

From Site Closure to Disengagement

NICOLE Network meeting

18 - 20 November 2009

Welcome to Ecole des Mines de Douai

A French engineering « Grande Ecole »... ...A Research Center

- 900 students (230 graduates per year)
- 300 permanent staff members
- 5 departments engaged both in teaching and research
- Steady contacts with the industrial sphere
- Programs of teaching and research in accordance with industrial needs

- Saving of natural resources and buildings
- Recovery of industrial by-products
- Reuse of past-industrial sites and soils
- ➔ Recovery of granular by-products - in particular dredged sediments- in civil engineering materials,
- ➔ Bio-chemico-mecanical mechanisms inducing material ageing and matter transfer : civil engineer materials and soils

Network on polluted soils and sediments: GIS 3SP

Description of GIS 3SP

- Objectives: Promotion of experimental and demonstration research and projects in
 - Supporting regional and transboundary structure
 - Meeting private or public stakeholders' demands in soil and sediment management and site remediation
 - Consolidating network activity to guarantee know-how transfer
- Actors
 - Core group: Ecole des Mines de Douai , INERIS, BRGM, ISSeP, Centre Terre et Pierre
- Regional action linked with national and european initiatives
- Research themes
 - Environmental risk management
 - Treatment of soil and sediments: e.g. PHYTOSTAB
 - **Multi-criteria analysis for site monitoring and management**



Sediments: The GeDSeT project

(Interreg 2008-2012)

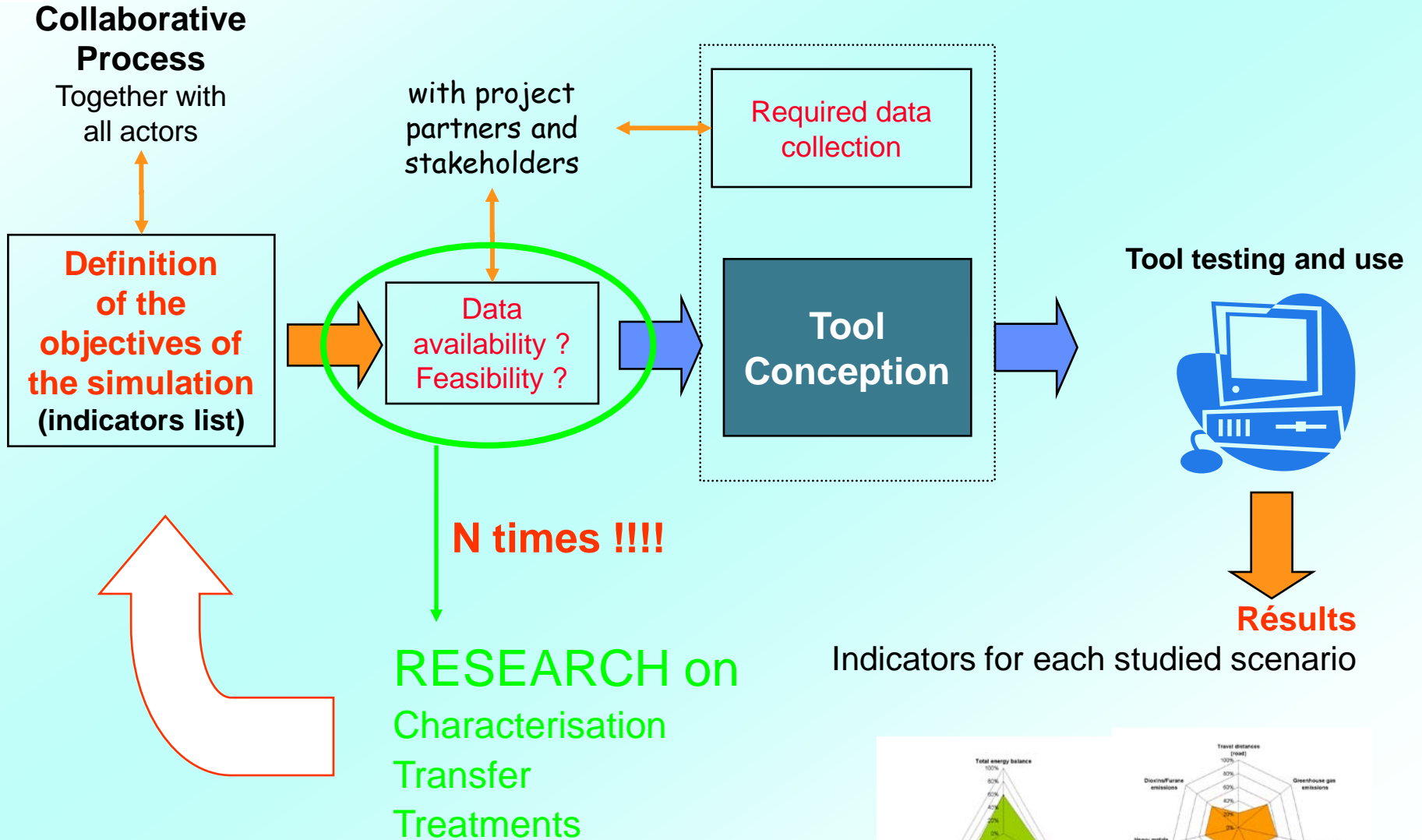
- Constitution of a decision support tool (DST) for the management and material recovery of **waterways sediments** in Belgium and Northern France
- **Simulate the consequences and mid-term costs of various sediment management options in order to:**
 - contribute to rank action priorities for waterways,
 - provide elements for discussions and debates around sediments management, between stakeholders

Structure of the project

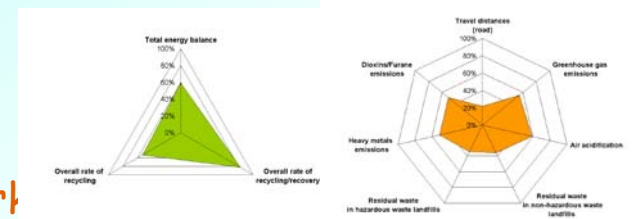
- **Constitution of the DST**
 - **Focussed research on 5 themes**
 - **Dissemination and stakeholder involvement**

Sediments: The GeDSeT project

Département Génie Civil & Environnemental



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Soils: toward demonstration sites

What are the needs for demonstration?

From :

French service providers : UPDS, CD2E

Private and public site owners (ADEME, SPAQUE, EPF, Total, AREVA...),

French and European working groups and projects : SNOWMAN, EURODEMO, COST actions...



Develop emerging technologies

Optimise existing methods

Assess remediation technologies

**Tools for Sustainable redevelopment
of brownfields (in urban areas)**

Development project
Constraints and opportunities
alternatives for redevelopment

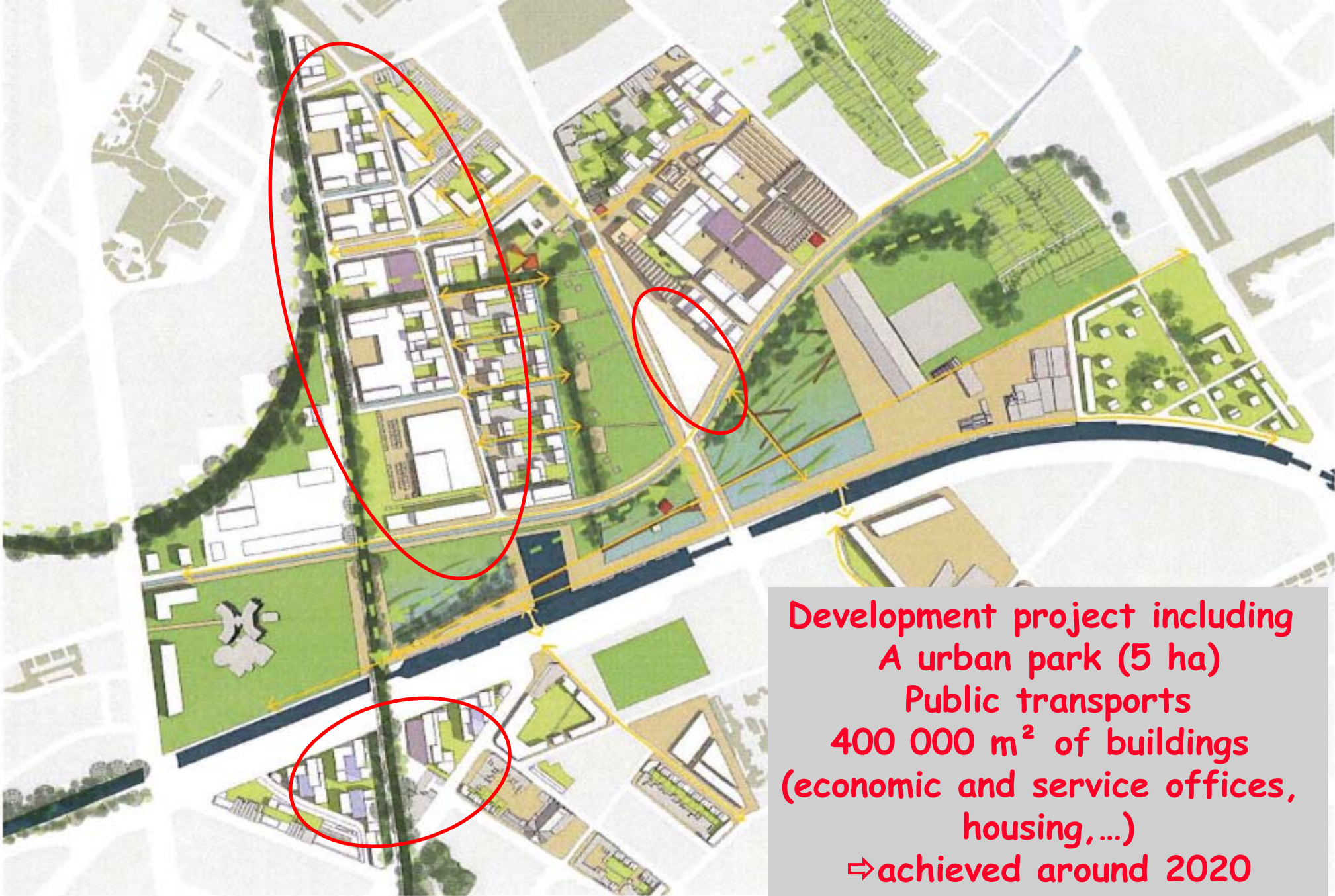
Aerial photograph 1951

Freight and
charcoal
station,
foundries

Gas plant

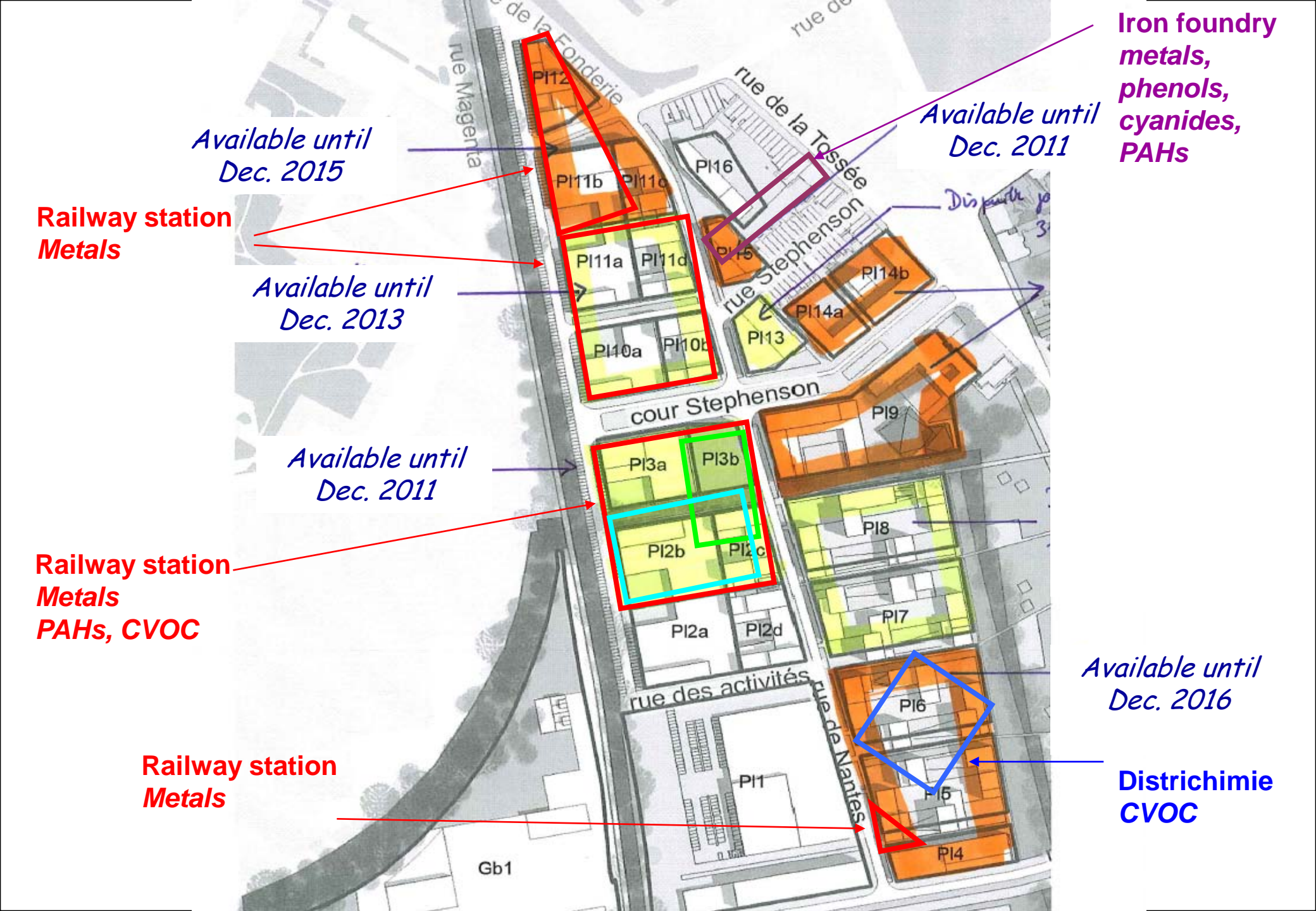
Transport company

"Zone de l'Union"
Lille Urban Community
Dense urbanisation
80 ha (200 acres)
30 former industrial /service sites



Development project including
A urban park (5 ha)
Public transports
400 000 m² of buildings
(economic and service offices,
housing,...)
⇒ achieved around 2020

le plan vert et les promenades piétonnes



Available until
Dec. 2015

Railway station
Metals

Available until
Dec. 2013

Available until
Dec. 2011

Railway station
Metals
PAHs, CVOC

Railway station
Metals

Available until
Dec. 2011

Iron foundry
metals,
phenols,
cyanides,
PAHs

Available until
Dec. 2016

Districtchimie
CVOC

2 kinds of demonstration projects

On sites
free from
short-term
development

- Demonstration of know-how, monitoring and efficiency of technologies
- Knowledge acquirement on innovative technologies
- Scaling-up tests from lab. to field
 - E.g. **CITYCHLOR Interreg project** : integrated approach for remediation of chlorinated solvent pollution in urban areas, including technical, communication, socio-economic and organizational aspects

On sites
subject
to short-term
or
going-on
redevelopment

- Acquire and integrate multi-disciplinary data and knowledge required for sustainable redevelopment in a urban area:
 - cost/benefit analysis, public acceptance, sustainability criteria and indicator, soil reuse at the site scale...
- Implementation of a recently developed guide by ADEME and French Ministry of Environment on urban development of polluted sites and brownfields



Have a nice meeting in Douai !