



# ***Social Dynamics of Innovation in City-Regions***

INSTITUT de RECHERCHE  
sur les PME

## ***The case of Trois-Rivières***

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ISRN 10<sup>th</sup> Annual Meeting, Montréal, May 2008



# Historical Perspective

- Created in 1634, Trois-Rivières is the second oldest Canadian city
- Trois-Rivières is the administrative and economic capital of the Mauricie Region
- Located half way between Montreal and Quebec city, two major city/regions
- The Mauricie region owes its development to Iron Ore and Lumber Industries
- Region of cultural diversity



# Indicators

- Mauricie's population has increased between 2005 and 2006 to 260 461 habitants, but will decrease to 255 683 in 2010
- 86% workers have secondary school diplomas while 12.8% have a university degree
- Firms spent 627 214\$ in R&D with Quebec universities in 2002-2003 of which 61% was spent with UQTR
- Firm's internal R&D expenses : 86M\$ in 2003 vs 35M\$ in 2001
- 58% of Mauricie's patented inventions result from interregional collaboration
- Mauricie is first in Quebec for NRC's financial assistance in IRAP projects for 2002-2004



# Methodology

- The Quebec Government ACCORD Regional Program to build competitive regional production systems
- Regional actors participating in structured forums to identify niches of excellence



# Methodology

Mauricie's niches of excellence

- Value-added paper and associated technologies
- Metal processing technologies
- Furniture
- Industrial bioprocesses
- Hydrogen and electro-technologies



# Methodology

- Sample of 25 firms built on the five ACCORD niches of excellence
- Meetings with NRC, Technopôle Vallée du St-Maurice and Société de Développement Économique to validate representation within each niche
- Interviews performed with ISRN structured interview guide
  - Main focus: the history of the firm
  - Other focus: the history of an innovation project



# Frame of analysis

- Patterns of interaction and propensity to collaborate are contingent on and evolve as industries and the supporting institutions of the RSI evolve
- To understand firms' patterns of interaction and propensity to collaborate we have to take into account the involved actors' and institutions' history of interests alignment
- Andersen, P. H. and Drejer, I. (2008), "Systemic innovation in a distributed network: the case of Danish wind turbines, 1972–2007", *Strategic Organization*, Vol. 6(1): 13–46.



# Types of innovation, assets, location

<b>Types of innovation</b>	<b>Assets</b>	<b>Intervening actors</b>	<b>Actors location</b>
New Product	Talent		<b>R or NR</b>
	Know-how		<b>R or NR</b>
Product improvement	Knowledge and R&D		<b>R or NR</b>
New Process	Innovation Opportunity		<b>R or NR</b>
Process improvement	Resources (material & \$)		<b>R or NR</b>

R: regional

NR : non regional





# Value-added paper and associated technologies

Types of innovation	Assets	Intervening actors	Actors location
Product improvement  Process improvement	Talent	CEGEP de 3-R, UQTR Professional Schools (Mauricie) Universities	R
	Know-how	Suppliers CIPP, CIC Merged firms	R
	Knowledge and R&D	CIPP, CIC PAPRICAN Research Center Internal	R
	Innovation Opportunity	Customers, suppliers Internal	NR
	Resources (material & \$)	Internal Banks Government Equipment & material Industries	NR



# Metal processing technologies

Types of innovation	Assets	Intervening actors	Actors location
Product improvement  Process improvement	Talent	Professional Schools (Mauricie) CEGEP de 3-R, UQTR Intermediates	<b>R</b>
	Know-how	Metal Tech Transfer Centre (CEGEP 3-R) Industrial partners NRC	<b>R</b>
	Knowledge and R & D	Internal Metal Tech Transfer Centre (CEGEP 3-R) UQTR	<b>R</b>
	Innovation Opportunity	Suppliers & Customers Partners with environmental vision	<b>NR</b>
	Resources (material & \$)	Internal Société de développement Économique Banks Government Equipment & material Industries	<b>NR</b>



# Furniture

<b>Types of innovation</b>	<b>Assets</b>	<b>Intervening actors</b>	<b>Actors location</b>
Process improvement	Talent	CEGEP de 3-R, CEGEP de Victoriaville Professional Schools (Mauricie)	<b>R</b>
	Know-how	Suppliers Professional Schools (Mauricie) Technology Transfer Centre (Victoriaville) Internal knowledge transfer	<b>R</b>
	Knowledge and R & D	UQTR Furniture R&D Chair Furniture Tech Transfer Centre (Victoriaville) Suppliers	<b>R</b>
	Innovation opportunity	Congresses, meetings Sector based Association Readings	<b>NR</b>
	Resources (material & \$)	Internal Banks	<b>NR</b>



# Industrial bioprocesses

Types of innovation	Assets	Intervening actors	Actors location
New products	Talent	CEGEP : 3-R, Shawinigan UQTR Universities	R
	Know-how	Firms from other industries Government R&D centres	NR
	Knowledge and R & D	CIPP Research Centres CRSNG R & D Centres Firms from other industries	NR
	Innovation opportunity	Customers	NR
	Resources (material & \$)	Banks Innovatech Government	NR



# Hydrogen and electro technologies

Types of innovation	Assets	Intervening actors	Actors location
Product improvement and New Processes	Talent	CEGEP 3-R, Shawinigan UQTR (Centre de recherche sur l'hydrogène) Hydro-Québec	<b>R</b>
	Know-how	Merged firms Firms from other industries	<b>NR</b>
	Knowledge and R&D	UQTR (Centre de recherche sur l'hydrogène) Customers Firms from other industries	<b>R</b>
	Innovation opportunity	Firms Customers	<b>NR</b>
	Resources (material & \$)	Internal Investissement Québec	<b>NR</b>

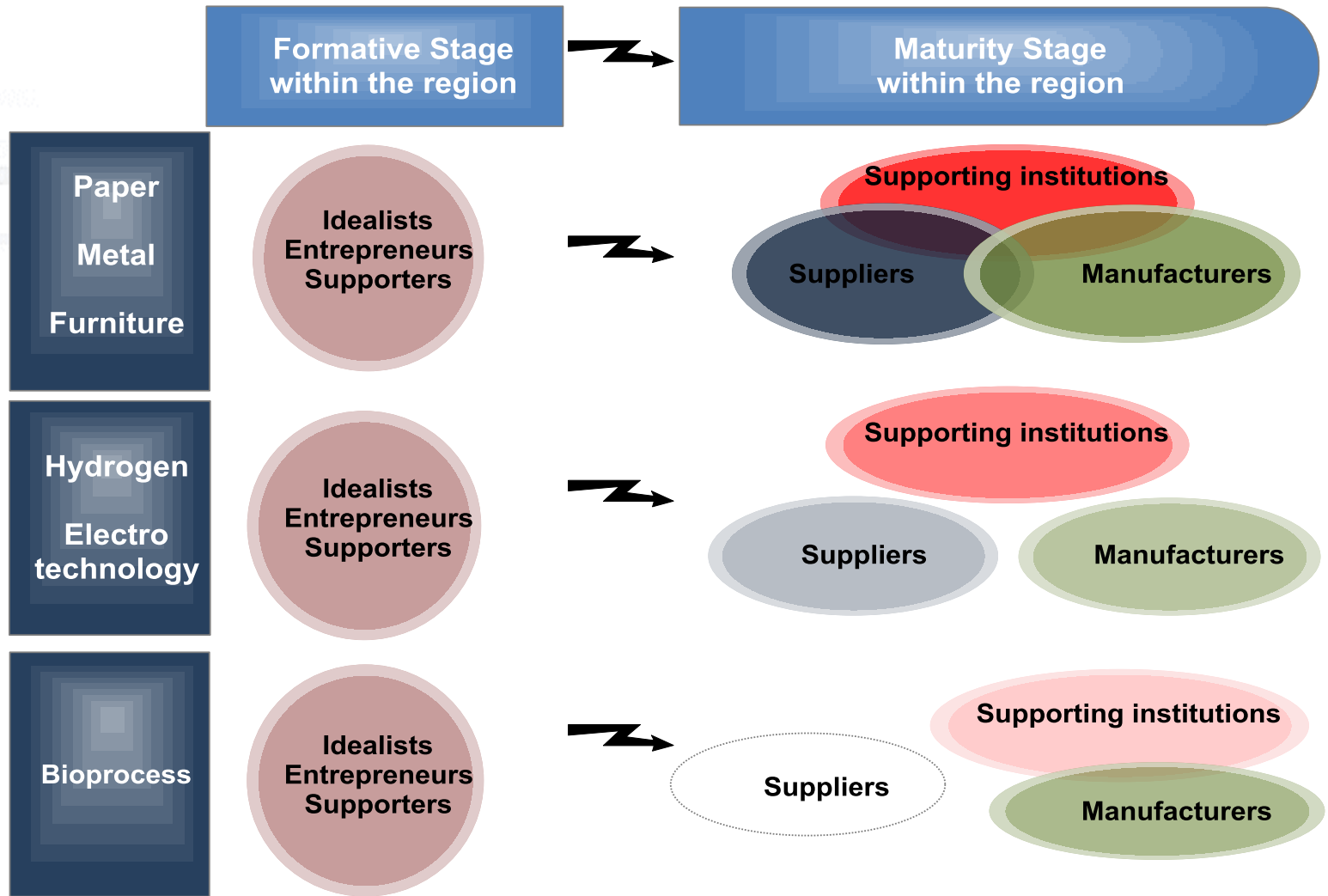


# Patterns of networking practices

	Aligned with RIS			Unaligned with RIS	
<b>Assets</b>	<b>Paper</b>	<b>Metal</b>	<b>Furniture</b>	<b>Bio</b>	<b>H &amp; E</b>
Talent	<b>R</b>	<b>R</b>	<b>R</b>	<b>R</b>	<b>R</b>
Know-how	<b>R</b>	<b>R</b>	<b>R</b>	<b>NR</b>	<b>NR</b>
Knowledge and R&D	<b>R</b>	<b>R</b>	<b>R</b>	<b>NR</b>	<b>R</b>
Innovation opportunity	<b>NR</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>
Resources (material & \$)	<b>NR</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>



# Alignment of actors within the RIS and patterns of networking practices



Inspired by : Andersen, P. H. and Drejer, I. (2008), "Systemic innovation in a distributed network: the case of Danish wind turbines, 1972–2007", *Strategic Organization*, Vol. 6(1): 24.



# Conclusion

- In its present state, the Trois-Rivières region RIS is not rich and diversified enough to support and bring to maturity a wide diversity of sectors/actors
  - a given RIS doesn't mean and “supply” the same to every actor
- In the mature sectors around which the supporting institutions have been constructed between 1970 and 2000 we observe a well working RIS
  - but, at the moment, all three sectors are going through very difficult times
- In the two other sectors, patterns of interaction for innovation show an important non-regional content
- It is not that geographic proximity is not important for these actors
  - it is simply that they have no one to talk to
  - the probability that they eventually will is low (the supporting institutions already exists in Montréal, St-Hyacinthe or Québec)
  - it is important for them to the point that in the bioprocess sector all our interviewees are thinking about “leaving the region”
- For innovation, firms will interact within their RIS if they have someone to talk to !