

Pole of competitiveness or Cluster?

« Industries and agro resources »

EIHA 2006

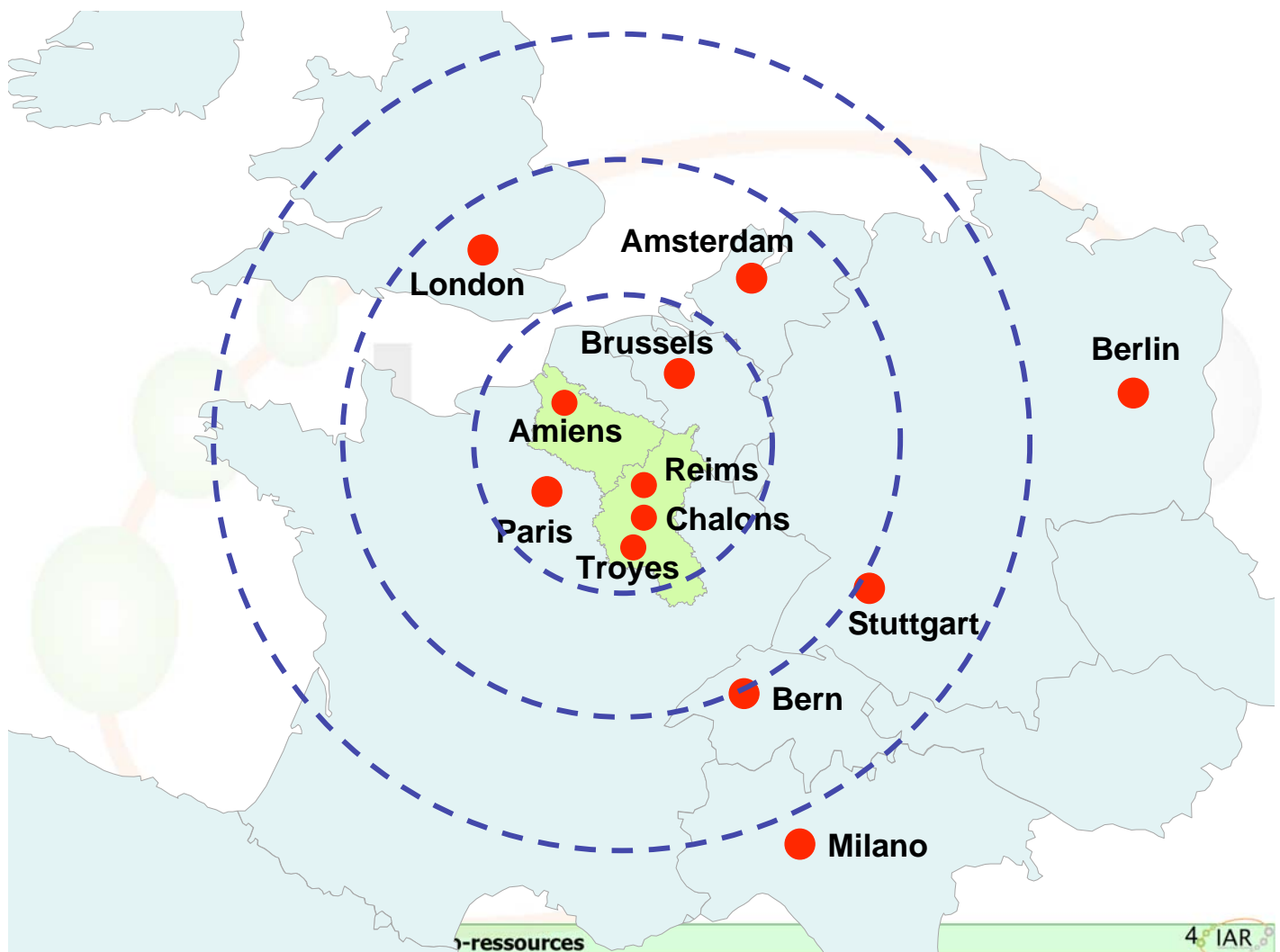
Pierre BOULOC

Content

- What is a Pole of competitiveness or Cluster?
- Aims and goals
- Why in Champagne?
- Different subjects:
 - Bio Energy
 - Bio Materials
 - Bio Molecules
- What about hemp?

What is a Pole of competitiveness or Cluster?

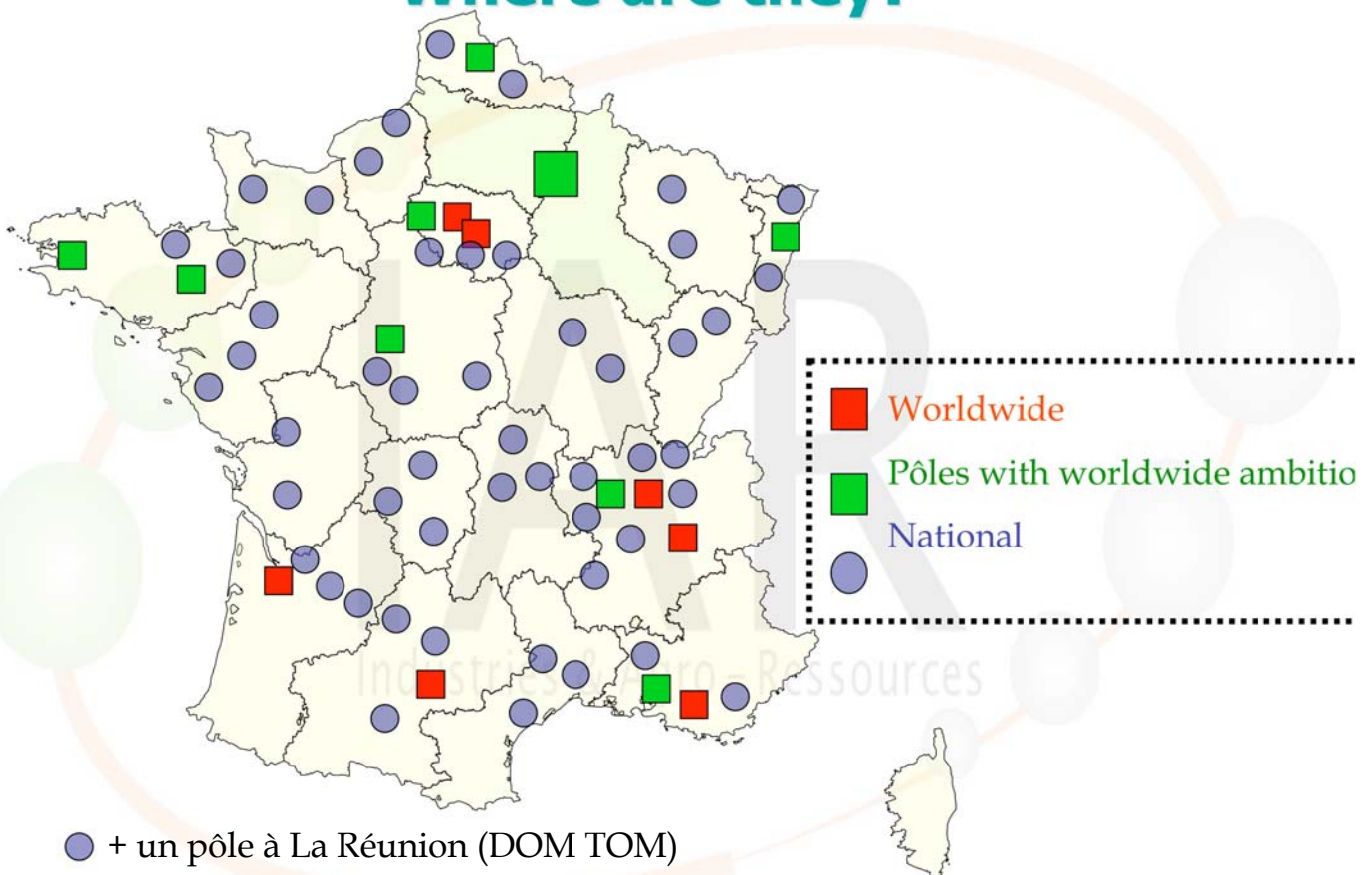
- A combination, on a given geographical space, of:
 - Companies, formation's centers and units of research,
 - All engaged in partnerships in order to release synergies around joint projects in innovating matter,
 - And having the critical mass necessary for an international visibility.



Aims and goals

- Reinforce the industrial competitiveness of France
- Instigate the economic development and create or maintain industrial jobs
- Project the image of technological and industrial France
- Ensure the territorial “anchoring” of the industrial activity: to play of synergies with local R & D and thus attract the investments and competences, on the European level and world potential.

Where are they?



Why in Champagne?

- **NATURAL ASSETS:**
 - an agriculture of large plain
 - a collection of large marks
 - Actors of weight
- **MARKETS with PROMISING PROSPECTS**
 - Interesting molecules : surface-active, solvents, active ingredients
 - Biomaterials: fibres, composite materials, biopolymers
 - Bio-energy (biocarburants)
- **Know How**

The agricultural wealth

Picardie et Champagne-Ardenne add:

65 % of french surfaces of Hemp!

57% of French surfaces of sugar beetroots

26% of French surfaces of alfalfa

24% of barley

19% of common wheat

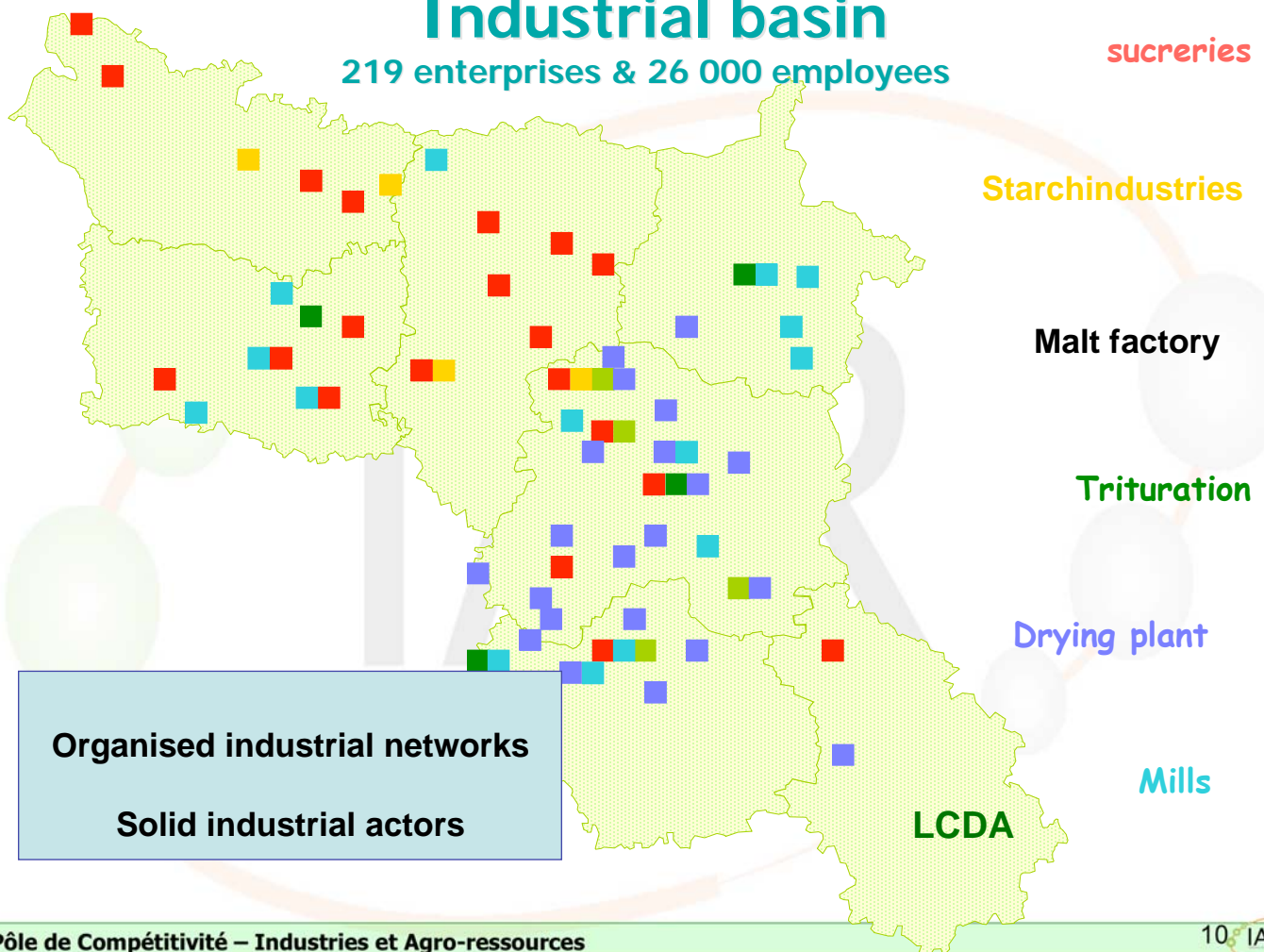
12% of colza and sunflower

And completely unique for Champagne

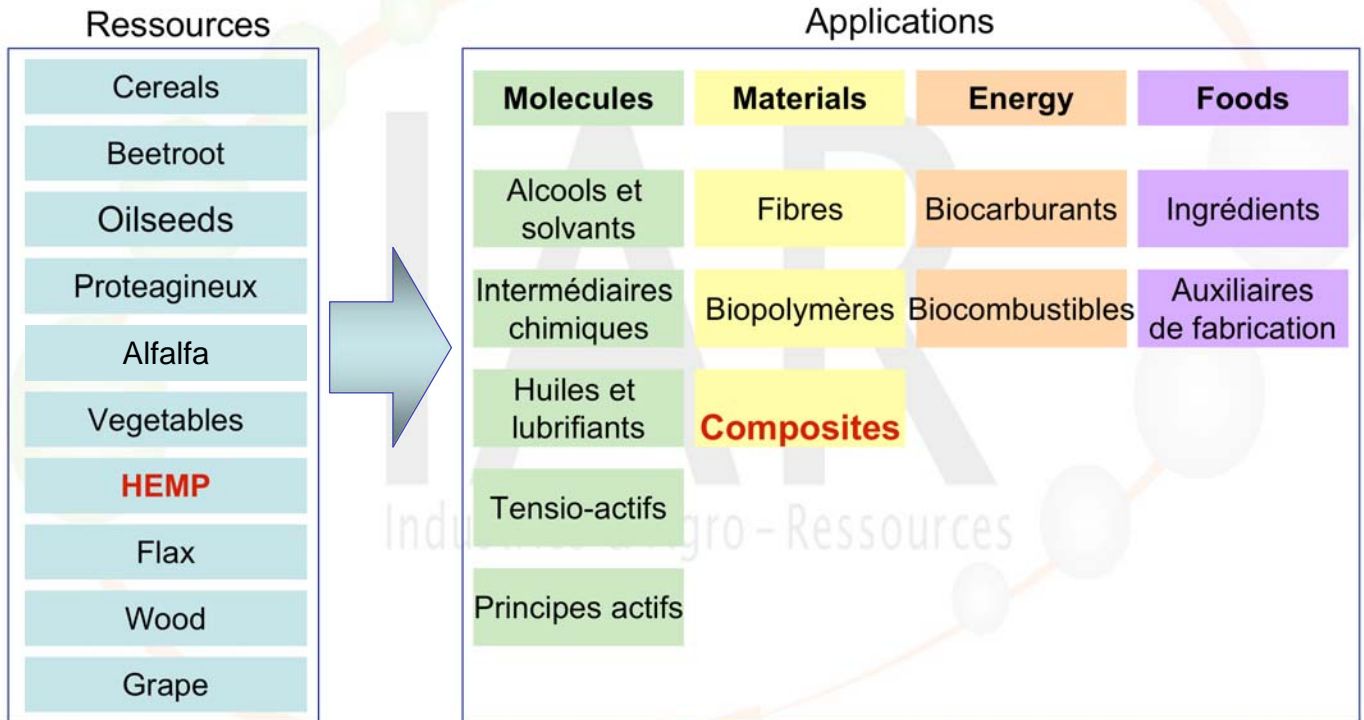


Industrial basin

219 entreprises & 26 000 employees



Diversity of vegetal resources and markets



Bio Energy



HEATING

« Bio combustibles »

- Biomasse : paille, céréales, bois...
- Géothermie

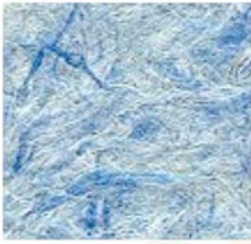
ELECTRICITY

- Biogaz
- Éolien
- Thermique
- Hydraulique
- Photovoltaïque

BIOCARBURANTS
(bioéthanol, diester)



Bio Materials



Papier végétal (Lin)



100% Chanvre

CONSTRUCTION
(capteurs biochimiques et biométriques, biopolymères)

PAPERMILL
(fibres, dérivés ligno-cellulosiques...)

TEXTILE
(flax, HEMP, cotton...)

PLASTURGY
(automobile, pneumatique, films de paillage, polymères...)

METALLURGY

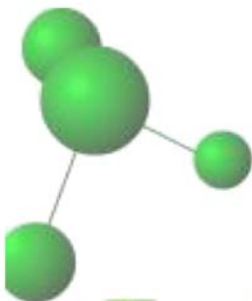
PACKAGING
(sacs plastiques biodégradables, emballages ménagers...)



Sony, Plastique végétal



Bio Molecules



PHARMACEUTICAL
(vitamins, antibiotics...)

HYGIENE

COSMETIC
(crèmes, gels douche, écrans solaires, shampoings...)

OILS & LUBRICANTS

DETERGENTS
(lessive, liquide vaisselle, désinfectant, nettoyeur alcalin...)

ALCOOLS & SOLVENTS

TENSIO-ACTIFS



What about hemp?

- A close relationship between INRA & hemp network (LCDA) .
- Studies:
 - Decortication : principles for the process
 - Fiber's structure: Is it possible to modify the walls by adding molecules of lignine, saccharids

What about hemp?

- Fiber's properties :Fibers as material for industrial uses (same study with flax)
- How to give more value to hurds?
- Relationship between cultivar and compounding?

Others works

- **Toulouse (ENSIACT):**
 - Fractionation of lignocelluloses by wet process.
- **Epinal**
 - Hemp as a textile.
- **Flax and hemp: social, economical and technical outputs.**
- **With: INRA, ITL, ITC, Mines Paris**



Means?

- **2 labs: Reims and Toulouse**
 - 4 full time people in Reims
 - 5 people in Toulouse
- **University of Picardie**
- **AGRICE, etc**
- **A lot of € !**

Worldwide Actions

- **3 priorities** : Wallonie, Canada and Hungary
 - **Wallonie** : close friends!
 - **Hongrie** :
 - **Canada** : a long experience on clusters (25 years)
 - Bio raffineries
 - Natural relationship with France
 - **Others**: Germany, Finland...

The image features the words "THANK YOU" in large, 3D, green, textured block letters. The letters are arranged in a slightly curved line. Behind the text is a faint, light-colored molecular structure consisting of several spheres of varying sizes connected by thin lines. A large, semi-transparent watermark of the letters "IAR" is visible in the background, centered behind the main text.

THANK YOU

Industries & Agro - Ressources