

# Integrating co-innovation into research translation: developing a stakeholder-driven methodology

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# Outline

- Co-innovation to enhance translation of research
- Valerie project stakeholder-driven methodology
- Case study insights
- Conclusions



# Translation of research

*“Knowledge translation is the meeting ground between two fundamentally different processes: research and action. It knits them with communicative relationships”*

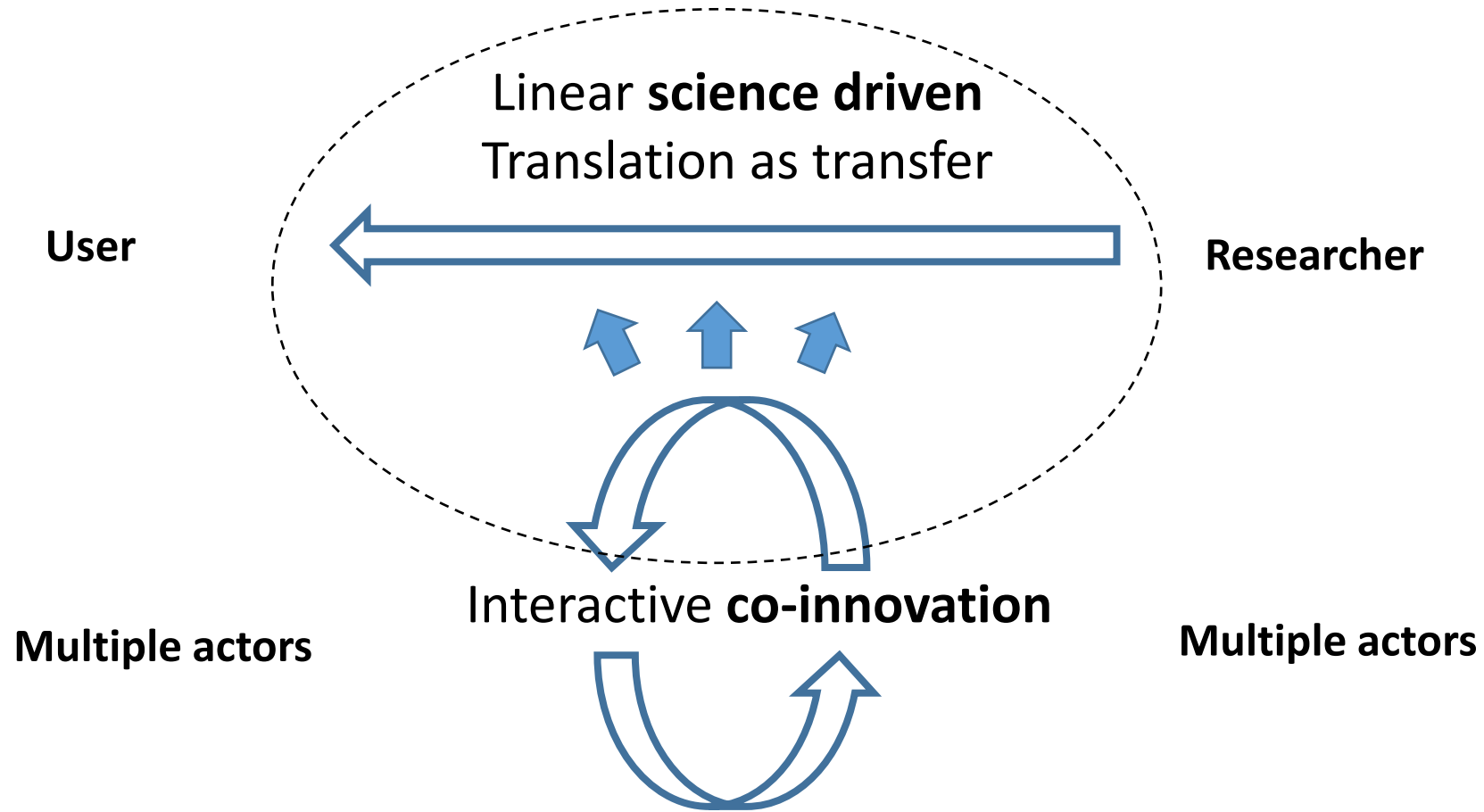
Bennett and Jessani (2011)

- **Translation** - turning knowledge into action
- **Science continues to be essential** for innovation but there are challenges in translating research into practice
- Achieving **translation** of research to enable effective deployment of innovative research is seen as an **essential part of the research and innovation process**.
- Large amounts of available research material **untapped**
- Emerging interest in **translational research** –more emphasis on involving end-users in **innovative networks**

# Co-innovation to enhance translation of research

- The **co-innovation approach** offers a mechanism to make research-based knowledge more accessible
- Co-innovation –a process that allows **multi stakeholder learning**, operates according to principles of **dialogue, reflection and iterativity**, built around **feed-back loops** between researchers and users, applied using participatory methodologies

# Co-innovation to enhance translation of research



# VALERIE - background and aim

- Outreach and **translation of results into field practices** from EU and nationally funded research projects (agriculture and forestry) is limited
- The overall aim of VALERIE is to **boost the outreach of research** by facilitating the integration into innovative field practices



Valorising European Research for Innovation in Agriculture and Forestry

# The VALERIE objectives

- **Review, extract and summarise knowledge** - from national, international and EU research projects in agriculture and forestry
- **Translate** “promising” research results into formats for end-users (farmers, advisers, supply chain, actors)
- Develop a ‘**smart**’ **search engine** (*ask-Valerie.eu*) for research outputs, for use by farm/forestry community and link to **EIP-NF**



Valerie

# Iterative stakeholder-driven methodology

- **solutions** derived from research need to be utilised and re-built **on the farm** with the involvement of relevant actors
- **iterative stakeholder-driven** methodology in 10 case studies
- **mobilises stakeholders** (farmers, advisers, foresters, supply chain actors) to:
  - -assess their **innovation demands**, screen and trial solutions, understand how SH ask questions
  - -capture their knowledge for integration into
  - ***ask-Valerie.eu***, ensures ask-Valerie.eu is relevant to users
  - -understand translation



# Iterative stakeholder-driven methodology

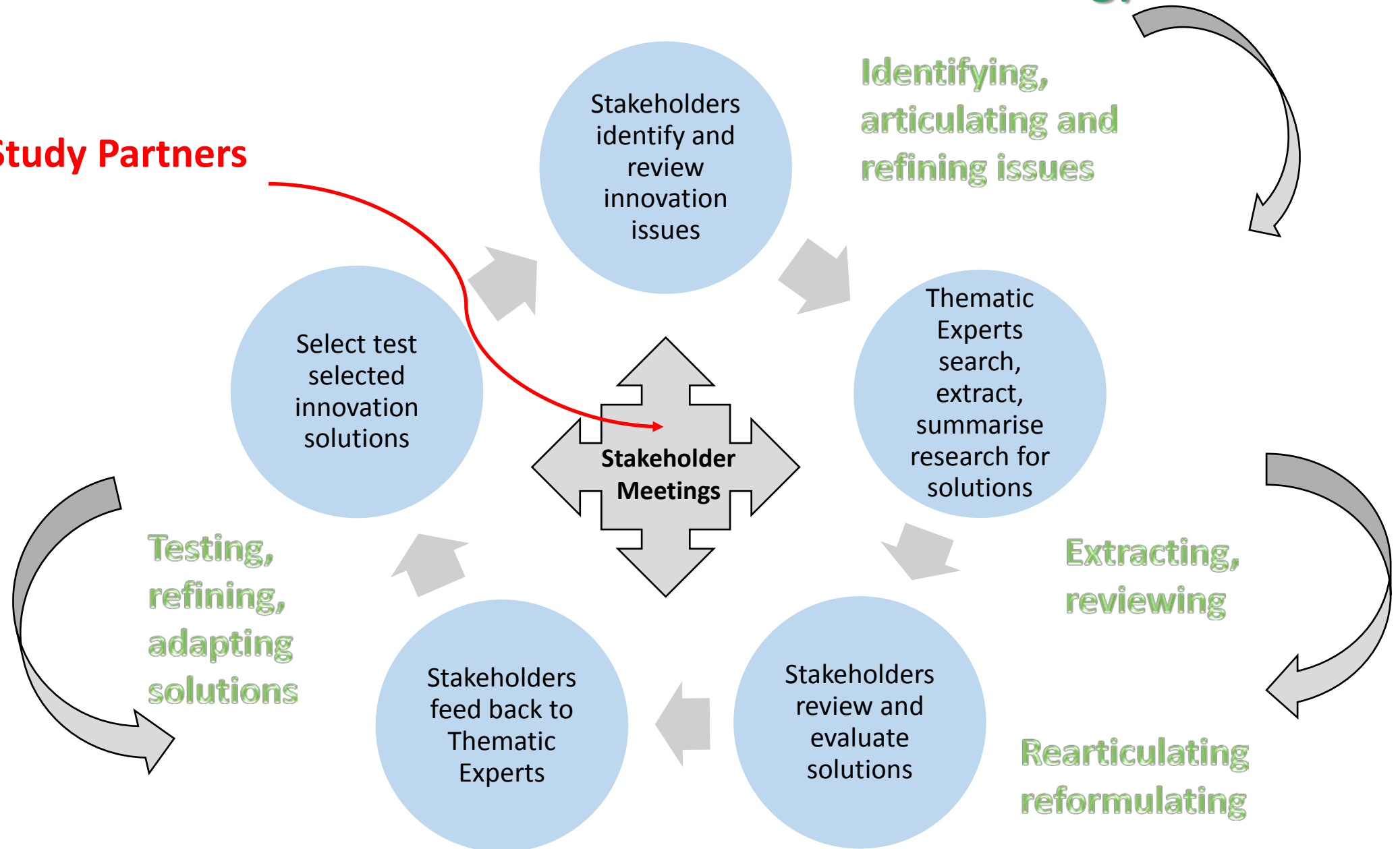
Series of **participatory meetings** with stakeholders in case studies facilitated by Case Study Partners using **Dynamic Research Agenda** tool

- Stakeholders identify **innovation issues** (research needs)
- Scientists (Thematic Experts) search and retrieve ‘best matching’ information -**innovation solution**
- Scientists translate science into ‘end user format’ (Research Fact sheets summaries)
- Stakeholders review Fact sheets and feedback to scientists
- Stakeholders screen information- assess viability with trials –adapt innovation and feedback



# Iterative stakeholder-driven methodology

Case Study Partners



# Sustainable potato supply chain



The potato production in Poland for the French fry industry in the Netherlands. Supply chain SHs - growers, processing and exporting industry, suppliers of seeds, fertilisers and pesticides, extension service and research

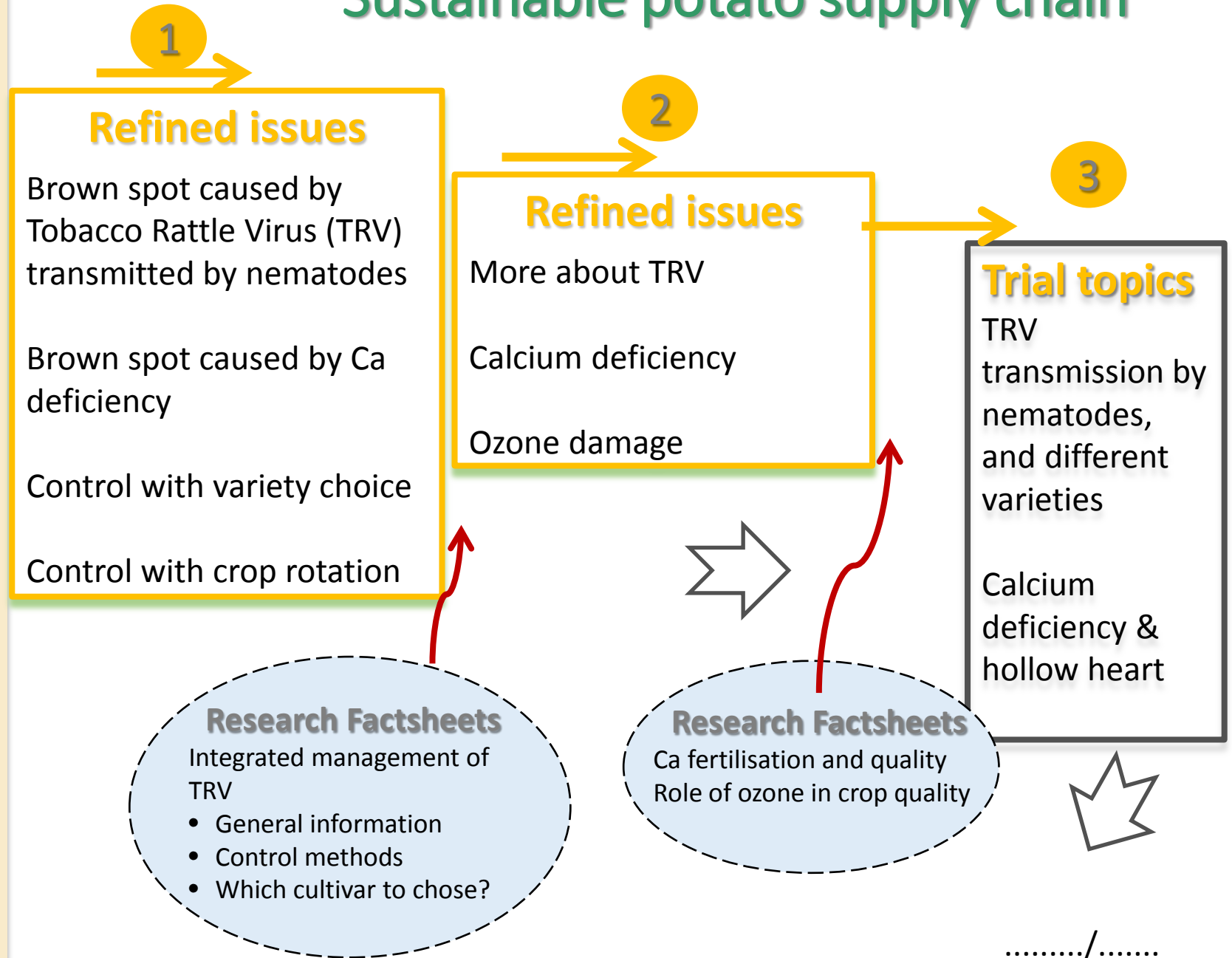
Key quality issue- potato quality.. cause problems in processing of french fries



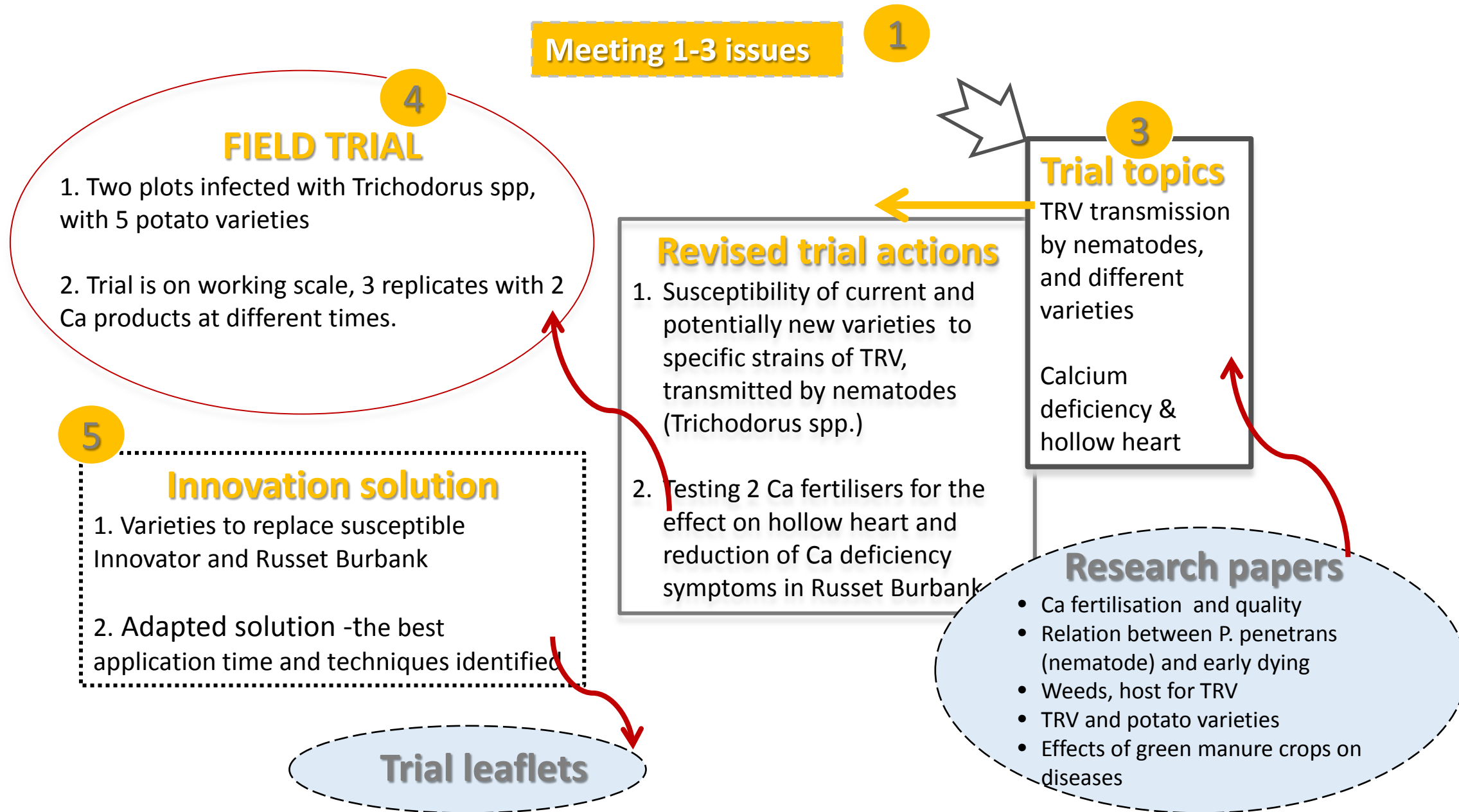
## Innovation issues

- Internal brown spots in potato tubers, variety specific.
- Grey discolouration of french fries after processing
- Early dying of potato crop, variety Innovator
- Sprouting of Innovator in store
- Pathogen *Rhizoctonia solani*
- Hollow hearts in tubers
- Skin set after haulm killing in seed potatoes
- Bacterial wilt in seed potatoes
- Misshaped tubers, tuber length, frying index

## Sustainable potato supply chain



# Sustainable potato supply chain



# Sustainable potato supply chain

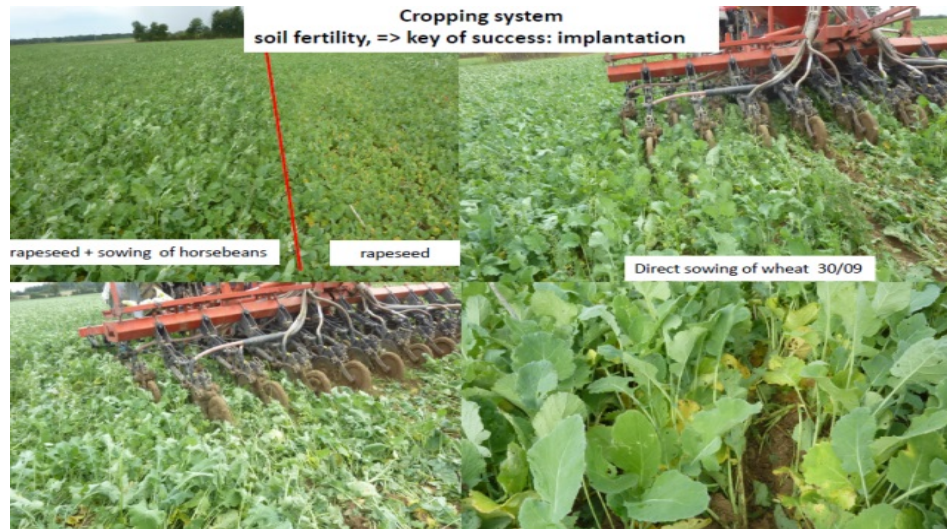


- Immediate **focus** on potato quality issues
- As meetings progressed and information from research is increasingly made available, **questions become more refined**, although the key issues remained.
- Research Factsheets did not provide immediate innovative solutions but reviewing of research outputs was beneficial in **clarifying the problems** and revealing **the state of the art**:

*“The factsheets give a good summary of the available knowledge about all aspects of Tobacco Rust Virus (TRV). It became clear to the participants that TRV damage in potato is a very specific phenomena... It is clear that we discuss a complicated problem... we know that there is ongoing research on TRV in potatoes, new or additional information is very welcome.”*

*“Stakeholders don’t expect a complete and concrete solution. When this is available, fantastic, but also information that can help to find or create a solution is fine.....Overall the evaluation and feedback acted to prompt better articulation and more questic*

# Innovative Arable Cropping



The Berry arable farmers (100-500 ha) group, France, active since 2005, with the help of advisors developed different cropping techniques (e.g. tillage and legumes)

Case Study Partner

*"We have chosen not to guide nor influence farmers on the research themes by reminding them of their past discussions or field trials. We have therefore refrained from mentioning their 'known' issues related to soil management (tillage and drilling) and soil covers".*

## Meeting 1 issues

### Farmers questions

- Rapeseed drilling associated with which leguminous crops?
- What are the proper drilling techniques for **our region** ?
- **How to succeed seeding/drilling** in a covered soil?
- Using **strip-till** for better soil structure?
- **Which crop** should be added to the rotation to improve its sustainability ?
- How to manage **intercropping**?
- **Cash crop or intercrop**?
- Would it be beneficial to maintain **permanent soil cover**?
- Can good drilling limit the impact of pests?
- Has the intercrop impact on **pest management**?

1

### Refined questions

- What are the effects of agricultural practices such as **direct sowing, cover crops and soil tillage** on **the nitrogen and organic matter cycles and availability**? “
- “What does influence (trigger) the end of dormancy i.e. the **germination of the weeds** ?”
- “How can we evaluate in the field the **properties of the soil** (structure, texture, “health”)? What are the possible **evaluation methods** ?”
- “How can we **best drill (sow)** a crop through a soil cover (soil covered by a crop or crop residue)?”
- “What are the practical impacts of the use of existing **alternative** plant controls and protections?”

2

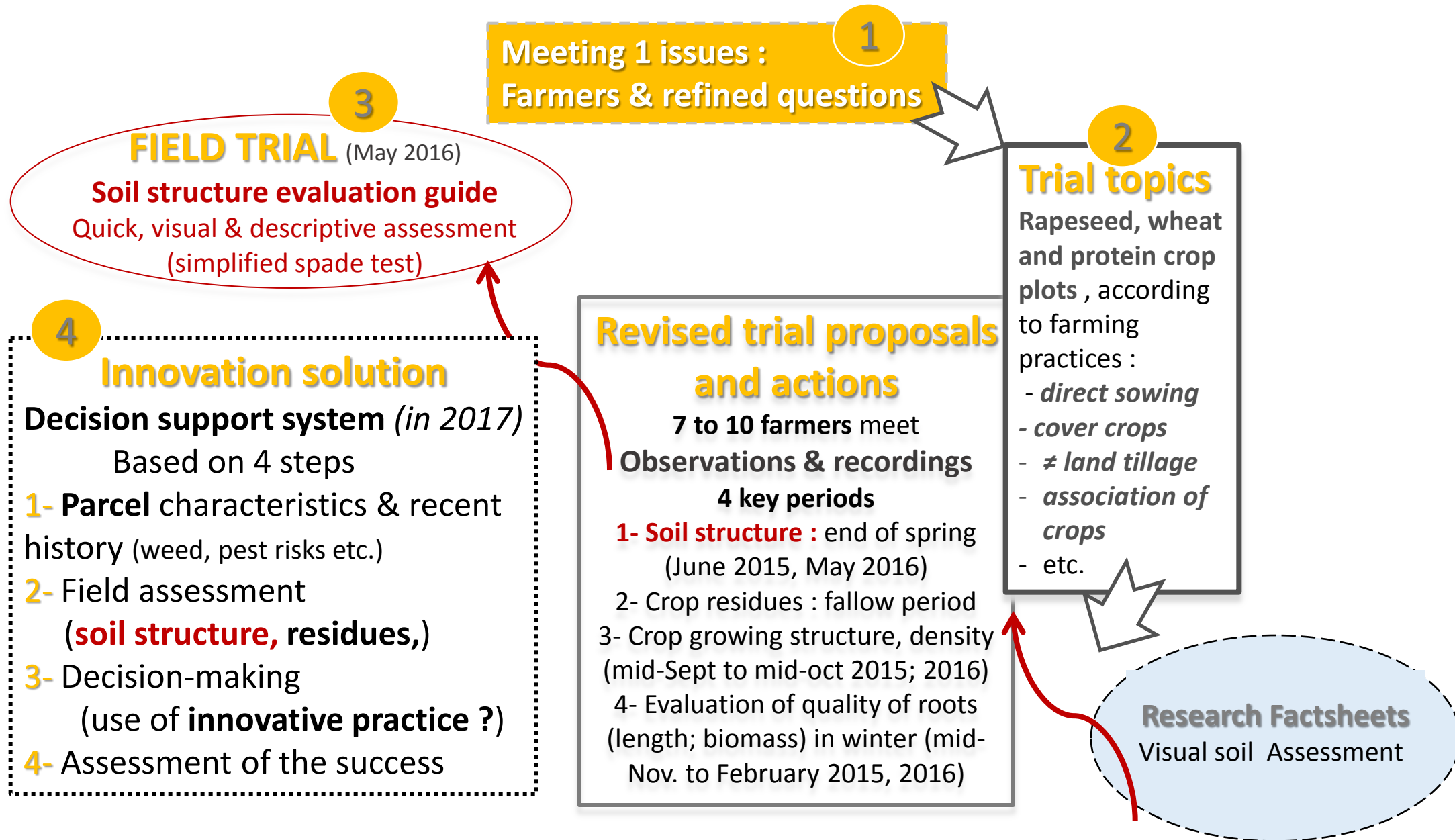
### Trial topics

Rapeseed, wheat and protein crop plots , according to farming practices :

- **direct sowing**
- **cover crops**
- **≠ land tillage**
- **association of crops**
- etc.

**Research Factsheets**  
Agronomic techniques

# Innovative Arable Cropping



# Innovative Arable Cropping



- Topics aligned closely with current project activity
- Progressively constructed a set of new specific questions focusing in on soil assessment
- Revised trial proposal - now aims to develop an on-field method to assess soil quality that can be easily conducted by farmers themselves

# Co-innovation to enhance translation of research: insights

- **Progressive translation process** comprising identification, prioritisation, articulation, searching, retrieval, evaluation, testing of innovation issues and solutions
- **Identification** in many CS the **issues identified were already a focus of attention** (existing activity, innovation support, stakeholders' scientific understanding)
- **Prioritisation**- some identified systemic issues -**CSP steered the stakeholders** towards issues which could be addressed **within the scope of the project**
- **Articulation** *"farmers asked rather global questions but wish to get specific responses"* CSP helped to articulate the issues liaising with Thematic Experts
- **Searching, retrieving, evaluating** - TEs struggled to find immediate relevant solutions, mixed response according to context

# Co-innovation to enhance translation of research: insights

- **Repeated interaction** -although stakeholders selected issues already known to them, they were able to progressively construct a set of new specific questions for these issues.
- The process of **problem analysis** supported by dialogue helped rearticulate and refine issues, and search for relevant research outputs
- But CSP some **questioned the iterative nature** of the methodology and raised the importance of providing suitable solutions for farmers:
  - *“there is a problem in getting feedback from people that prefer to have the solution rather than investing time in a dialogue. If you give them a solution that doesn’t work they won’t trust you anymore. If I give them some impossible solution, such as cover crops, they say “don’t you understand that they don’t work for us”.*
- The CSPs- important actors in directing the co-innovation process



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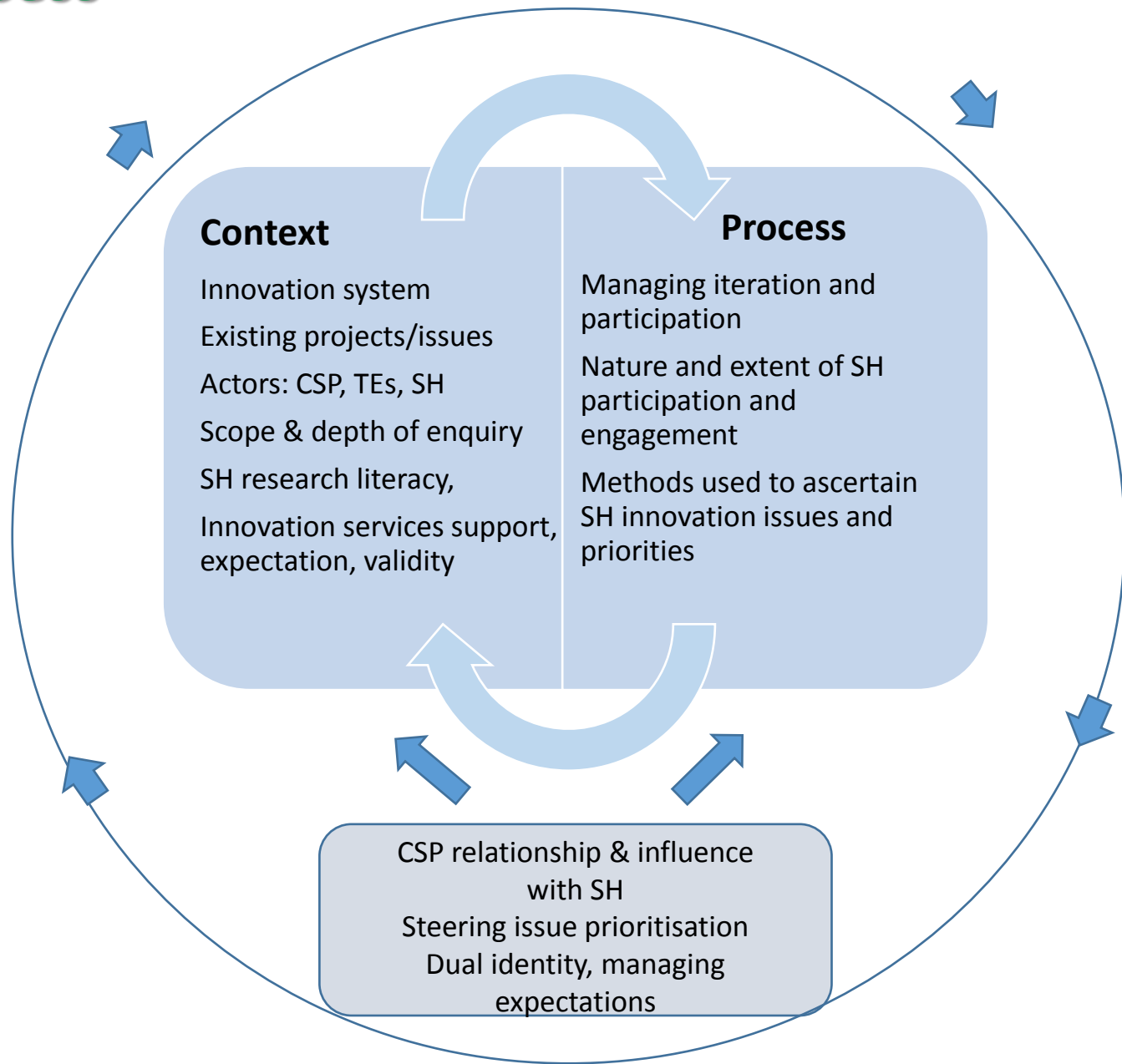


# Context and process

Iterative process

Searching, retrieving,  
evaluating, testing,  
adapting solutions

Identifying,  
prioritising,  
articulating and  
refining issues:  
problem analysis



# Co-innovation to enhance translation of research: conclusions

- Assumption that SH articulate concrete research questions and science provides immediate solutions is simplistic
- Translation processes- identification, prioritisation, articulation, searching, extraction, evaluation, testing - requires flexibility, adaptability, iteration
- Reconciling the supply and demand of scientific information can be highly pragmatic and contextual in nature
- Case study social and technical context and goals influence topic, SH scientific literacy etc
- CS partners are key intermediaries- managing project and SH expectations



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