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PROJECT FUNDED BY WALOON REGION – GREENWIN

**Treatment Methodology and Monitoring for sequenced  
Reallocation of severely polluted Industrial Sites  
(MEMORIS) :  
*A combination of innovative technologies***

# MEMORIS PROJECT

## Currently

### Polluted site in Wallonia



### Issues

- Many abandoned polluted sites → reallocation necessary for the economic redeployment of the region
- Severe mixed pollution (organic et inorganic compounds)
- Treatment : Excavation, transport and storage in CET

- Big surfaces → Too expensive
- Excavation and transport → risk for population
- Excavation of the superficial area → Groudwater problem and migration of pollutants



### MEMORIS advantages

- ✓ In situ treatment limiting excavation
  - ✓ Cheaper and safer
  - ✓ Deeper pollution

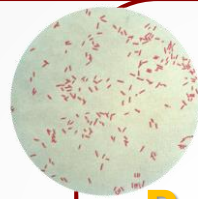
**Purpose :** Clean up a fallow industrial area (Coking) with severe mixed pollution

**Innovation :** Attempt a sequential depollution with *in situ* methods for faster rehabilitation

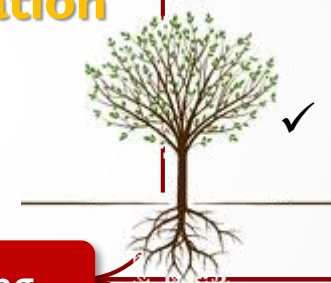
## 4 AXIS OF THE PROJECT

### Biostimulation by microorganisms

- ✓ In situ stimulation by temperature elevation
- ✓ Transfert of degradation products in effluents to vegetative unit



### Remediation



### Phytoremediation

- ✓ In situ phytostabilization and phytoextraction in effluents to finish the degradation
- ✓ Landscape improvement

### Coupling

### Hydro-geophisic methods

- ✓ Intallation of the floor heating device
- ✓ Continuous monitoring of contamination evolution and temperature fields

### Monitoring



### Bioindicators use

- ✓ Invertebrate models (snails and earthworms)
- ✓ Predictive biomarkers of toxic effects
- ✓ Sanitary risk

**Thank you for your attention**



**MEMORIS PROJECT**

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