

## **VALUE CREATION LOGICS IN COLLABORATIVE NETWORKS: THE CASE OF RFID IMPLEMENTATION**

**C. Dominguez, MCF Université Jean Monnet (St Etienne), COACTIS  
laboratory, [carine.dominguez@univ-st-etienne](mailto:carine.dominguez@univ-st-etienne)**

**B. Ageron, MCF UPMF (Grenoble), CERAG laboratory,  
[Blandine.Ageron@iut-valence.fr](mailto:Blandine.Ageron@iut-valence.fr)**

**G. Neubert, MCF ESC St Etienne, LIESP laboratory,  
[gilles\\_neubert@esc-saint-etienne.fr](mailto:gilles_neubert@esc-saint-etienne.fr)**

# Introduction

- **Case study of the implementation of RFiD in a jewellery supply chain of a French retailer**
- **A pioneer project: one of the first implementation of RFiD in jewels**
- **Project management dynamic**

# CNs and supply chains

- **CNs: variety of entities that are largely autonomous, geographically distributed and heterogeneous in their operating environments and goals**
- **Supply chains are specific CNs: a network of organizations interlinking suppliers, manufacturers and distributors to produce value**
- **Different types of CNs: temporary, long-term**
  - **Creation, operation, evolution, dissolution and metamorphosis**

# Value in RFI D CNs

- **Value: the trade-off between multiple sacrifices (resources required in the project) and gains for stakeholders of a CN**
- **Different values for RFI D in a supply chain:**
  - **Physical: equipment**
  - **Financial: gains**
  - **Human: skill, experience**
  - **Organizational: process, systems**
  - **Relational capital: reputation, number of contracts, customer relations**

## Phase 1: Seeking opportunities

Step1	Determination of the primary <b>motivation</b> to adopt RFID: <b>WHY?</b>
Step2	Analysis of the <b>Product Value Chain (PVC)</b> : <b>WHAT?</b>
Step3	Identification of the <b>critical activities</b> in the PVC: <b>WHICH</b> activities to select and <b>WHY?</b>
Step4	Mapping of the <b>network of firms</b> supporting the PVC/ supply chain network: <b>WHO</b> and <b>WITH WHOM?</b>
Step5	Mapping of <b>intra-organizational processes</b> ("As is"): <b>HOW</b> within organization?
Step6	Mapping of <b>inter-organizational processes</b> ("As is") (HOW between organizations).

## Phase 2: Pilot project and Validation

Step7	Evaluation of RFID <b>Network opportunities</b>
Step8	Evaluation of potential RFID <b>Network applications</b> ("As could be")
Step9	Mapping of intra- and inter-organizational <b>processes</b> integrating RFID technology
Step10	<b>Validating</b> business and technological processes integrating RFID technology

## Phase 3: RFID project deployment

Step11	<b>Proof of concept (POC)</b> with the pilot project
Step12	Pilot <b>replication and evaluation</b>


# Research questions

- **How are CNs built in a RFiD project?**
- **Can we identify value creation logics in such CNs?**
  - **Resources required**
  - **Value creation**

# Methodology

- **A qualitative case study**
- **15 Interviews:**
  - **Both at the strategic and operational levels**
  - **With the different actors in the supply chain:**
    - **Product (jewel) supply chain**
    - **Information Systems: internal to the retailer and external with an IS provider**
    - **RFiD service providers**

# Case study : chronology of the RFiD project

TIME						
	06/2006	11/2006	01/2007	01/2008	04/2009	06/2009
STRATEGY	The IS department of the retailer starts a study on RFiD technology   The IS department of the retailer launches the RFiD project.				Agreement of the retailer's Headquarters to deploy RFiD tags in its 80 stores	
PROJECT			Beginning of the RFiD study on sustainable smart chips	Beginning of the pilot project: implementation in a pilot store with throw away smart chips	RFiD tags are implemented in all 80 stores	



## Case study: the stores

- ❑ 80 stores dedicated to jewellery based in the retailer's hypermarkets
- ❑ Nearly 3000 articles in one store
- ❑ Each jewel is identified with a RFID tag



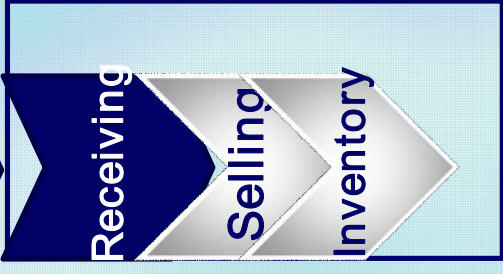
# Information System CN (ISCN)



# Product CN (PCN)

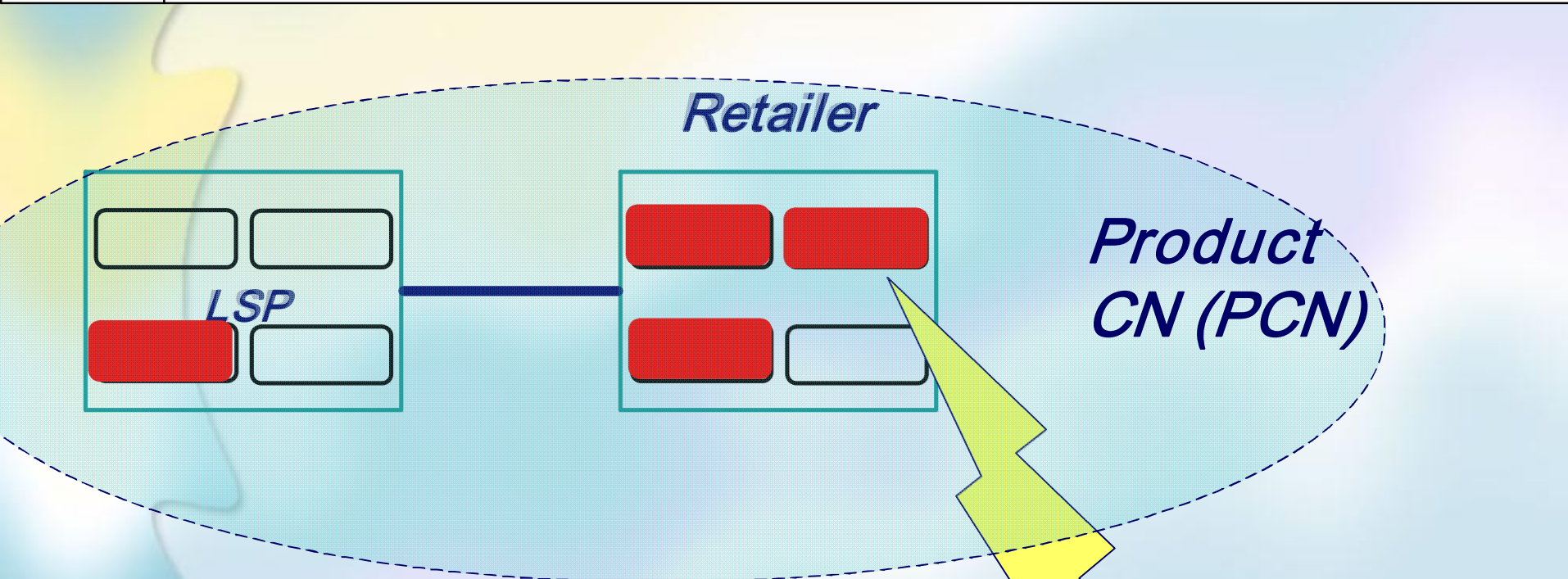
Logistic Service Provider (LSP)

Point of sale (POS) = 80 stores



# RFID CN (RFID CN)

<b>Step3</b>	Identification of the <b>critical activities</b> in the PVC: WHICH activities to select and WHY?
<b>Step4</b>	Mapping of the <b>network of firms</b> supporting the PVC/ supply chain network: WHO and WITH WHOM?
<b>Step5</b>	Mapping of <b>intra-organizational processes</b> ("As is"): HOW within organization?
<b>Step6</b>	Mapping of <b>inter-organizational processes</b> ("As is") (HOW between organizations).



➤ Motivations of the jewelry product choice :

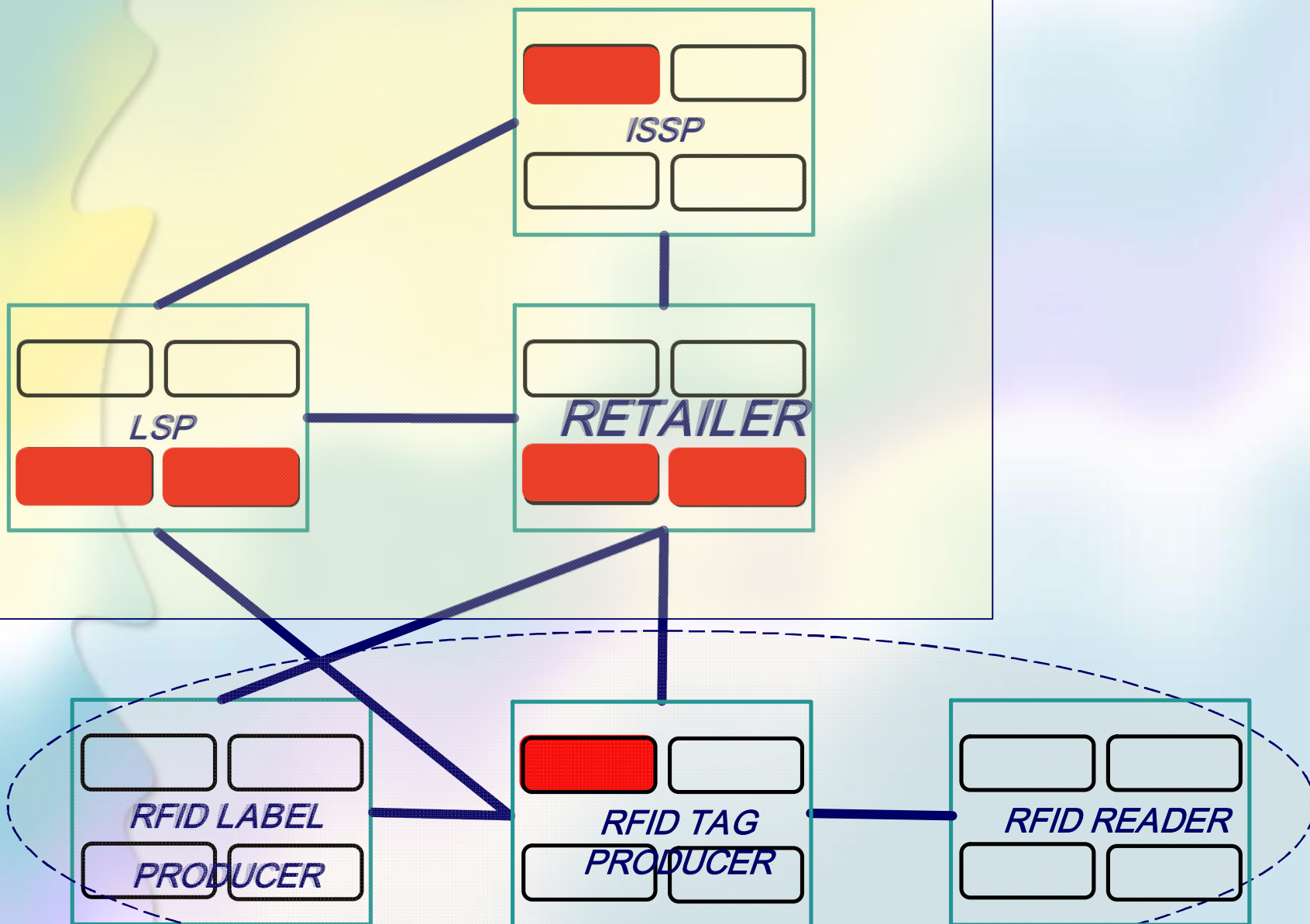
- A simple logistic chain (a unique supplier )
- High volumes ( 1 000 000 jewells/ year)
- The product price allows to cover the tag's price
- The final customer is not directly impacted

**ENVIRONNEMENT**



**Step9** Mapping of intra- and inter-organizational *processes* integrating RFID technology

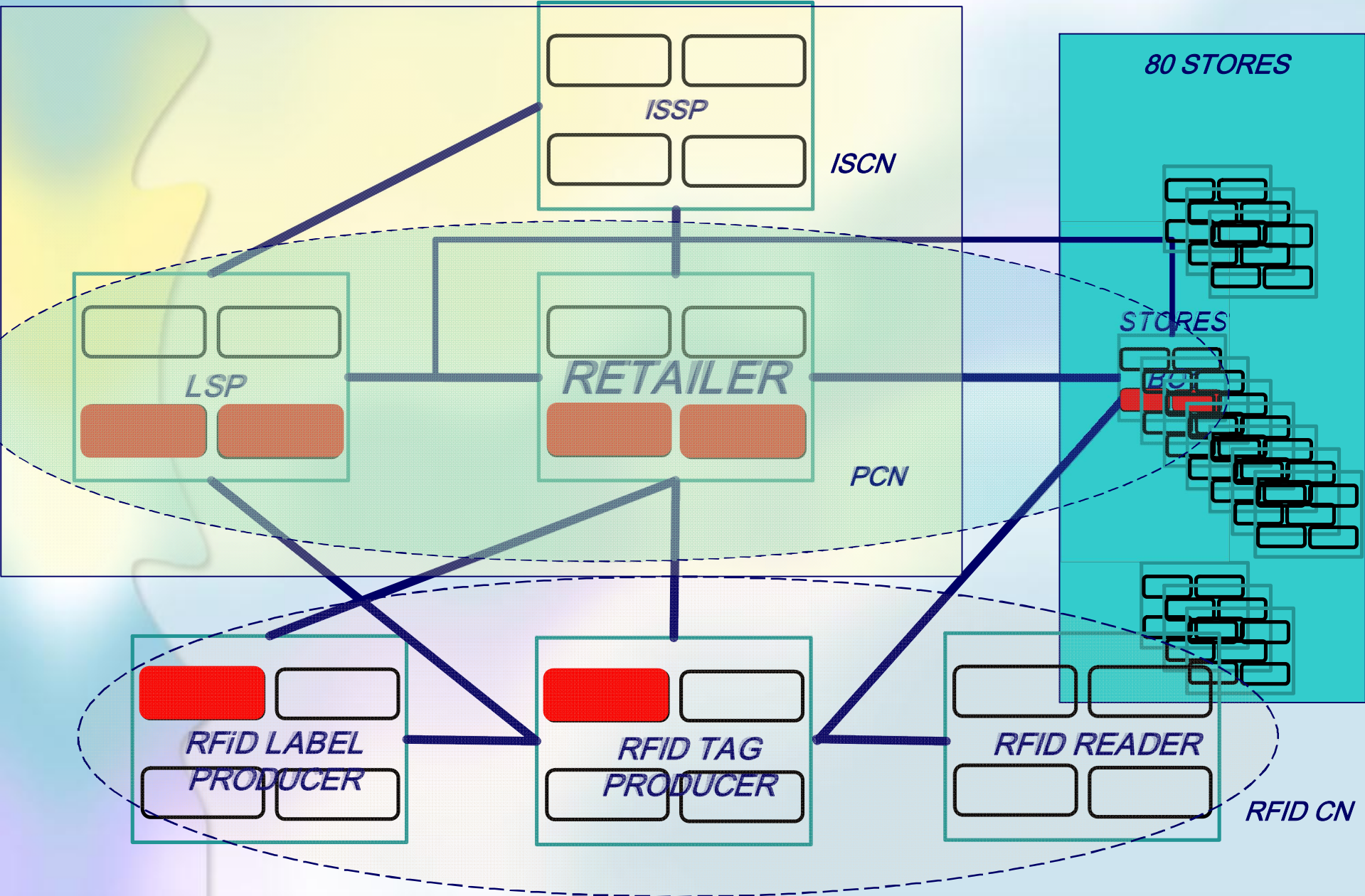
**Step10** Validating business and technological processes integrating RFID technology



# The RFiD CN investment

- ❑ Creation of a specific label and tag for jewells (little size)
  
- ❑ **Appropriate readers were made for the stores and the Logistic Service Provider (LSP)**
  - ⇒ Possibility to read tags from 5cm (item receipts and inventories)





- **Some CNs are long term (PCN, ISCN), others are temporary (RFiD CN):**
  - **RFiD CN:** built upon an invitation to tender and temporary CNs
  - **PCN and ISCN CNs:** based on past business relationships
- **CNs and value creation logics:**
  - **RFiD CN:**
    - Resources required : Phases 1 to 2 Human, Physical
    - Value creation: Phase 3 Human (experience, innovating capacities), Physical (RFiD equipment), Relational (reputation)
  - **ISCN CN:**
    - Resources required : Phases 1 to 3 Human, Organizational (system)
    - Value creation: Human (experience), Relational (Consolidation of business relationships with the Retailer)
  - **PCN CN:**
    - Resources required : Phases 1 to 3
    - Value creation:
      - LSP: Human (experience, innovating capacities), Organizational
      - Retailer: Physical, Financial, Human, Organizational, Relational

# Limits and perspectives

## Perspectives:

- How will the different actors be able to re use the value created in future RFiD projects (in the same or different CNs)
- Measure the investment of resources and value creation in a RFiD project
- **Limits:**
  - Generalization of the case study



# Thank you for your attention

**C. Dominguez, MCF Université Jean Monnet (St Etienne), COACTIS laboratory, [carine.dominguez@univ-st-etienne](mailto:carine.dominguez@univ-st-etienne).**

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