Contribution of new technologies in the supply chain optimization: illustration with RFID

Supply Chain Visibility and Optimization Symposium

La Gaude – September 16th, 2009

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Agenda

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Carrefour group

IT Governance/ Innovation team

The RFID program
project overview

Next steps

The Carrefour Group today

Our ambition: ‘‘Be the preferred retailer’’

- No.1 mass retailer in Europe and No. 2 worldwide
- Over 495 000 employees
- 17.911 million sq. m. of sales area (including franchisees)
- Above 3 billion checkout transactions per year

More than 15 000 stores in 35 countries*

€ 86.967 bn excl. VAT (+5.9% vs FY07)

as of 12/31/2008

* as of March 2009

Three levers

Client-oriented culture

Know our customers better to provide them with better service

Transformation

Gain in agility, quality of execution and competitiveness

Innovation

Regain initiative and leadership

The new campaign: **“Positive is back”**

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«Twist and Shake Ideas»

Innovation Team

Seek, find and s using new technologies to s our IT competency centres, in line with the corporate strategy and operational needs.

- **Monitor Retail market**
- **Observe new technology**
- **Collect and reuse internal initiatives from the countries**
- **Propose and develop new services**
- **Reengineer business processes**
- **Set up proof of concept to assess the innovation in real situation**
- **Support business units to deploy**
- **Communicate**

Approach / Methodology

Innovation Team

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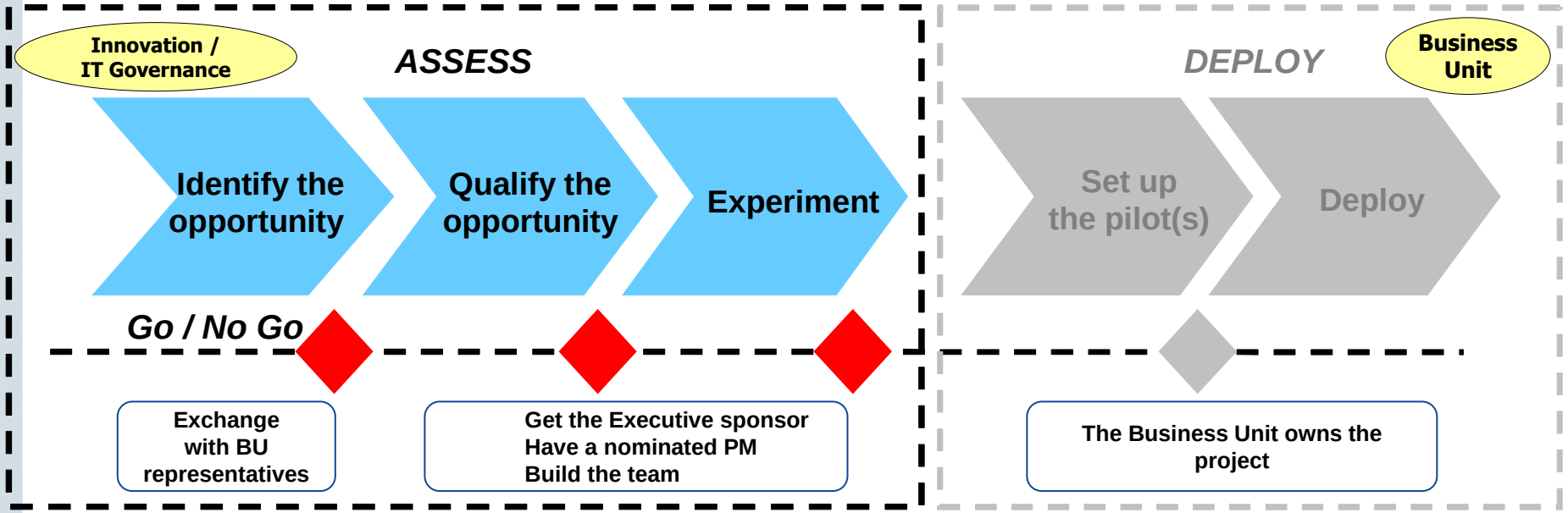
A five step approach



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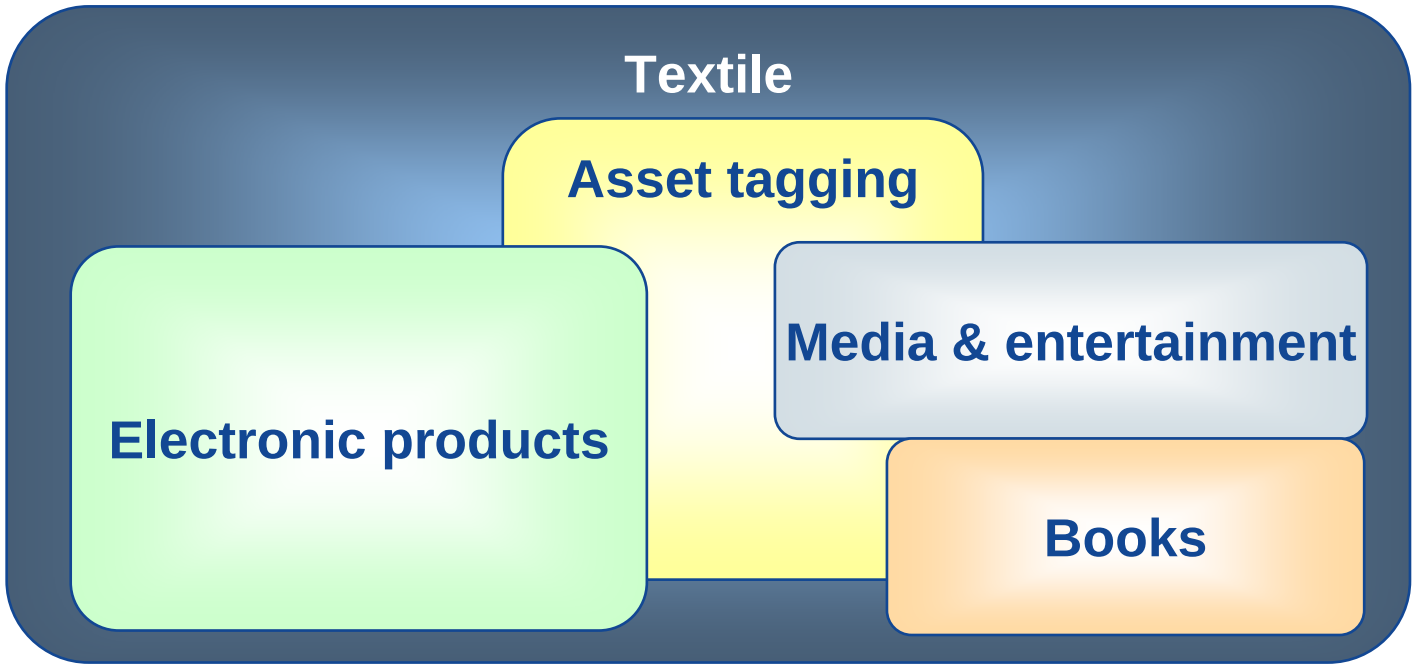
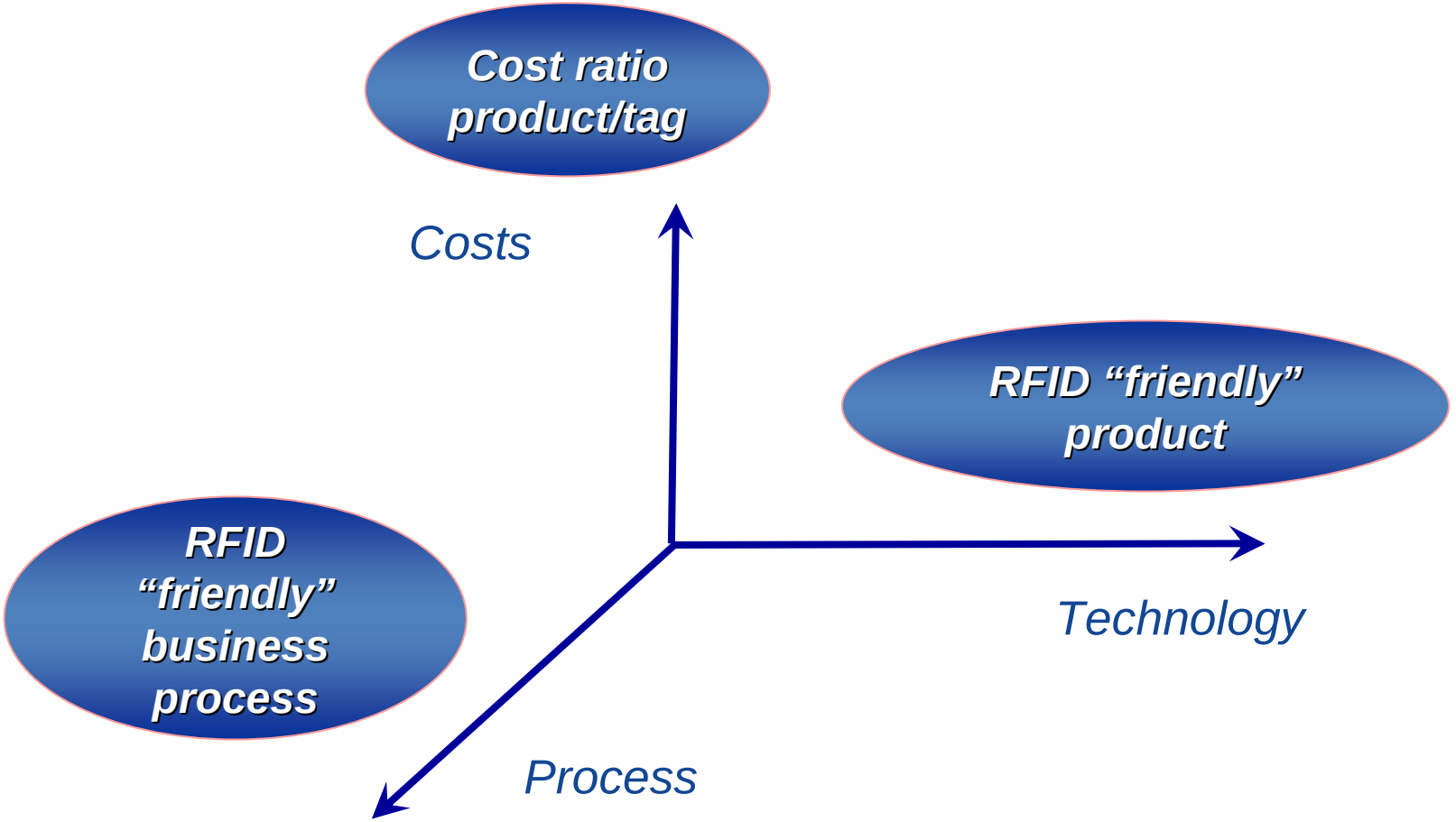
The RFID programme

Five complementary projects with the same objective:

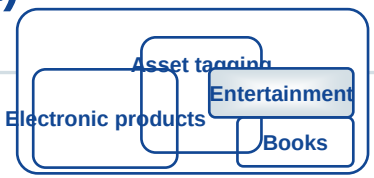
Understand by experiment, the business benefits of using RFID technology within our supply chain



Product selection matrix for RFID use



Processes with RFID (Media & Entertainment)



Shipping Warehouse

Store

Backroom

Sales area

Warehouse for returns

1. Control of cases / pallets sent to the store

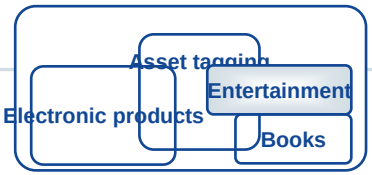
2. Receiving control

3. Inventory control
4. Returns management

5. Control of cases / pallets sent by the store

Item and case tagging

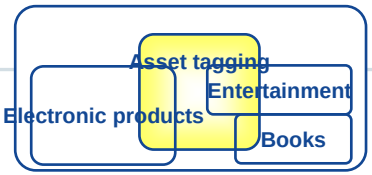
Figures



	As is	RFID	
Store receiving control	40mn	mn	-57%
Inventory		mn	-78%
Returns picking and preparation	14 h	2h	-85%

- Significant **improvement** in **time** needed per activity
- Data **accuracy** and **quality** enhancement
- **Comfort** increase for store operator

Pilot objectives



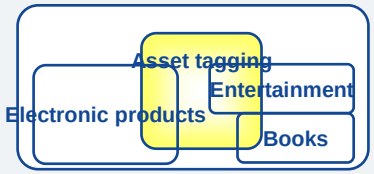
Business objectives include:

- Improve pallet track and trace
- Automate/simplify the receiving, shipping and inventory processes
- Test EPCglobal concepts under business requirements and real conditions
- Assess plastic pallet usage
- Build the business case

Technical objectives:

- Evaluate the best tagging solution for a pallet
- Understand the UHF technology usages and constraints in real environment
- Analyse the model to share information with partners and the impact on actual information systems

Pilot scope



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KUEHNE+NAGEL

Suppliers

Receiving

Shipping

Distribution Centre

Stores

...

Groceries

Hypermarkets

RFID Pallet implementation

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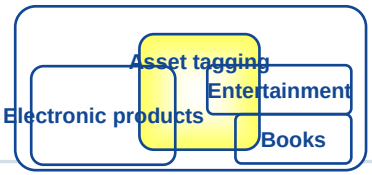
LPR

- Wood pallet

SmartFlow Pooling

- Plastic pallet

Rotation count by pallet type



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From June to end of August

Rotation count	Total support plastique
1	45
2	68
3	74
4	80
5	47
6	25
7	14
8	1

Total = 1214

Rotation count	Total support bois
1	70
2	61
3	86
4	120
5	75
6	32
7	17
8	7

Total = 1672

two different wood pools

Full project

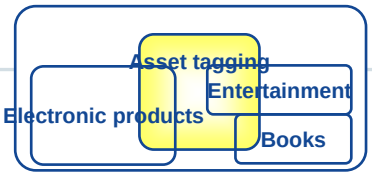
Rotation count	total support plastique
1	40
2	40
3	60
4	80
5	56
6	44
7	25
8	8
9	1

Total = 1412

Rotation count	Total support bois
1	98
2	118
3	227
4	299
5	164
6	72
7	34
8	12
9	2
11	1

Total = 3826

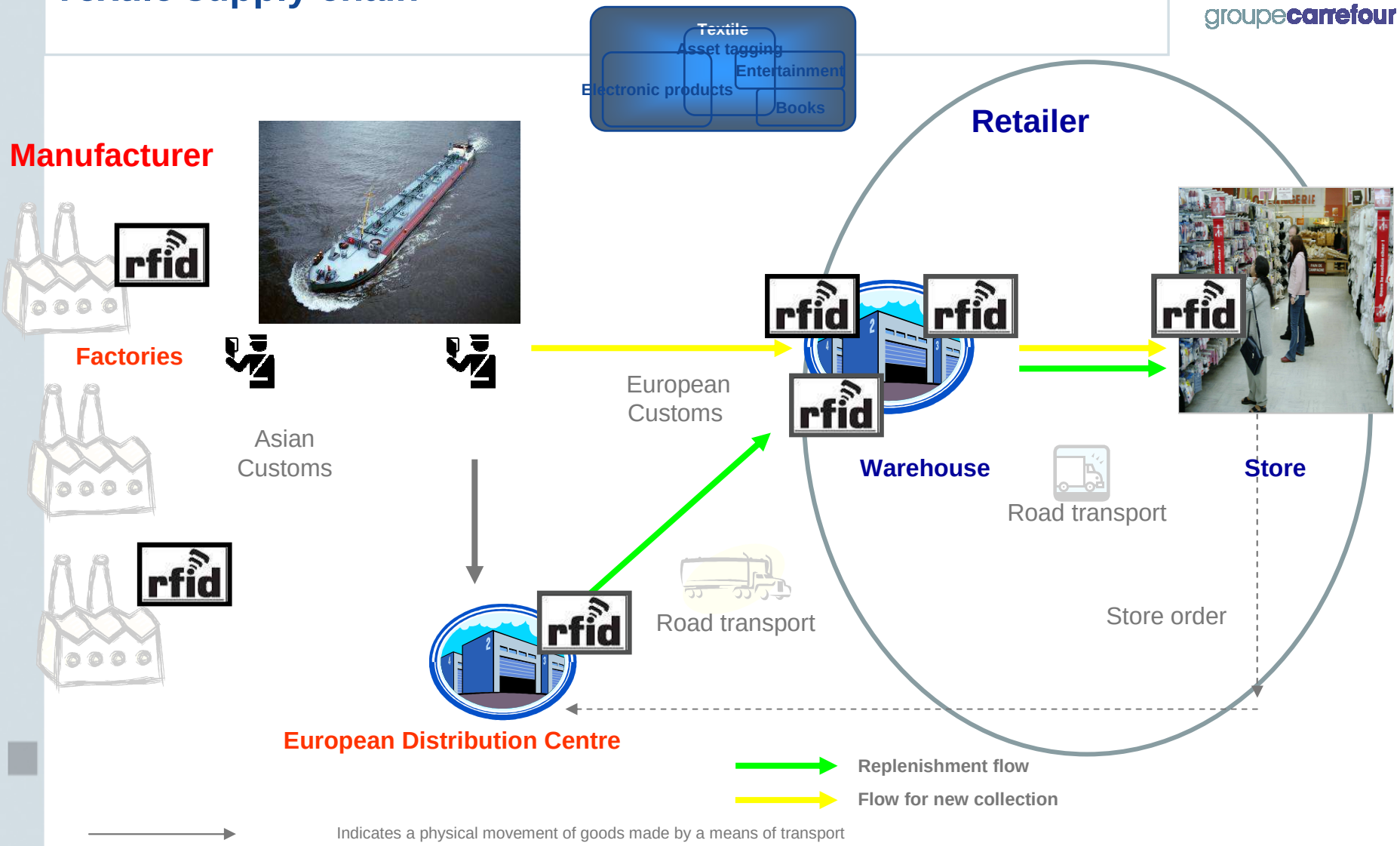
Figures



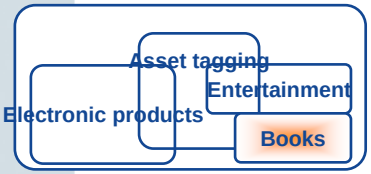
Anticipated benefits

	Without RFID	With RFID
Loading time at DC	X min	Improvement from 15 to 25%
Receiving time at store	Y min	Improvement from 10 to 15%

Textile supply chain



Book pilot scope

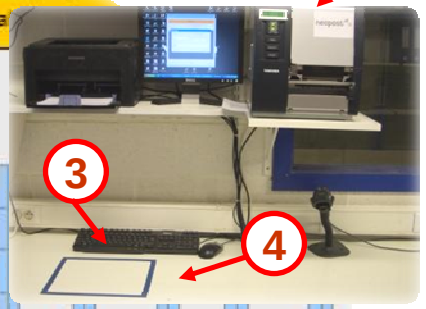


2

Backroom/sales floor

Returns

4



1

3

4

3

4

Sales floor inventory

Backroom inventory

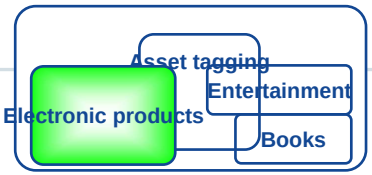
Returns

Receiving / link (commissioning)

Backroom inventory

Returns

PAC ID “Grande Distribution” project



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- Develop logistics scenario using RFID
- SCS cluster
- Work with SMEs
- Prepare and build network applications
- Partnership between academic research, solution providers and users
- Members include STMicroelectronics, IBM, Orange, Malongo and Carrefour

Solutions Communicantes Sécurisées

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Privacy

EU RFID consultations (2006, 2008)

EU RFID recommendation (May 2009)

Next steps

- Privacy Impact Assessment (PIA) Framework
- Logo/Sign
- Deactivation means
- Consumer awareness

Drivers

Business

- Inventory management
- Reverse logistics
- IT Data quality
- Supplier collaboration

- Asset management

- Opportunity for improving the customer relationship

Strategy

Food/non-food

Tagging level

Product priority

- New anti-theft feature

Collaboration with targeted suppliers

Facilitation by GS1

The example of textile

Call for action

Be prepared to implement source tagging with our suppliers

Thank you

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Innovation / IT Governance

Information Systems Group