

# **Innovation and Sustainability**

## **- A System Solution Innovation: The “Add-value-to-paper” community -**

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1. Development Pathways of Sustainable Innovations
2. Role of Actor Cooperation and Networks for Sustainable Innovations
3. The Case Study on Coated Coldset Technology
4. Conclusions

# Questions to be addressed ...

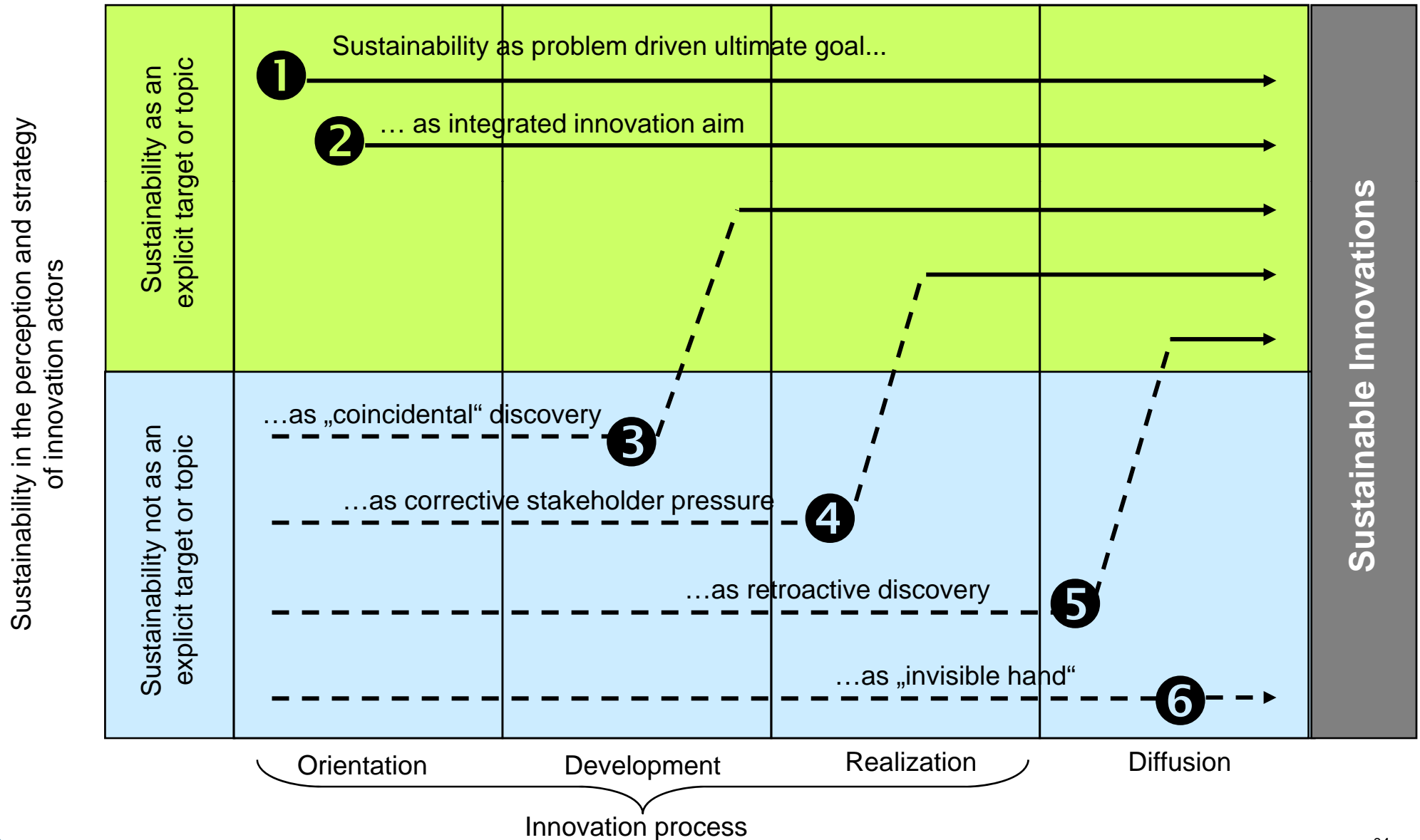
- Which partners and skills are necessary to support sustainable innovations?
- How can the development of resource efficient solutions be organized in a network of different partners and across organizational boundaries?



"This is Carl and Freda from Research & Development, and over there is Daryl from our Crazy Dreamer Division."

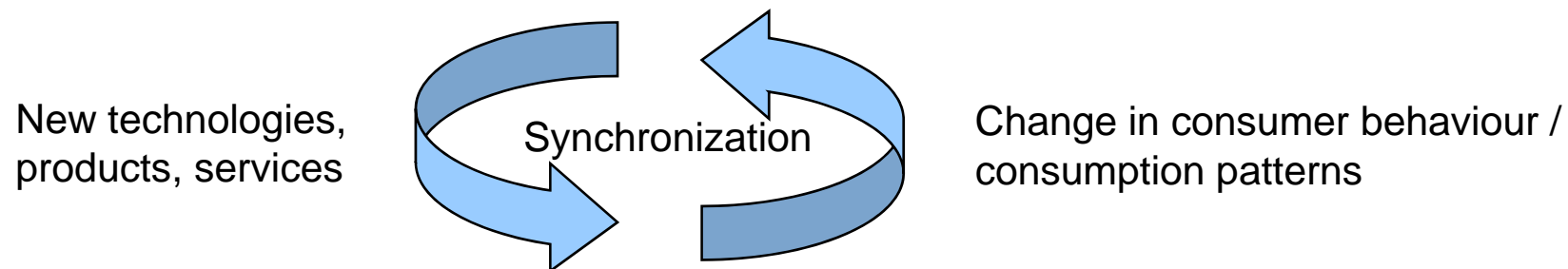
# How can sustainability be brought about?

## Development Pathways of Sustainable Innovations



# The Role of Cooperation for Sustainable Innovations

- Cooperation and actor networks play a key role in innovation processes
- They are of significant importance for specific sustainable innovations such as:
  - ➔ Life-cycle and system solutions (product-service-systems):  
e.g. Leasing-Services: **Company networks, 'manufacturer user cooperation'**
  - ➔ New institutional arrangements (standards, certification, labelling):  
e.g. MSC or FSC: **Market partners, associations, research**
  - ➔ Synchronization of changes on the supply and demand side:  
e.g. consumer goods: **Alliances for change, 'multi actor cooperation'**



# „Key Actors“ and their Roles in Cooperation and the Innovation Process

## Supporting Roles

## Neutral Roles

## Opponent Roles

Great Man-Theory

Champion

Gatekeeper

Opponent

Expert Promotor

Power Promotor

Process Promotor

Relationship Promotor

Technological Gatekeeper

Open Opponent

Promotor Concept

Market-Orien.  
Relation.-P.

Hidden Opponent

Expert  
Relationship-P.

Tech.  
Relation.-P.

Hauschildt 2004

Mobiliser

Bridge  
Builder

Legitimator

Icon

Ritvala/Kleymann 2007

Researcher

Representative

Mentor

Sponsor

Institutional Leaders

Critic

Leadership Roles in the Innovation Process (van de Ven et al. 1990)

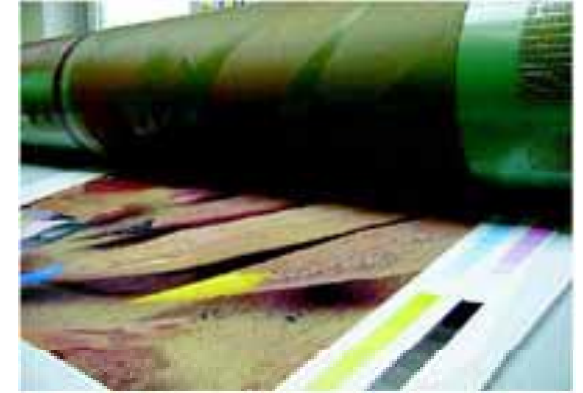
# Innovation Communities: Concept and Definition

- Emerging research field, three interpretations of the term innovation community:
  1. Innovation community as a contact network
  2. Innovation community as a virtual community
  3. Innovation community as a network of innovation promoters
- The concept of innovation communities can provide insights into the factors that lead to success or failure of sustainability oriented innovations:

An innovation community is an informal network of likeminded individuals, acting as universal or specialized promoters, often from more than one company and different organizations that team up in a project related fashion, and commonly promote a specific innovation, either on one or across different levels of an innovation system. (Fichter 2009)

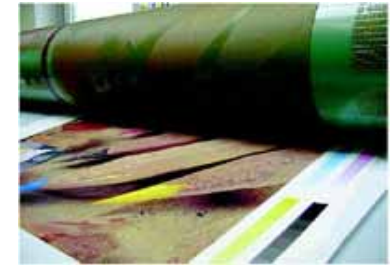
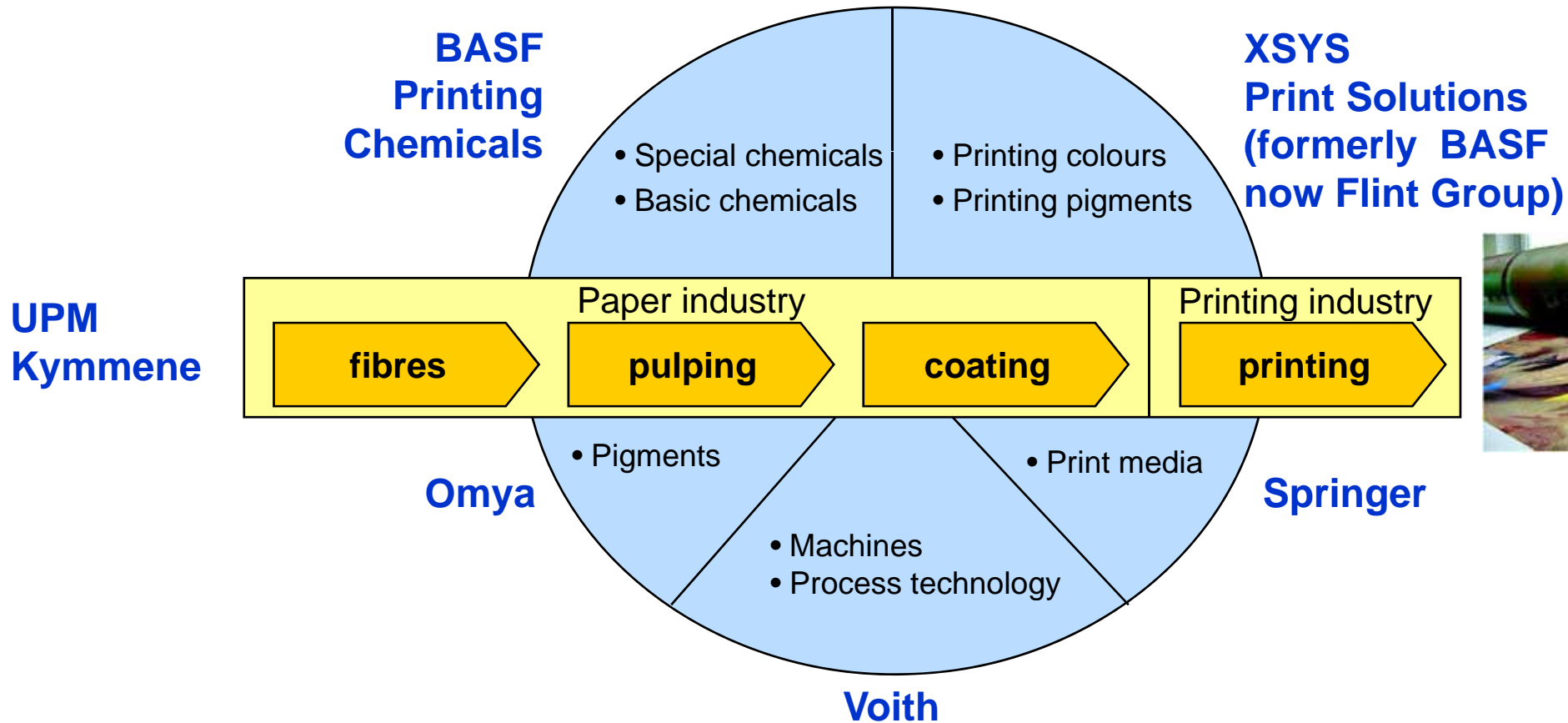
# The Case Study on Coated Coldset Technology

- Coated Coldset-Technology relies on an inexpensive raw paper with a thin white coating that allows a better printing quality for high quality newspaper supplements or even magazines.
- Basic idea was at the time when the innovation process started (2003) already 15 years old and a result of a cooperation between partners and suppliers in the printing and paper industry (network “From Fiber to Print”).
- Comment from one of the core members on the initiating phase of the Innovation Community:

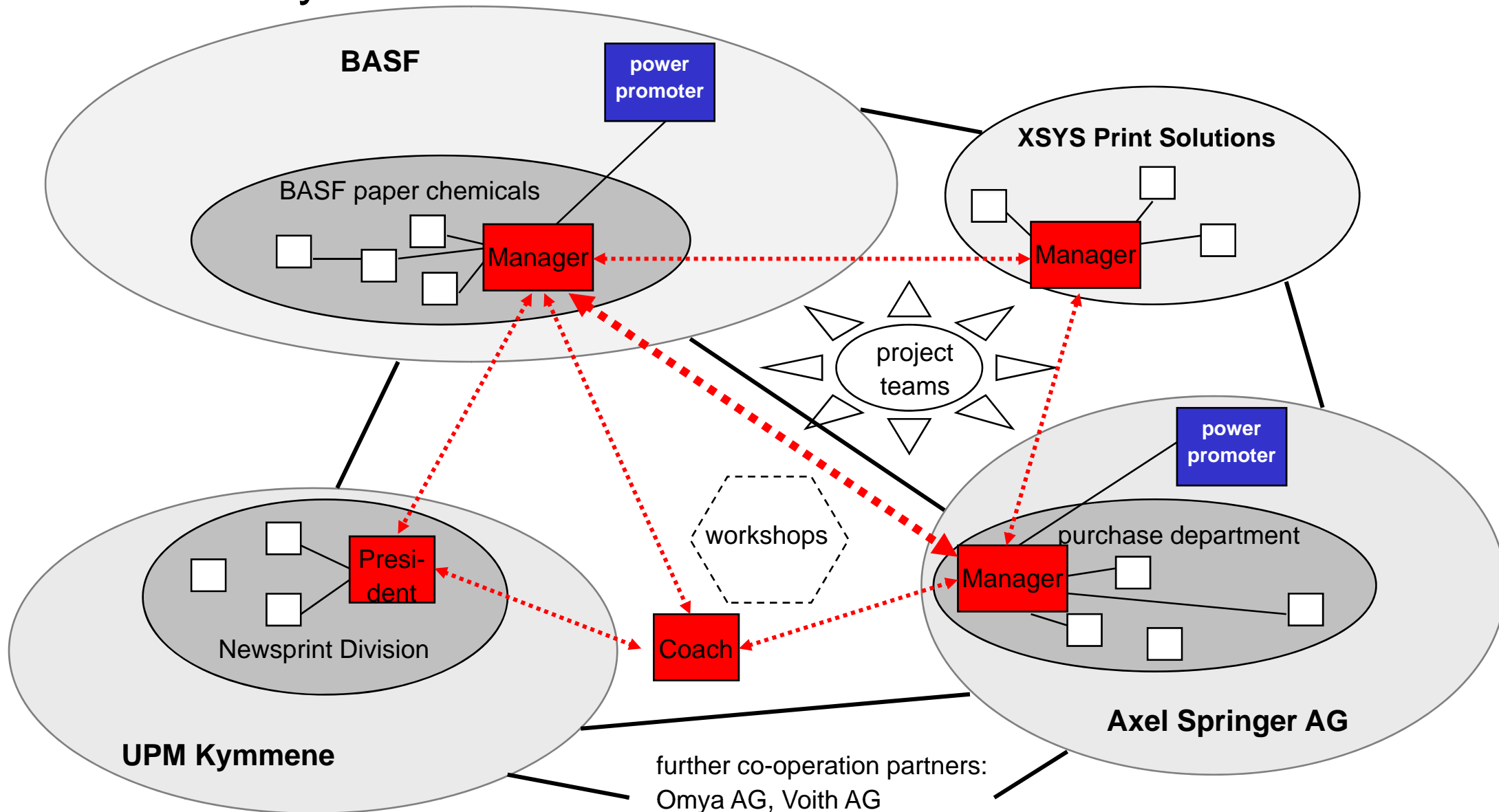


*“For the formulation of the coating color we thought about possible partners [...] BASF is of course always interested in developing new products [...] In this case the partners depended on each other to create this new idea and product.”*

# The „Add-value-to-paper“-Community - A System Solution Innovation Community-



# Development and Structure of the “Add-value-to-paper” Community

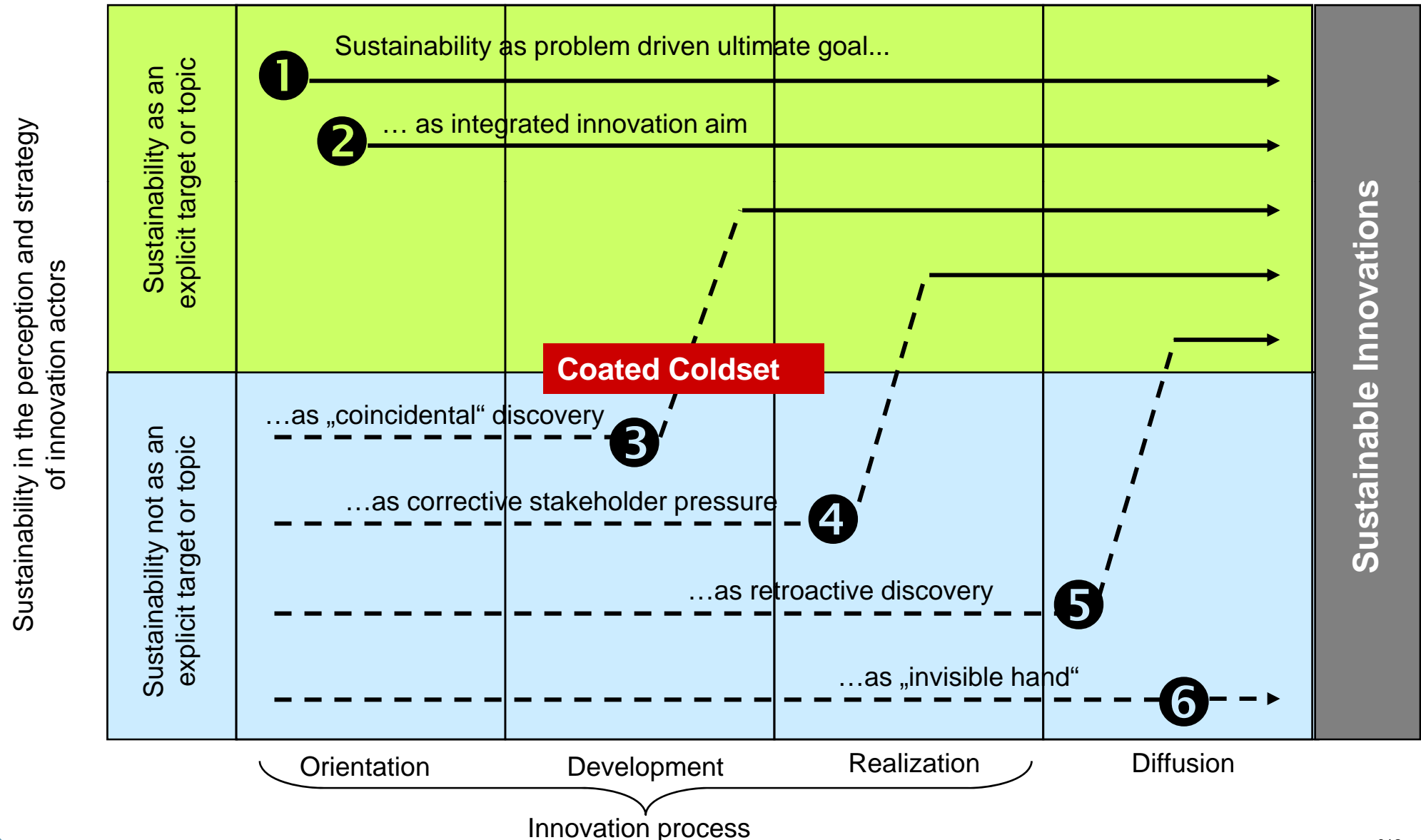


# Conclusions From the Case Study

- With Reference to Sustainability, an Eco-efficiency-analysis shows:
  - Substantial cost reduction
  - Energy savings / reduction of GHG
  - High quality printing products from 100% recycled paper
- With reference to the driving forces of the business model:
  - Market pull
  - Technology push
- With reference to the concept of Innovation Communities:
  - The community is related to a specific innovation idea or project.
  - All community members play a promotor role in this process.
  - The community members collaborate closely and informally, and they perceive themselves as a “team”, a “group” or a similar entity, with a feeling of group identity.

# How can sustainability be brought about?

## Development Pathways of Sustainable Innovations



# Thank you!

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