Joint Forum for Dialogue with Regional Industrial Partners

Carré Bellecour

November 25th ‘06

« INSA de Lyon / Private firms»

focus on

« Research laboratories / Private firms»

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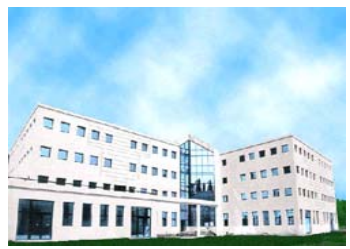
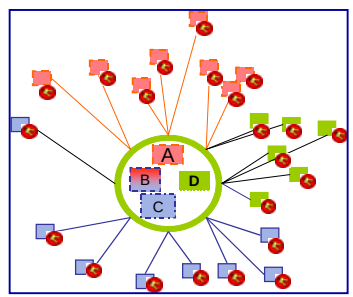
CONTENT





1. INSA de Lyon – private firms

Coordination by
Direction of Relationships with firms

➡ **Education** - - - - - - - - - INSA Teaching Department - - - - - - - -

Private firms

Private firms

Private firms

➡ **Continuing Education** - - INSACAST - - - - - - - -

Private firms

PRIVATE FIRMS

➡ **Research** - - - - - - - - - - INSAVALOR - - - - - - - -

Private firms

1. INSA de Lyon – private firms

1.1. Education

- **INSA de Lyon**
  5400 students
  866 engineers graduated per year
  12 engineering specializations
  28% of foreign students

  www.insa-lyon.fr

Trainings for students

Employment of young graduated

Financial support "Learning tax"

Participation to courses as speaker

Participation to INSA board

Private firms

Private firms

Private firms

Private firms

PRIVATE FIRMS

Private firms

1. INSA de Lyon – private firms

1.2. Continuing Education

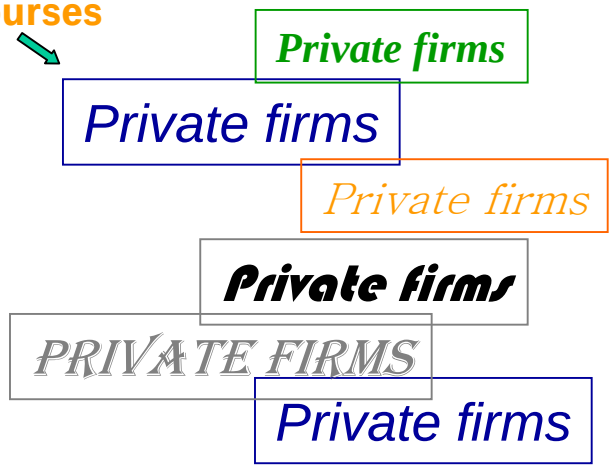
❖ **INSACAST S.A.**

Subsidiary of INSA de Lyon

- 40 years existence and expérience
- 1 600 traineers per year
- 350 training sessions per year
- Turnover : 3 millions d'Euros
- 15 engineers and administrative staff
- 350 teachers
- Network of 20 universities partner

www.insacast.fr

- **320 short training courses**
- **15 graduating courses**
- **E-learning**
- **Participation to courses as speaker**



1. INSA de Lyon – private firms

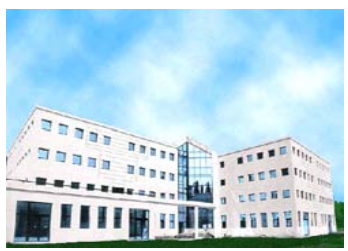
1.3. Research

1. Technology Tranfer (Research contract)
2. Technological Marketing and Communication
3. Accommodation for firms

- **INSAVALOR S.A.**
  Subsidiary of INSA de Lyon

Created in 1988
Turn over : 10 M€/year
1000 contracts per year
15 engineering and administrative staff
500 researchers

www.insavalor.fr



Private firms
Private firms
Private firms
Private firms
PRIVATE FIRMS
Private firms

2. INSA laboratories – Private firms

2.1. INSA de Lyon - INSAVALOR

Research capacities

500 *teachers- researchers and researchers*

500 *publications in international revues*

450 *doctorate students*

240 *students in Master of Research*

120 *thesis par year*

Capital owner

INSA Lyon : 60%

Bank : 28%

Employees : 12%

10 M€ turn over / year

1000 contracts / year

2. INSA laboratories – Private firms

2.1. INSA de Lyon - INSAVALOR

Research capacities

- Materials
- Mechanical engineering
- Environment & Energy
- Technology of Information and communication
- Biology & Health.

Capital owner

INSA Lyon : 60%

Bank : 28%

Employees : 12%

10 M€ turn over / year

1000 contracts / year

2. INSA laboratories – Private firms

2.1. INSAVALOR – INSA de Lyon

INSA LYON

Research capacities

Materials – Structural materials, Multifunctional material, Nanomaterials, Metal, Ceramic, Polymer, Composite, Civil engineering.

INSA VALOR

Capital owner

INSA Lyon : 60%

Bank : 28%

Employees : 12%

10 M€ turn over / year

1000 contracts / year

2. INSA laboratories – Private firms

2.1. INSAVALOR – INSA de Lyon

Research capacities

Mechanical engineering –

Solid mechanics, Mechanic of structures, Tribology, Acoustic & et Vibration, Modelling.

Capital owner

INSA Lyon : 60%

Bank : 28%

Employees : 12%

10 M€ turn over / year

1000 contracts / year

2. INSA laboratories – Private firms

2.1. INSAVALOR – INSA de Lyon

Research capacities

Environment & Energy –

Security of systems, Clean & sustainable process, Waste management, Thermic sciences, Urban engineering, History of science, Epistemology.

Capital owner

INSA Lyon : 60%

Bank : 28%

Employees : 12%

10 M€ turn over / year

1000 contracts / year

2. INSA laboratories – Private firms

2.1. INSAVALOR – INSA de Lyon

Research capacities

Technology of Information and communication –

Electronic components & systems, Computer science, Robotic, Micro and Nano-Technologies, Telecommunications, Management of data.

Capital owner

INSA Lyon : 60%

Bank : 28%

Employees : 12%

10 M€ turn over / year

1000 contracts / year

2. INSA laboratories – Private firms

2.1. INSAVALOR – INSA de Lyon

Research capacities

Biology & Health – Health engineering, biotechnology, biochemistry and Pharmacology, Production of biomolecules, Ethic.

Capital owner

INSA Lyon : 60%

Bank : 28%

Employees : 12%

10 M€ turn over / year

1000 contracts / year

2. INSA laboratories – Private firms

2.2. INSAVALOR activities

Private firms

Private firms

Private firms

Private firms

PRIVATE FIRMS

Research capacities

- Materials
- Mechanical engineering
- Environment & Energy
- Technology of Information and communication
- Biology & Health.

1. Technology Transfer (research contract)

- Identifying the right partner
- Identifying the good cooperation frame (+)
  - -long term (PhD)
  - -medium term (Post Doc)
  - -short term (Transfer Engineers) (+)
- Setting up the contract
  - -Intellectual Property Right
- Finding financial support

2. INSA laboratories – Private firms

2.2. INSAVALOR activities

Private firms

Private firms

Private firms

Private firms

PRIVATE FIRMS

Research capacities

Materials

Mechanical engineering

Environment & Energy

Technology of Information and communication

Biology & Health.

2. Marketing & Communication

- Organising scientific conferences
- Market evaluation for technologies developed by researchers
- Communication plan for technologies developed by researchers

2. INSA laboratories – Private firms

2.2. INSAVALOR activities

Private firms

Private firms

Private firms

Private firms

PRIVATE FIRMS

Research capacities

- Materials
- Mechanical engineering
- Environment & Energy
- Technology of Information and communication
- Biology & Health.

3. Accommodation for firms

- 8800m²
- 30 firms in relationships with the campus

3. Future collaboration

3.1. Integrated approach

- **Developing global agreement with private firms**
  - "key account" relationship

    Ex : Plastic Omnium

- **Developing a mix between "research contract" and "educational activities".**
  - Ex : organising "Brain storming" session for private firms where researcher and students work together.

3. Future collaboration

3.2. Promoting pluridisciplinary approach

Pluridisciplinary Research in Polymer processing…

Applied Mathematical Laboratory of Lyon

Laboratory of Pluridisciplinary Research in Polymer processing

Laboratory of Macromolecular Materials

Group of Metallurgy and Materials Science

Materials *Process* *System Function*

Thermal Sciences Centre of Lyon

Contact and Solid Mechanics Laboratory

3. Future collaboration

3.3. Coordinating multi-partners project

- **Clusters**
  A regional initiative …inspired by Network of Excellence – Gathering researchers from a common scientific community…

POLYLAM

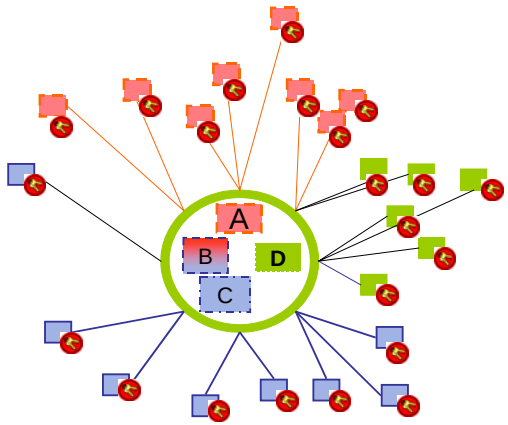
ACHROMOS

- **Pole of competitiveness**
  A state initiative… inspired by MINATEC model
  - powerful concentration of skills and resources
  - ambitious investment policy (reduction of tax for innovating project,

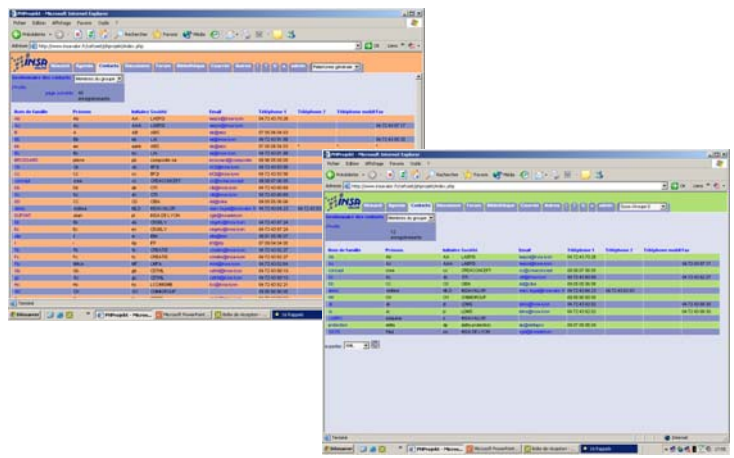
  Chemistry & Environment
  Polymer processing : Plastipolis

3. Future collaboration

3.3. Coordinating multi-partners project



- **Administrative support**
- **Logistic support**
  - organising and co-animating meeting
  - E-room
- **Setting up consortium agreement**
  - Suggestion – Mediation – Negotiation – Finalisation
- **Communication - Dissemination**



Thank you for your attention.

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Annexes

Example of collaboration

2.1. Research contract – long term (ex 1)

PRPOSPET

Partners : IMP-LMM (INSA de Lyon) Cemef (Armines).

Purpose : Research Program on PET for bottles
(3 years, 2+2 thesis)
+ Implantation of two experimental production plants
Compound platform (***IMP-LMM – INSA de Lyon***)
Blowing platform (Cemef – Armines)

Co-financing : ANVAR (French State)

INSAVALOR : In charge of administrative and juridical aspects of the supply and the implementation of the experimental production plant. Reduction of delay. Supporting research contracts.

PROSPET

Example of collaboration

POLYLAM-RA

- Polyoleofin matrix reinforced by nanoclay
- 14 partners – 3 years long
- 3 PhD, several Post-Docs
- Cost-sharing : Région + Industrial partners
- INSAVALOR as administrative coordinator
  - Logistic support
    - organising and co-animating meeting
    - E-room
  - Setting up consortium agreement
    - Suggestion – Elaboration - Finalisation

Typology of contracts

- **3 years long** contracts are the most appreciated…
  - Classic research contract
  - CIFRE (“Convention Industrielle de formation par la recherche” : wages partially supported by the industrial partner and the ANRT – National Agency of Research and Technology)
- **1 year long** contracts still welcome
  - Post-doc…
  - Permanent researchers, non permanent researchers
- **Short term contract : Transfer Engineers**

3 years and +
25 % turn nover

2 years and +
10 % turn nover

1 years and +
20 % turn nover

< 6 months
33 % turn nover

Remaining 12 %
6 –11 months.

Transfer Engineers (1)

Some industrial companies need to **collaborate** with public laboratories **on shorter basis** than a 3 years long PhD or even a one year Post-Doc.

CNRS and INSAVALOR leaded a common action to propose to these industrial : ***"Transfer Engineers"***

They are

- **dedicated** to relationships with industrial firms (especially SMEs)
- employed by Insavalor
- **located inside the laboratory** with an access to research equipments

Research Activity ⇄ **Transfer Activity** → Training for students

Transfer Engineer (2)

Example of collaboration

- **Elaboration of a varnish for insulating tools** dedicated to intervention in high voltage environment. Big Group.

- **Elaboration of cake tin in polymer.**
  Regional SME, 6 months

- **Characterisation of a quick-setting organic cement**
  Regional SME, 6 months. The industrial partner wanted to validate and characterised a chemical composition he discovered him-self.

- **Characterization and improvement of a new sticking process** of medical components.
  Regional SME