Case studies for stakeholder-driven (co)innovation

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- Context: translating research and co-innovation

- Case studies

- The stakeholder-driven approach

- Examples

- Conclusions

Translation of research

- **Science continues to be essential** for innovation but there are challenges in translating research into practice

- **Outreach and translation of research** is needed for effective deployment of innovative research
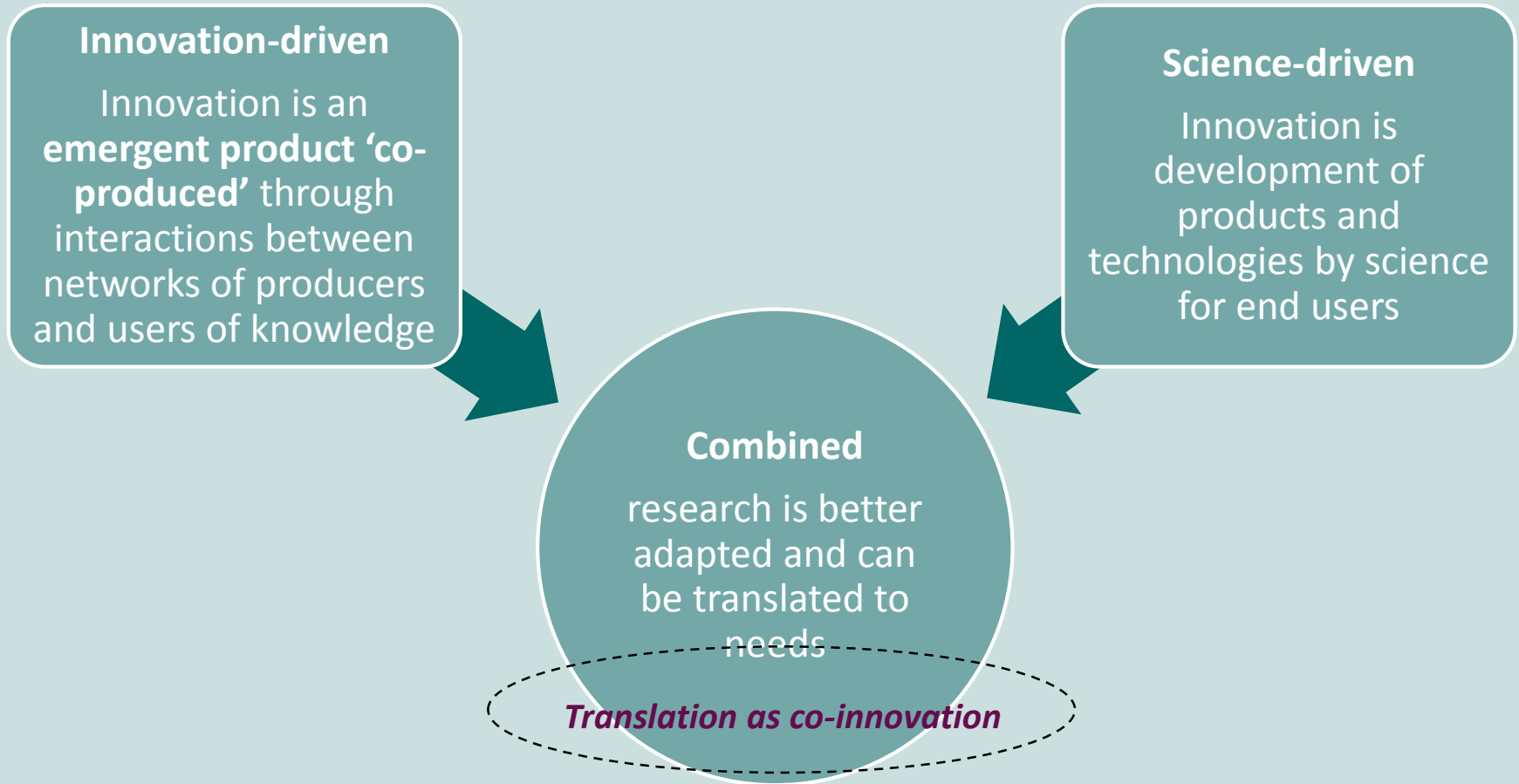
- Emerging   phasis on involving

> *"Knowledge translation is the meeting ground between two fundamentally different processes: research and action. It knits them with communicative relationships"*
>
> **Bennett and Jessani (2011)**

- Theoretic   el **innovatio**   **en model**

Co-innovation for research translation -integrating innovation models

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Innovation-driven

Innovation is an **emergent product 'co-produced'** through interactions between networks of producers and users of knowledge

Science-driven

Innovation is development of products and technologies by science for end users

Combined

research is better adapted and can be translated to needs

Translation as co-innovation

Innovation: the process of creating and putting into use combinations of knowledge from many different sources EU EIP AGRI

# How do you 'do' co-innovation for translation?

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- a co-innovation approach is challenging- not a recipe- often a process of experimentation

- principles: iterativity, dialogue and reflection

- dialogue between the 'demand' and 'supply' sides requires continuous re-articulation

Stakeholder-driven approach: case studies on co-innovation

- case studies at the core of the stakeholder-driven approach

- consult stakeholders in 10 CS to mobilise their knowledge, identify knowledge gaps, evaluate innovative solutions from research

Case studies
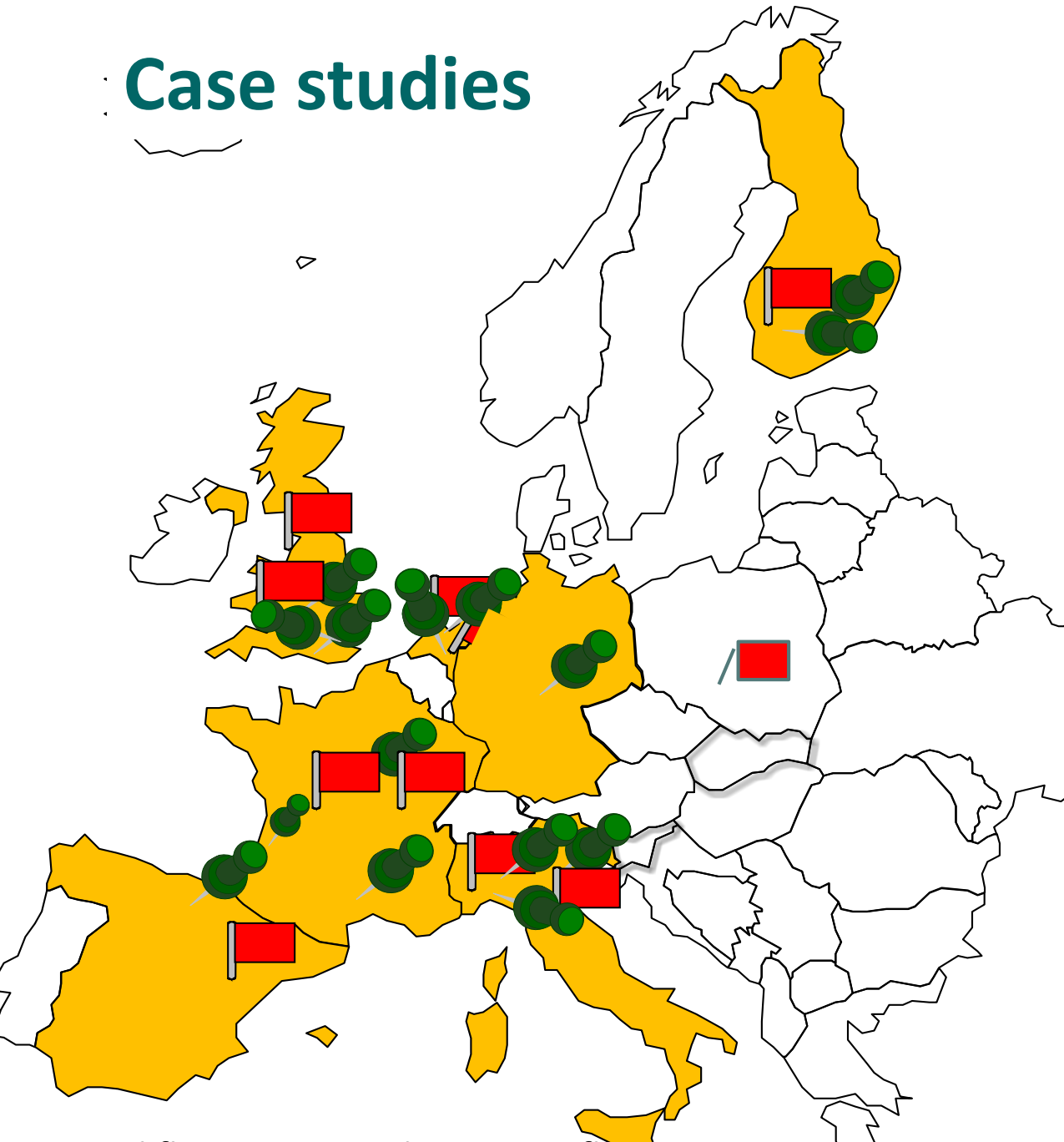
Catchment scale resource use efficiency

Soil management in livestock supply chains

Sustainable forest biomass: recycling of wood ash

Agro-ecology: reduction in use of plant protection

Innovative arable system

Sustainable Forest Management and Ecosystem Services

Improving Milling Wheat Quality

Drip Irrigation Management in Tomatoes and Maize

Sustainable onion supply chains

Sustainable potato supply chains

Red flags= case studies; green flags = partners

Stakeholder-driven approach: case studies on co-innovation

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Thematic driven

Extract knowledge for innovation
- Extract, screen, summarise
- Create knowledge base for *ask-Valerie.eu*
- Identify gaps

Create data infrastructure
- Themes structure the extraction
- Structured vocabulary

Ontology

Stakeholder driven

Case studies on innovation
- Provide ontologies
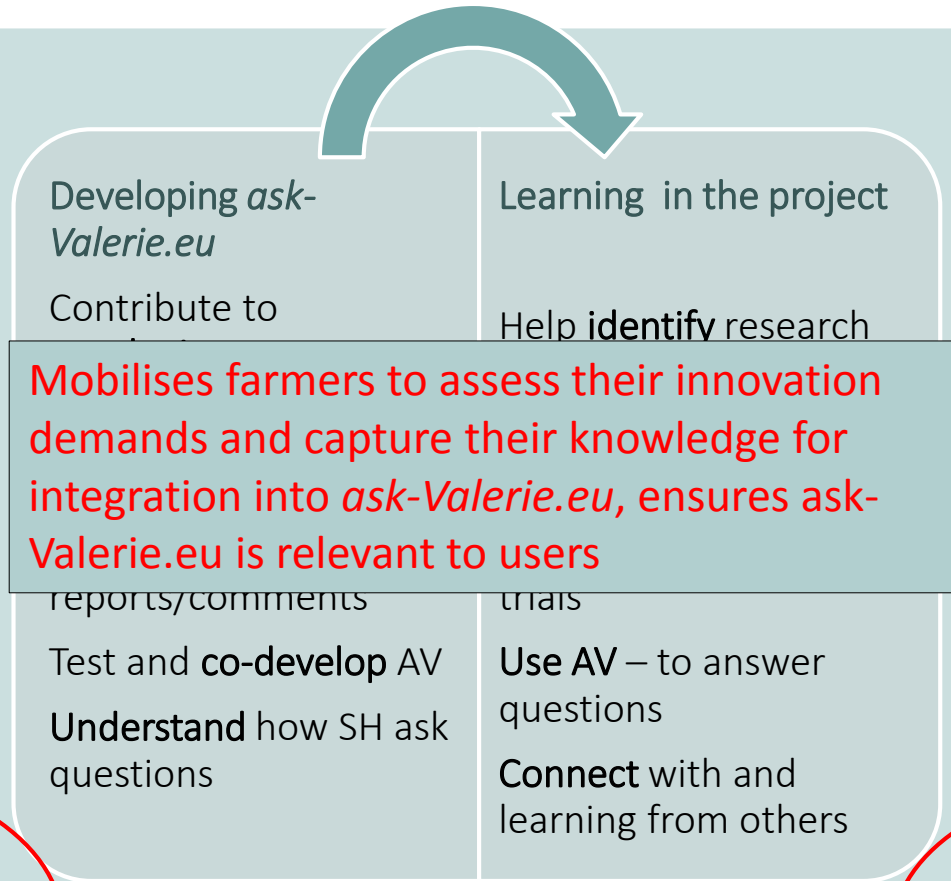- Articulate knowledge needs
- Evaluate solutions

Create smart search tool
ask-Valerie.eu
Integrate into EIP NF

Stakeholder-driven approach: case studies on co-innovation

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Developing *ask-Valerie.eu*

Contribute to ...

reports/comments

Test and **co-develop** AV

Understand how SH ask questions

Learning in the project

Help **identify** research ...

trials

Use AV – to answer questions

Connect with and learning from others

Mobilises farmers to assess their innovation demands and capture their knowledge for integration into *ask-Valerie.eu*, ensures ask-Valerie.eu is relevant to users

Build a smart search engine that is relevant to users' needs

Identify, apply, test and refine screened research outputs

Contribute to structured vocabulary

- **Stakeholder** vocabularies, concepts, issues, problems and questions relevant to the 6 themes (and particular to case studies) helps create the structured vocabulary to create *ask-Valerie.eu*

- Feedback and language translation builds *ask-Valerie.eu*

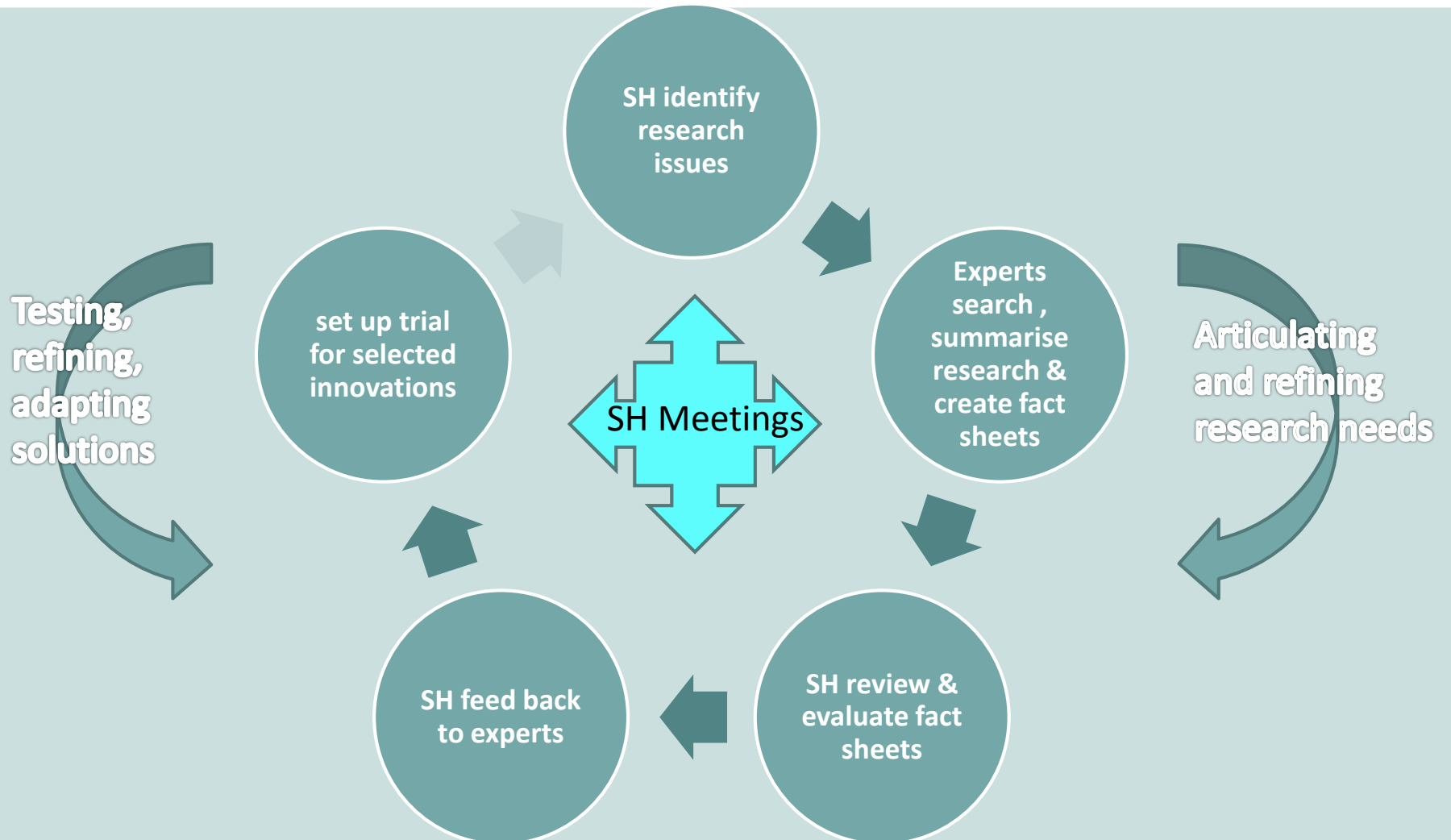# Case studies on co-innovation

Series of meetings with stakeholders
in case studies facilitated by cs partners

- Farmers identify research needs
- Scientists search and retrieve 'best matching' information
- Scientists translate science into end user format (Fact sheets)
- Farmers review Fact sheets and feedback to scientists
- Farmers test information- assess viability with trials -feedback

Identify issues, evaluate & test solutions

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SH identify research issues

Experts search, summarise research & create fact sheets

Articulating and refining research needs

SH Meetings

set up trial for selected innovations

Testing, refining, adapting solutions

SH feed back to experts

SH review & evaluate fact sheets

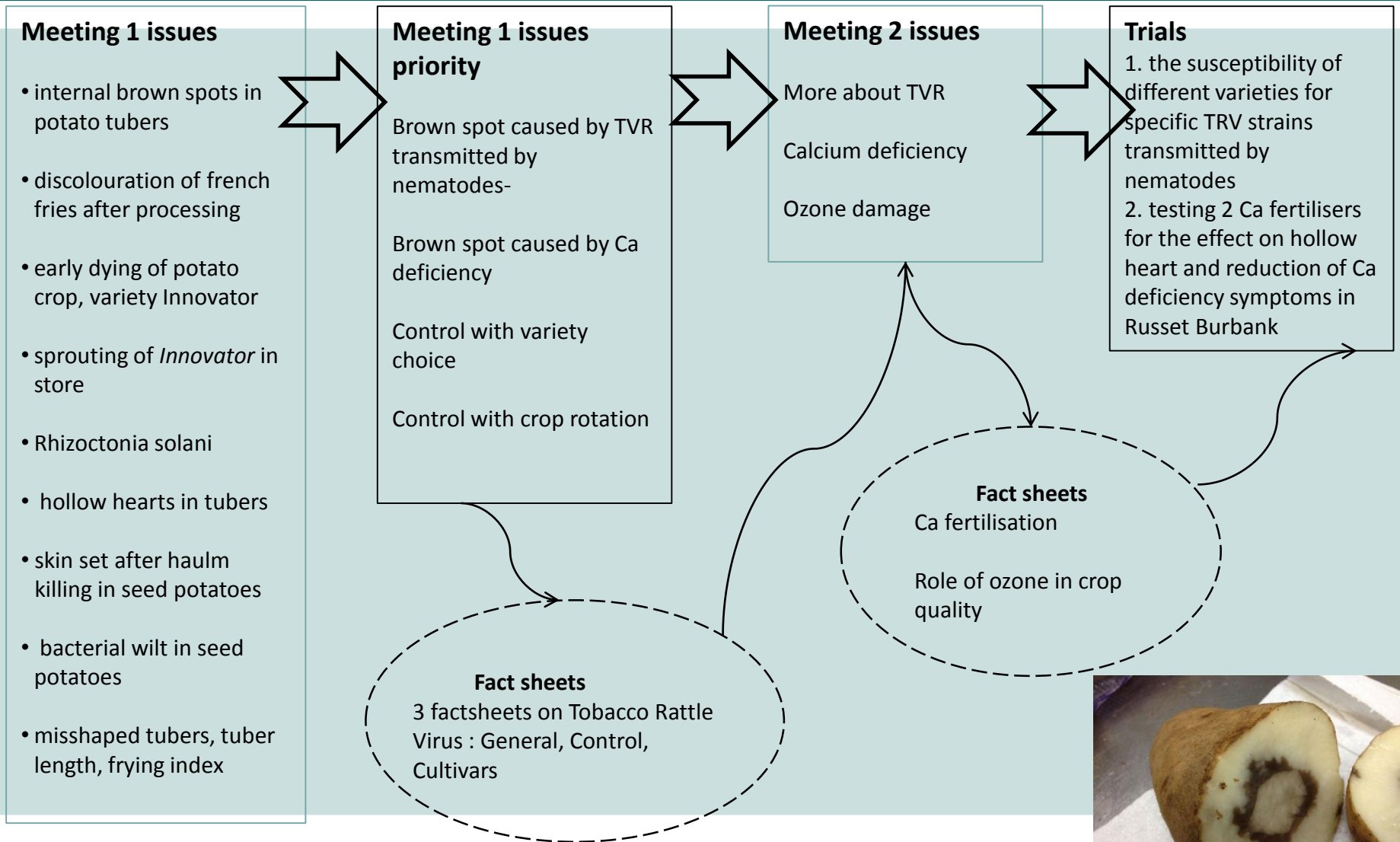# Sustainable potato supply chain, Poland

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- internal brown spots in potato tubers .. cause problems in processing of french fries

Sustainable potato supply chain, Poland

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Meeting 1 issues

- internal brown spots in potato tubers
- discolouration of french fries after processing
- early dying of potato crop, variety Innovator
- sprouting of *Innovator* in store
- 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

Meeting 1 issues priority

Brown spot caused by TVR transmitted by nematodes-

Brown spot caused by Ca deficiency

Control with variety choice

Control with crop rotation

Meeting 2 issues

More about TVR

Calcium deficiency

Ozone damage

Trials
1. the susceptibility of different varieties for specific TRV strains transmitted by nematodes
2. testing 2 Ca fertilisers for the effect on hollow heart and reduction of Ca deficiency symptoms in Russet Burbank

Fact sheets
3 factsheets on Tobacco Rattle Virus : General, Control, Cultivars

Fact sheets
Ca fertilisation

Role of ozone in crop quality

Catchment scale resource use efficiency, UK

A group of farmers who are part of a catchment management project interested in all aspects of crop and soil management, especially nutrient management, to optimise productivity and enhance water quality

Catchment scale resource use efficiency, UK

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Meeting 1 issues

- Weed Control in an arable rotation

- Conservation and Environment (field margins, beetle banks, partnership working)

- Machinery impact on soil

- Use of dredged silt

- Cover crops

- Snail Control

- New methods of nutrient management

- GM modified crop varieties

- Climate change implications for crop production

Meeting 1 issues summary

- Management practices to release P and K from soils/soil amendments/

- Role of trace elements in crop nutrient availability

- Soil management and crop rotations to improve climate change resilience

Meeting 2 issues

- Weed Control in an arable rotation.(black-grass control, herbicide resistance, grass rotations)

- Cover crops

- New methods of nutrient management

Trials

- Biological additions / trace elements.

- Cover crops benefits for compaction, soil structure and crop yield

- Cover crops in continuous maize cropping.

Fact sheets

- Catch crops to reduce N leaching

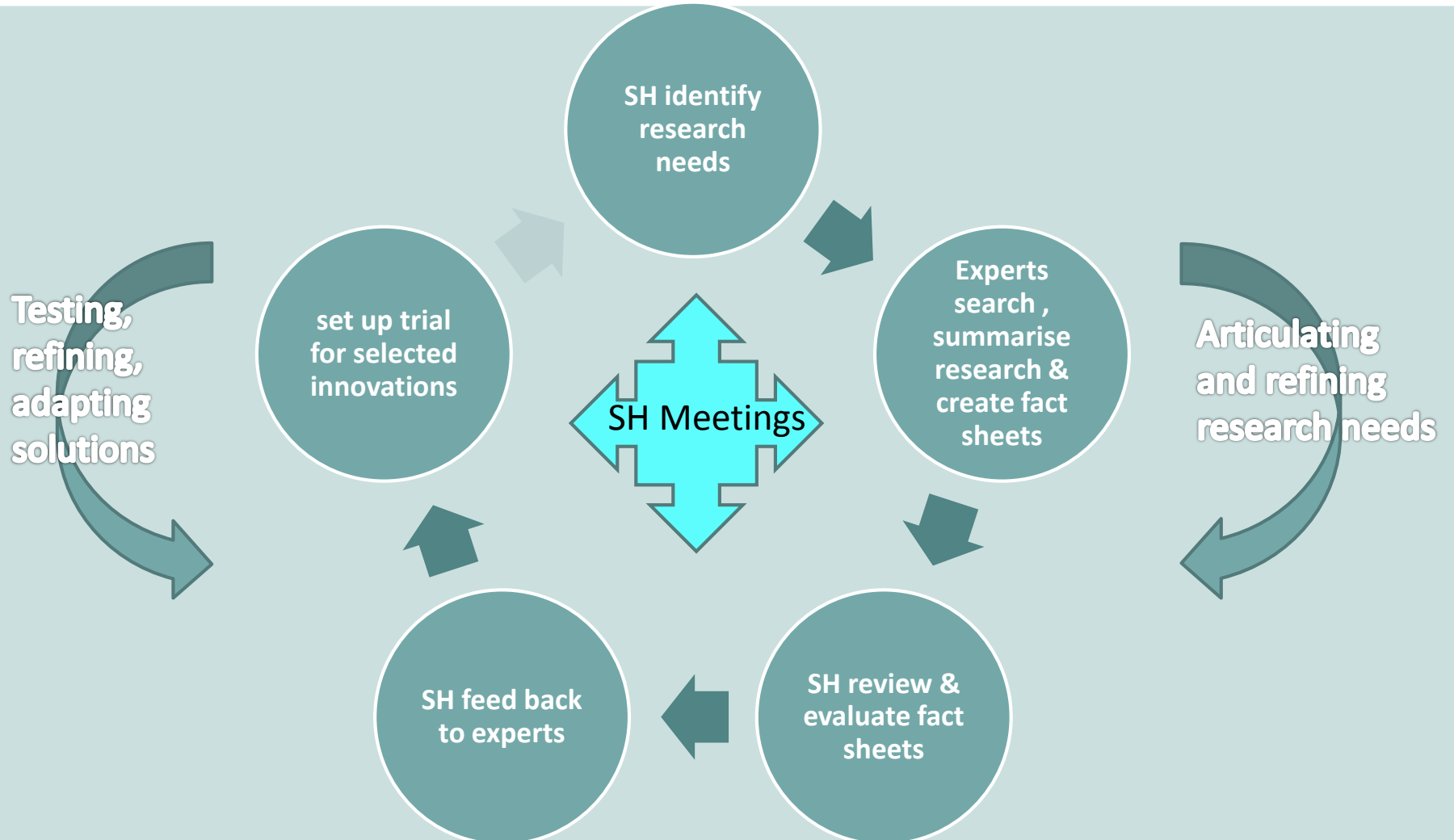- Allelopathy: a tool for an integrated management of resistant Black grass

Fact sheets

Increased phosphate mobilisation using soil amendments

Stakeholder-driven approach: identify needs, evaluate & test solutions

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SH identify research needs

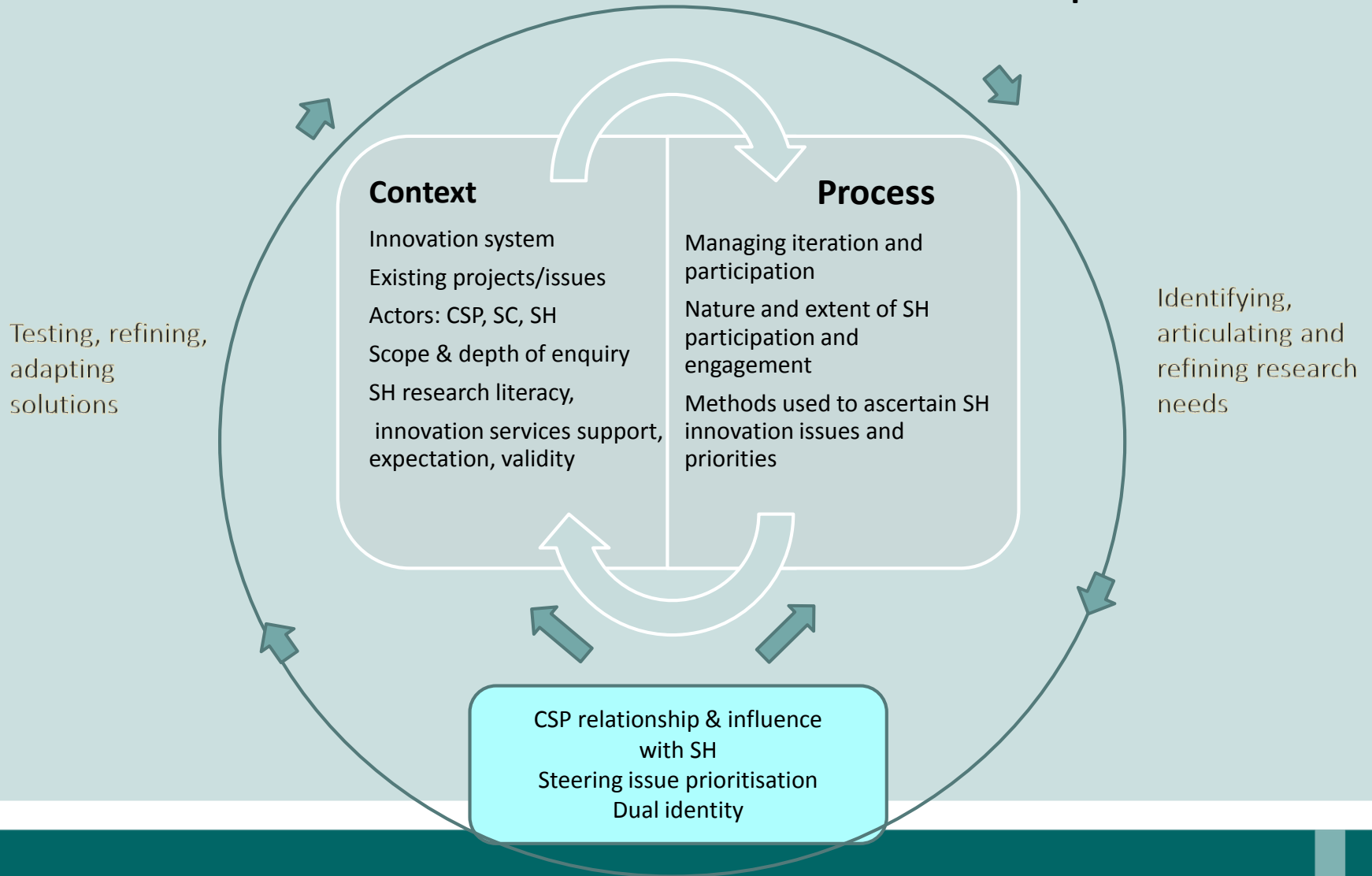Experts search, summarise research & create fact sheets

Articulating and refining research needs

SH Meetings

set up trial for selected innovations

Testing, refining, adapting solutions

SH feed back to experts

SH review & evaluate fact sheets

Process and context

- Farmers identify and articulate research needs in different ways

- Experts interpret their needs and find solutions in different ways

- Need dialogue for continuous re-articulation

- Case study social and technical context and goals influence topic, farmer scientific literacy etc

- CS partners are key intermediaries- managing project and farmer expectations

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Iterative process

Context
- Innovation system
- Existing projects/issues
- Actors: CSP, SC, SH
- Scope & depth of enquiry
- SH research literacy, innovation services support, expectation, validity

Process
- Managing iteration and participation
- Nature and extent of SH participation and engagement
- Methods used to ascertain SH innovation issues and priorities

Testing, refining, adapting solutions

Identifying, articulating and refining research needs

CSP relationship & influence with SH
Steering issue prioritisation
Dual identity

Research translation as co-innovation: lessons so far

- Co-innovation -combines SH experiences with utilising existing research outputs – the benefits of **science-driven and innovation driven research**

- Translation processes- identification, prioritisation, articulation, evaluation, searching, extraction - requires flexibility, adaptability, iteration

- Reconciling the supply and demand of scientific information can be highly pragmatic and contextual in nature

- Assumption that farmers articulate concrete research questions and scientists find immediate solutions is simplistic

- Mobilises farmers to assess their innovation demands and capture their knowledge for integration into ask-Valerie.eu - ensures *AV* is relevant to users' needs

A transferable model for translating research

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Co-innovation multi actor research projects, operational groups

Agricultural Innovation System

Markets

Agro-Processors

Producer Organizations

Input Suppliers

Supply chain

Land Agencies

Research System

Producers Farmers

Advisory Services System

Education System

Government Policy & Regulatory Framework