



## IFALL 2023

Open Innovation and transdisciplinary research for territorial transitions : the case of the TETRAE Program in France

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# Plan

- **1. Literature review**
  - 1.1 Open innovation in transdisciplinary research projects
  - 1.2 Transdisciplinary and territorial approaches
- **2. Data and methods**
  - 2.1 Case study : TETRAE program
  - 2.2 An evolutionary process of co-design
  - 2.3 Analysis of research projects
- **3. Results**
  - 3.1. Typology of research projects
  - 3.2. Focus on 3 projects
- **4. Conclusions**

# 1. Literature review

# 1. Literature review

« We define open innovation as a distributed innovation process based on purposively managed **knowledge flows across organizational boundaries** » (Chesbrough & Bogers, 2014)

- **1.1 Open innovation in transdisciplinary research projects**

- Starting from an initial research field focused on business organizations and management issues...
- ... to specificities of open innovations in agri-food and socio-ecological systems

- **1.2 Transformative and territorial approaches**

- **Transformative approaches**

- Knowledge for the implementation of transitions (Hansen & Coenen, 2015)

- **Territorial approaches**

- End users of innovations are identified and their role clarified (Mc Phee et al., 2021)
- Systemic perspective to address connected issues at the territorial level (Gamache et al., 2020)
- Diverse stakeholders with **diverse (sometimes conflicting) expectations** (Toffolini et al., 2023)
- **Spatial proximity** for knowledge exchanges and stakeholders participation is taken into account

## 2. Data and methods

## 2.1 Case study: TETRAE program

- **National research program with local stakeholders**
  - « Transition in Territories for Agriculture, Food and Environment »
- **At the heart of the program:**
  - **Nexus approach**
    - agriculture-food-environment-health
  - **Regional strategy**
    - research agenda discussed with regional bodies
  - **Pluridisciplinarity**
    - diverse perspectives on transitions
  - **Evolutionary co-design**
    - with local stakeholders
  - **Open innovation**
    - identifying and involving end users
  - **Impact**
    - social impact of research



## 2.1 Case study : TETRAE program

- **A research-action program for territories**
  - **Co-funded by INRAE and 8 regional bodies**
  - **19 research projects**
    - more than 500 scientists and 300 stakeholders involved
  - **3 national thematic clusters**
    - Agroecological transitions
    - Transitions in food systems
    - Sustainable resource management

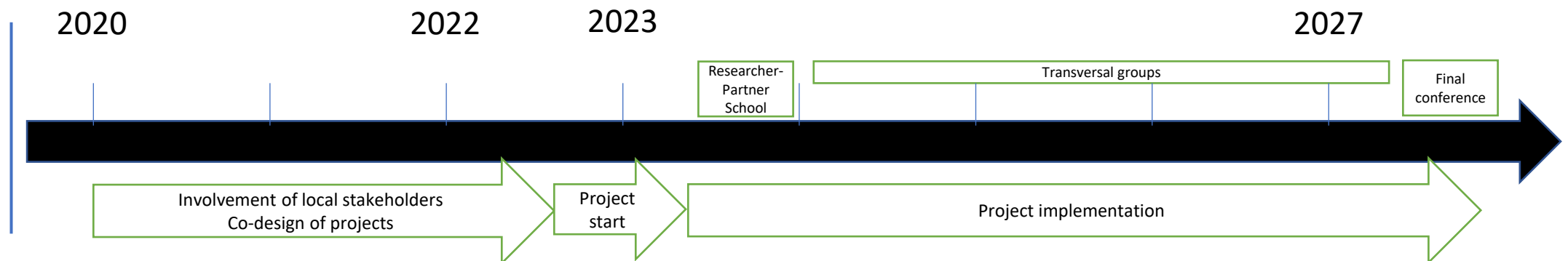


### Les régions du programme TETRAE et leurs projets de recherche



## 2.2 An evolutionary process of co-design (2022-2027)

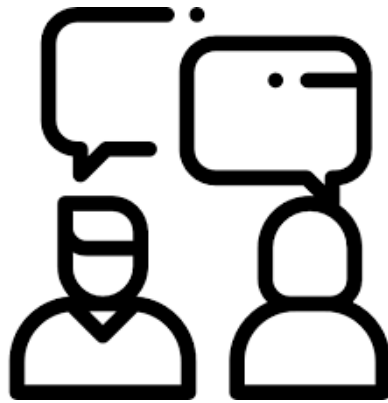
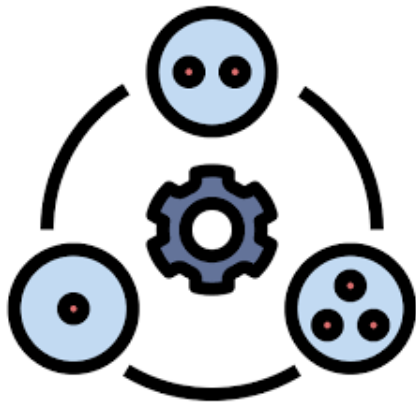
- A national frame with regional agendas
- Dialogue with regional bodies to identify local research priorities
- Projects co-designed by research teams and local stakeholders





## 2.3 Analysis of research projects

- Phases of the design process
- Interviews with regional coordinators
- Analysis of project documentation



# 3. Results

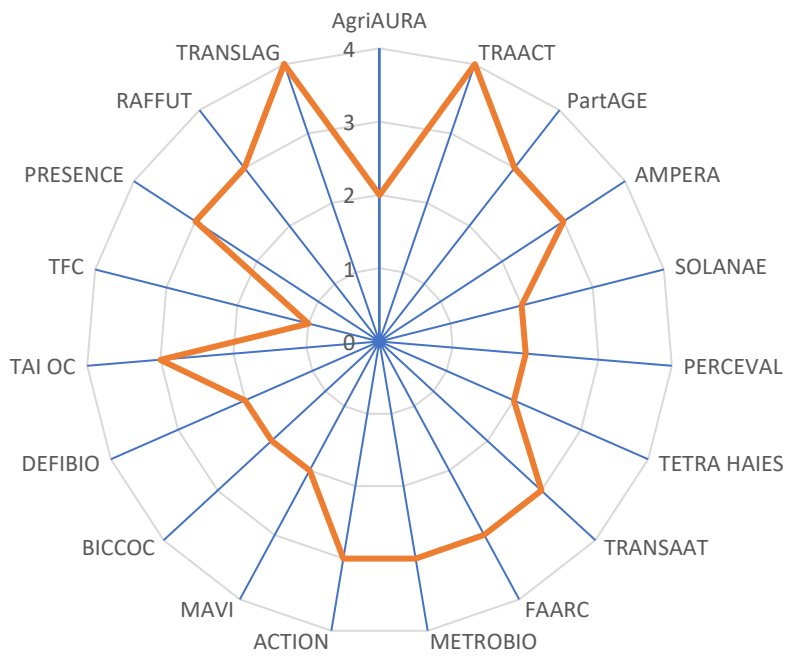


## 3.1. Typology of research projects

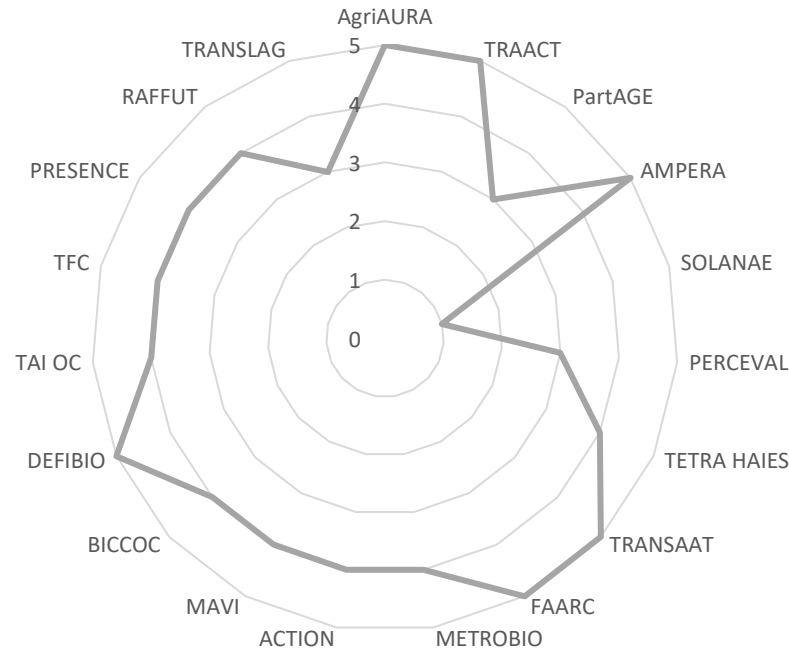
- **Nexus perspective**
  - Agriculture, Food, Environment, Health
- **Territorial approaches**
  - Landscape scale
  - Multi-scale studies (farmplot, farm, landscape, region)
- **Partnership**
  - Diversity of stakeholders
  - Co-design process
  - Evolutionary co-design

# 3.1. Typology of research projects

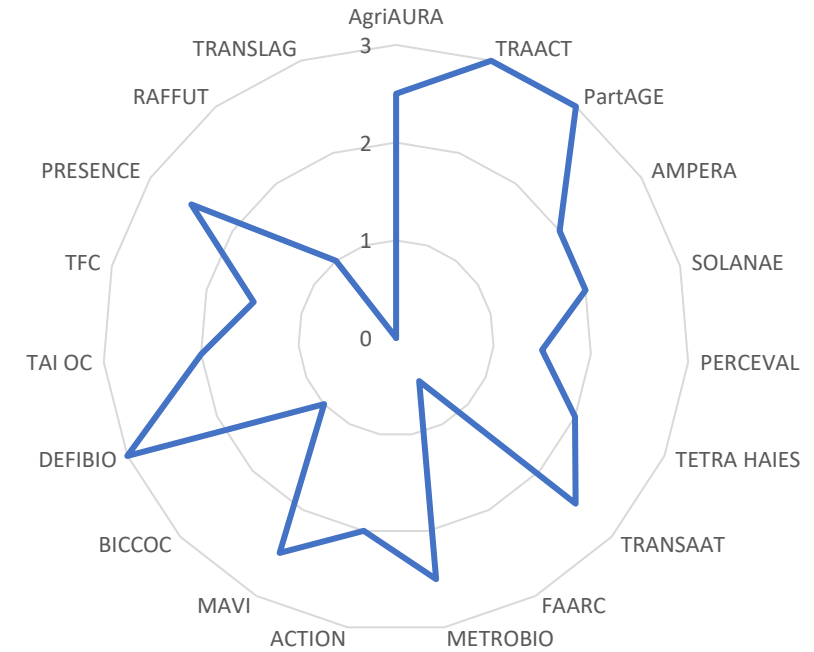
## Nexus perspective



## Territorial approaches



## Partnership

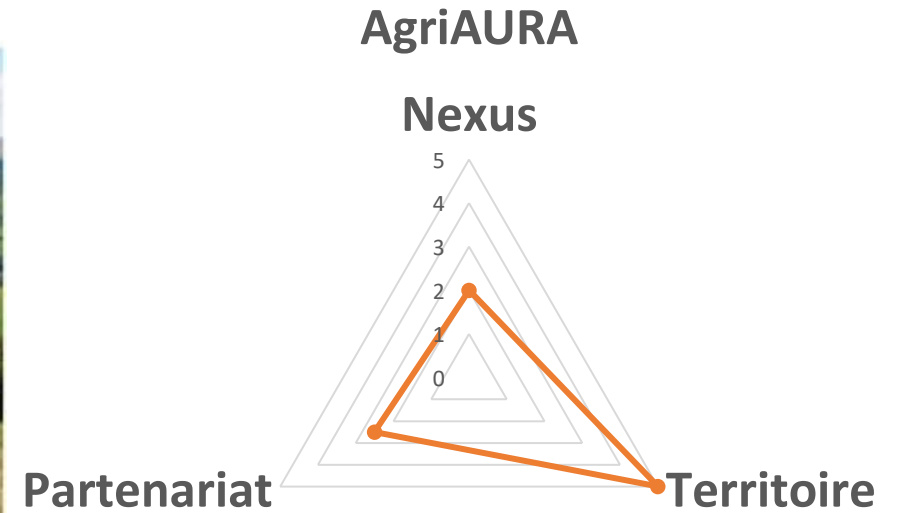


## 3.3. Focus on research projects

- **3 projects (related to thematic clusters)**
  - **Agroecological transitions**
    - AgriAURA2050
  - **Transitions in food systems**
    - TRANSAAT
  - **Sustainable resource management**
    - MAVI

### 3.3. AgriAURA2050

- Research topics: Resilient crop and livestock systems for climate change adaptation
- Open innovation approach:
  - Coordination of networks: test sites in farm networks, existing agro living labs
  - Co-design of adaptation scenarios with local stakeholders
  - Innovative practices for the climate resilience of permanent pastures



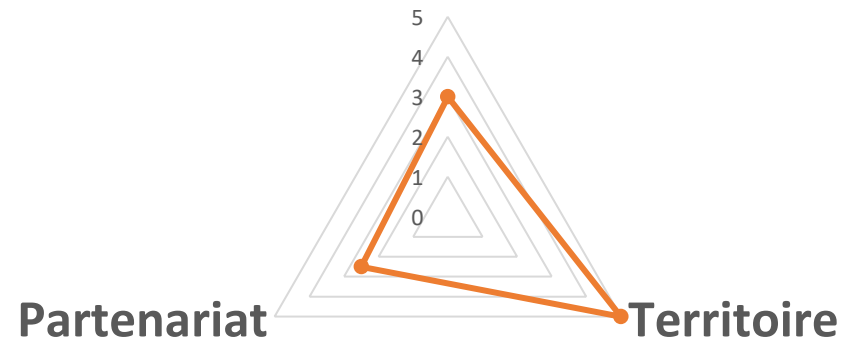
### 3.3. TRANSAAT

- Research topics: Transitions of local agrifood systems in a border region
- Open innovation approach:
  - Network of transnational initiatives
  - Participative modelling of local flows
  - Co-design of policy tools integrating food and water planning



### TRANSAAT

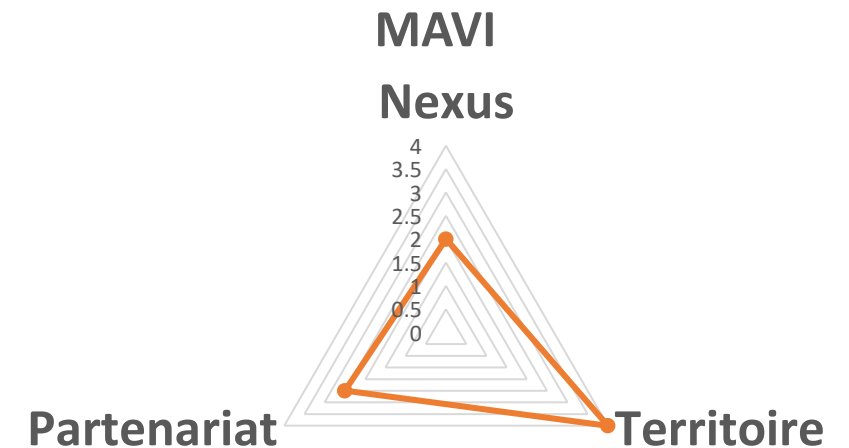
#### Nexus





### 3.3. MAVI

- Research topics: Farming systems in wetlands and management of natural resources
- Open innovation approach:
  - Participative design of indicators: assessment of pastoral management on water resource, carbone storage and biodiversity
  - Local network for the design of environmental services provided by crop and livestock farms





## 4. Conclusions

## 4. Conclusions and perspectives

- Transformative dimensions and social impact as key objectives of the program
- Starting from place-based research inputs and innovations...
- ... towards generic results through:
  - national transversal groups (based on thematic clusters)
  - in itinere collective learning
  - network of Agro Living Labs

<https://www.tetrae.fr>

