **FLUTe** 



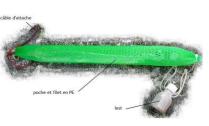
indoor air

sampling protocol

soil gas

attenuation of VC and DCE

soil gas sampling



Pilot test France:



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Groundwater, soil,

soil gas and indoor













**Utrecht: Bio Process Monitoring** 

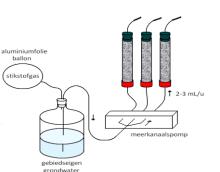






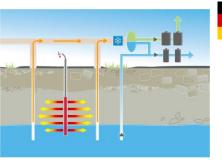


Remediation Techniques





Nano & micro Iron injection

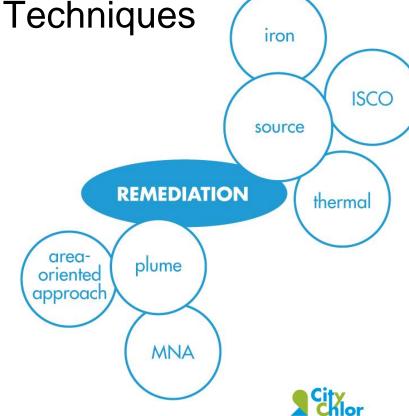




remediation







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### Socio-Economic Aspects

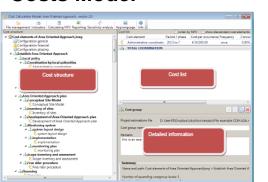
#### **Workshop Urban Planners**



#### **Communication Checklist**



#### **Costs Model**



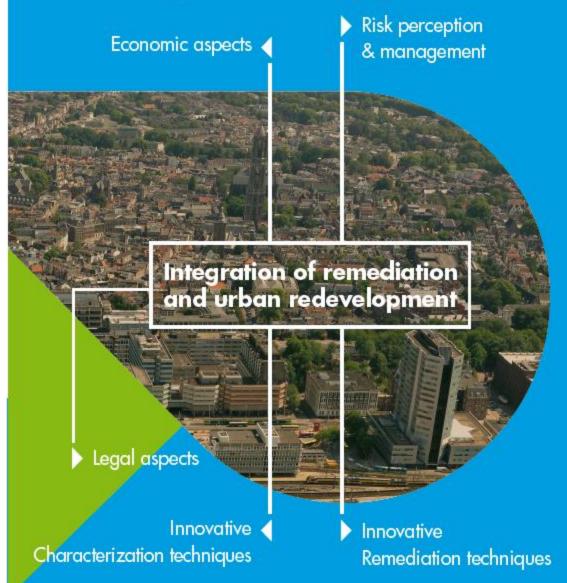








### Integrated approach









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