



DIVERFARMING



# Crop diversification cluster

## Expanding the network of actors supporting crop diversification

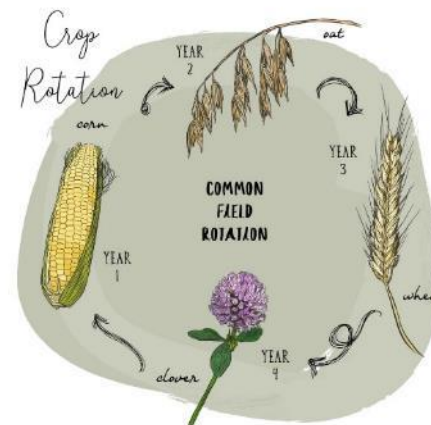
Raúl Zornoza (UPCT, Spain), Coordinator Diverfarming  
Antoine Messéan (Inrae, France), Coordinator DiverIMPACTS  
Lise Paresys (Inrae, France), Scientific officer DiverIMPACTS



The projects in the crop diversification cluster have received funding from the European Union's Horizon 2020 research and innovation programme

# What do we mean by crop diversification?

- Act or process of diversifying crop production
  - Increasing the heterogeneity within crop cultivars
  - Increasing the number of cultivars
  - Increasing the number of species
    - On the same land-area in successive growing seasons (crop rotation)
    - On the same land within a growing season (multiple cropping)
    - In proximity within the same field (e.g., row intercropping, strip cropping, mixed cropping, agroforestry)



Blue lupines intercropped with oat for feed (CS20 of DiverIMPACTS)



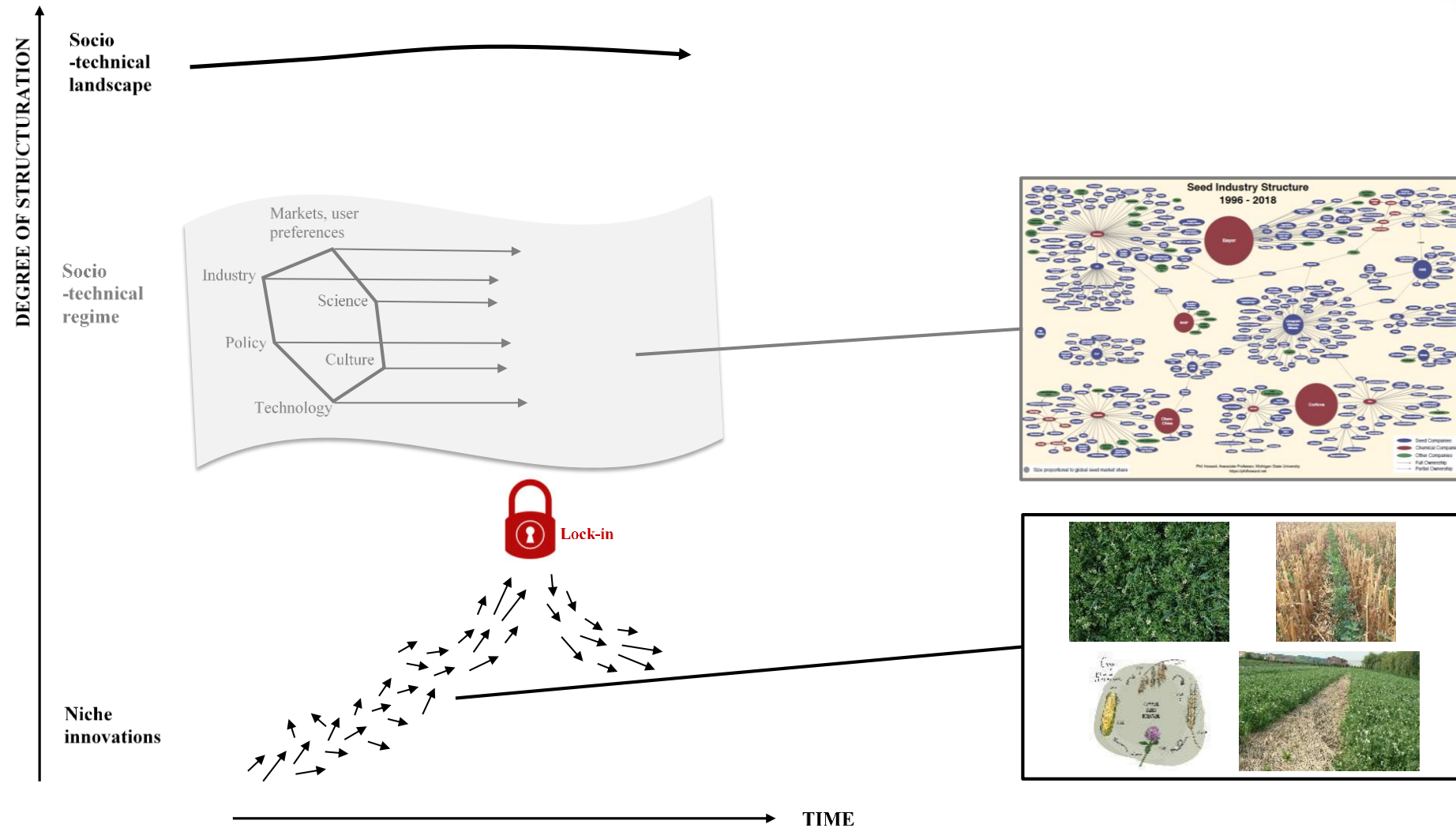
Peas in sorghum cover crop (CS8 of DiverIMPACTS)



Relay cropping of alfalfa and barley (CS8 of DiverIMPACTS)



# The socio-technical lock-in to crop diversification

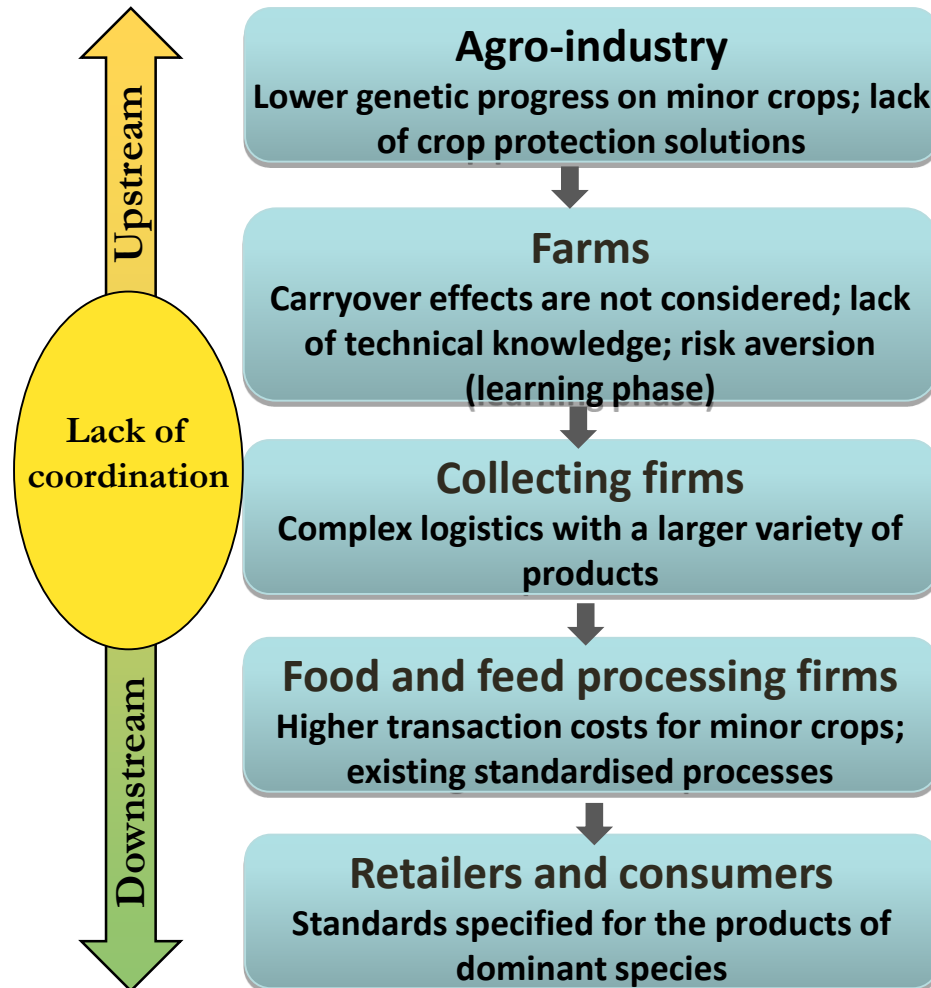


(adapted from Olivier et al., 2018 who adapted it from Geels, 2002)



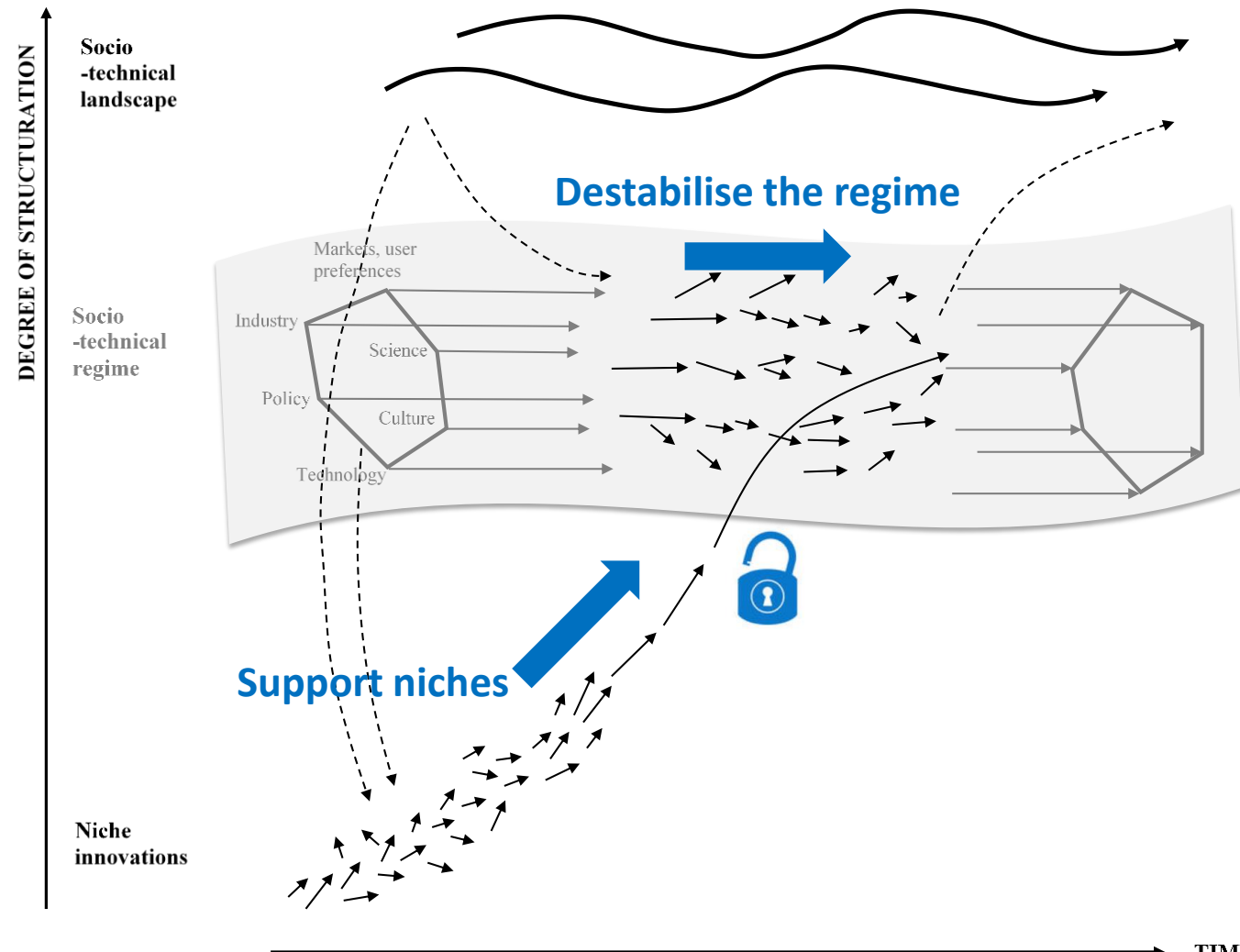
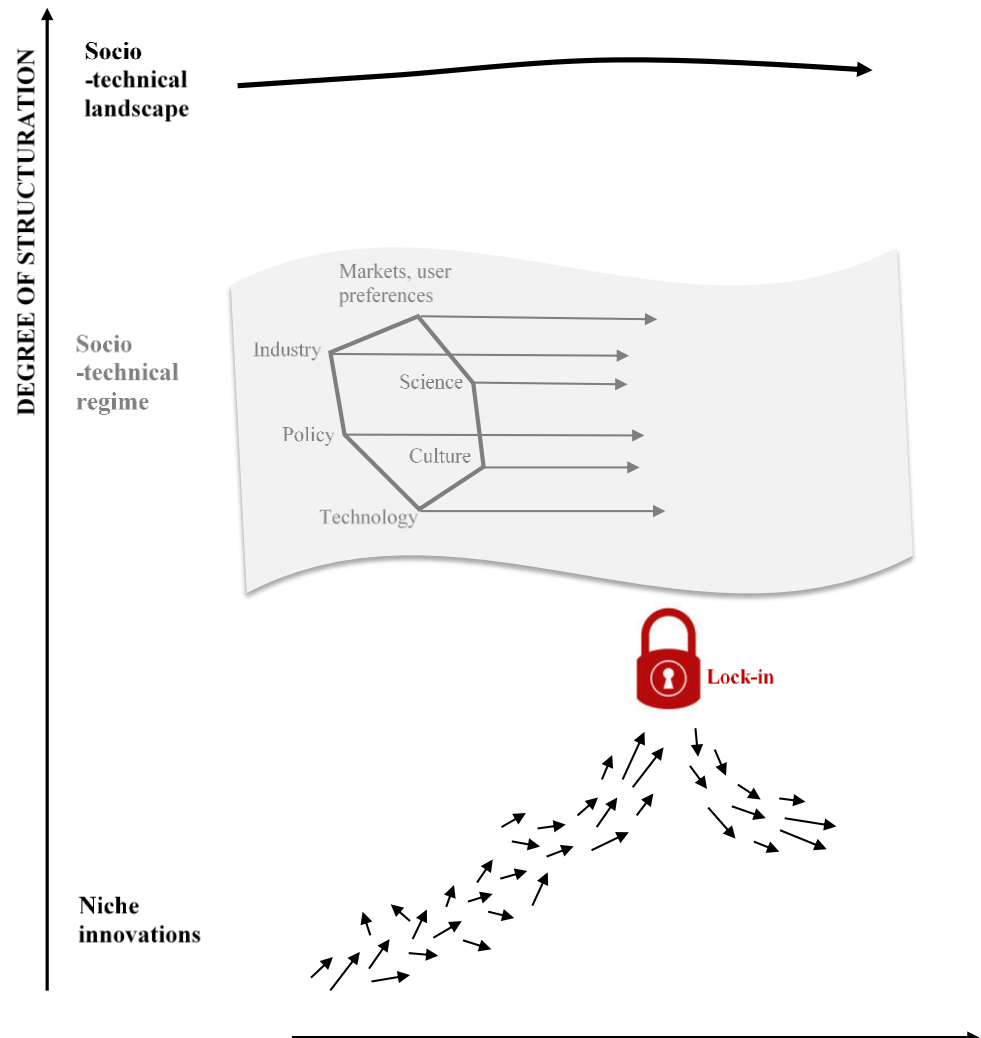
# Socio-technical barriers to crop diversification

(Meynard et al., 2018)



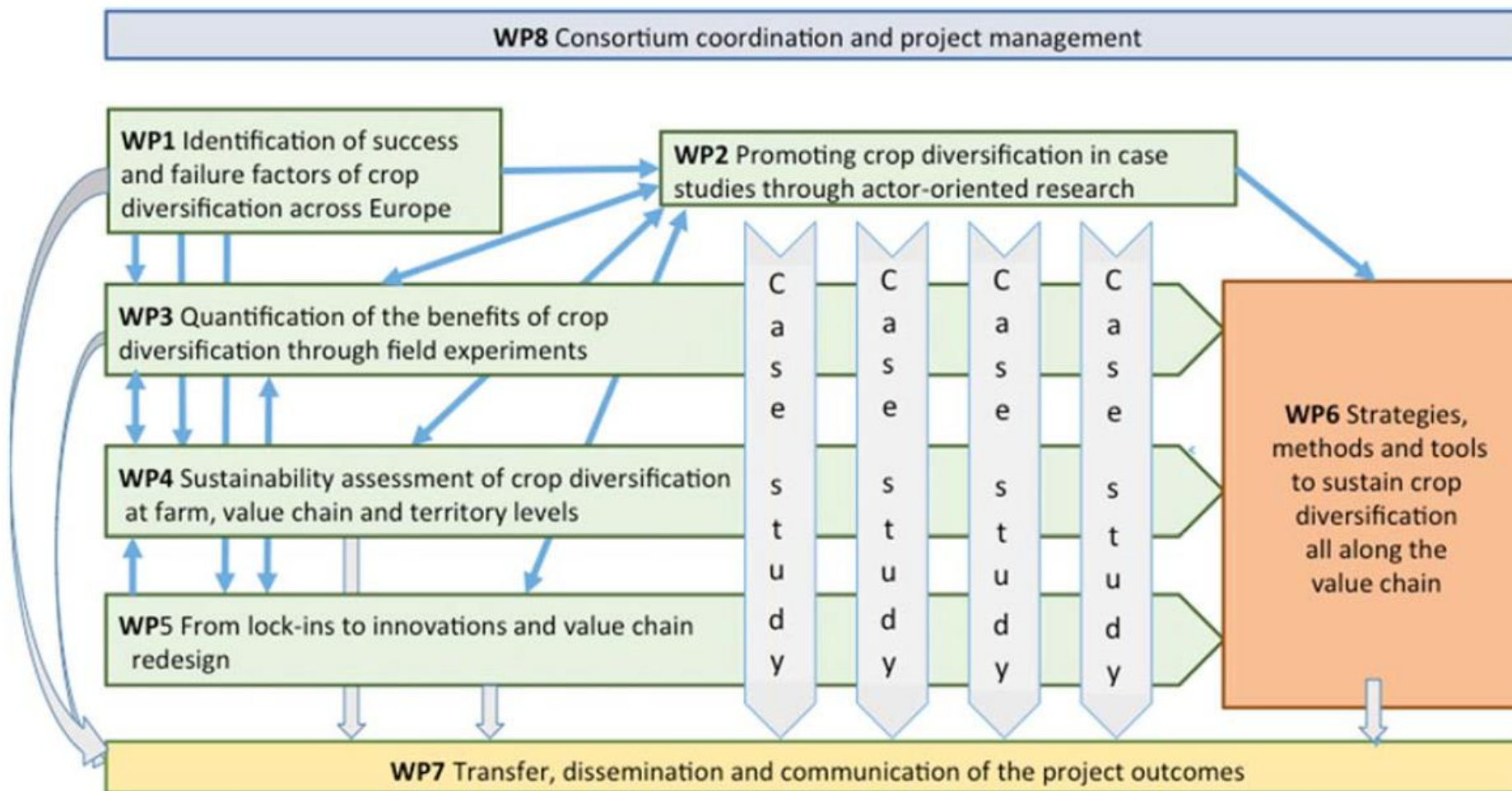
- Crop diversification as a technological, organisational and institutional innovation
- A change in crop production systems implying both
  - the development, diffusion and use of particular technologies at different levels of agri-food systems;
  - a change in the way agri-food systems are organised and governed.

# Unlocking the potential of crop diversification to support sustainability transitions



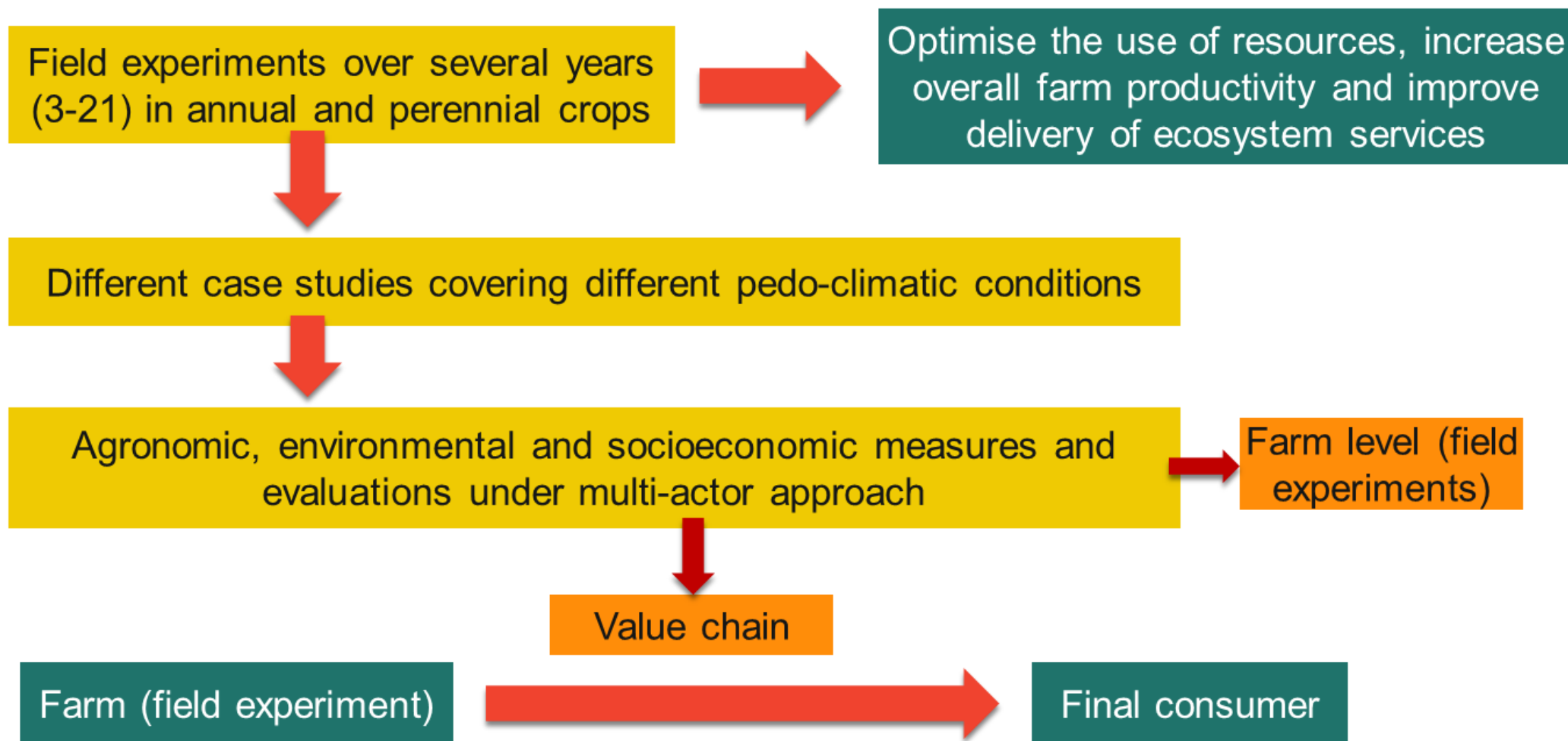








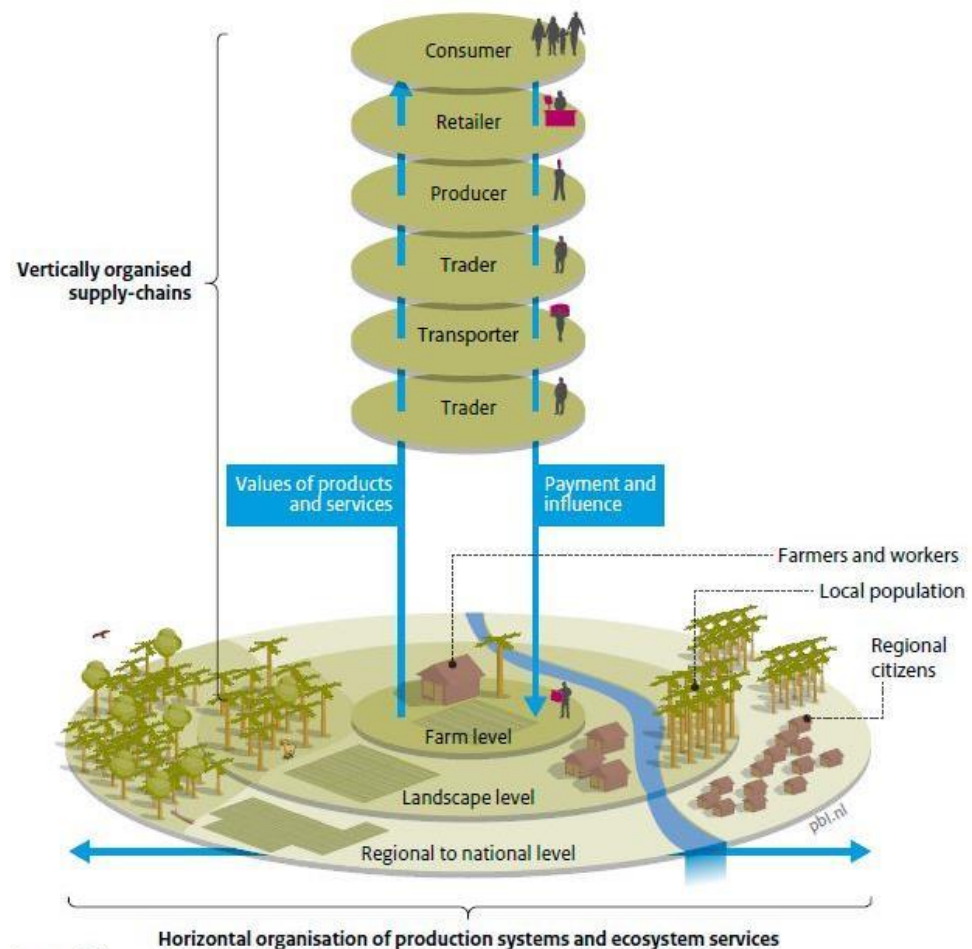
# DIVERFARMING







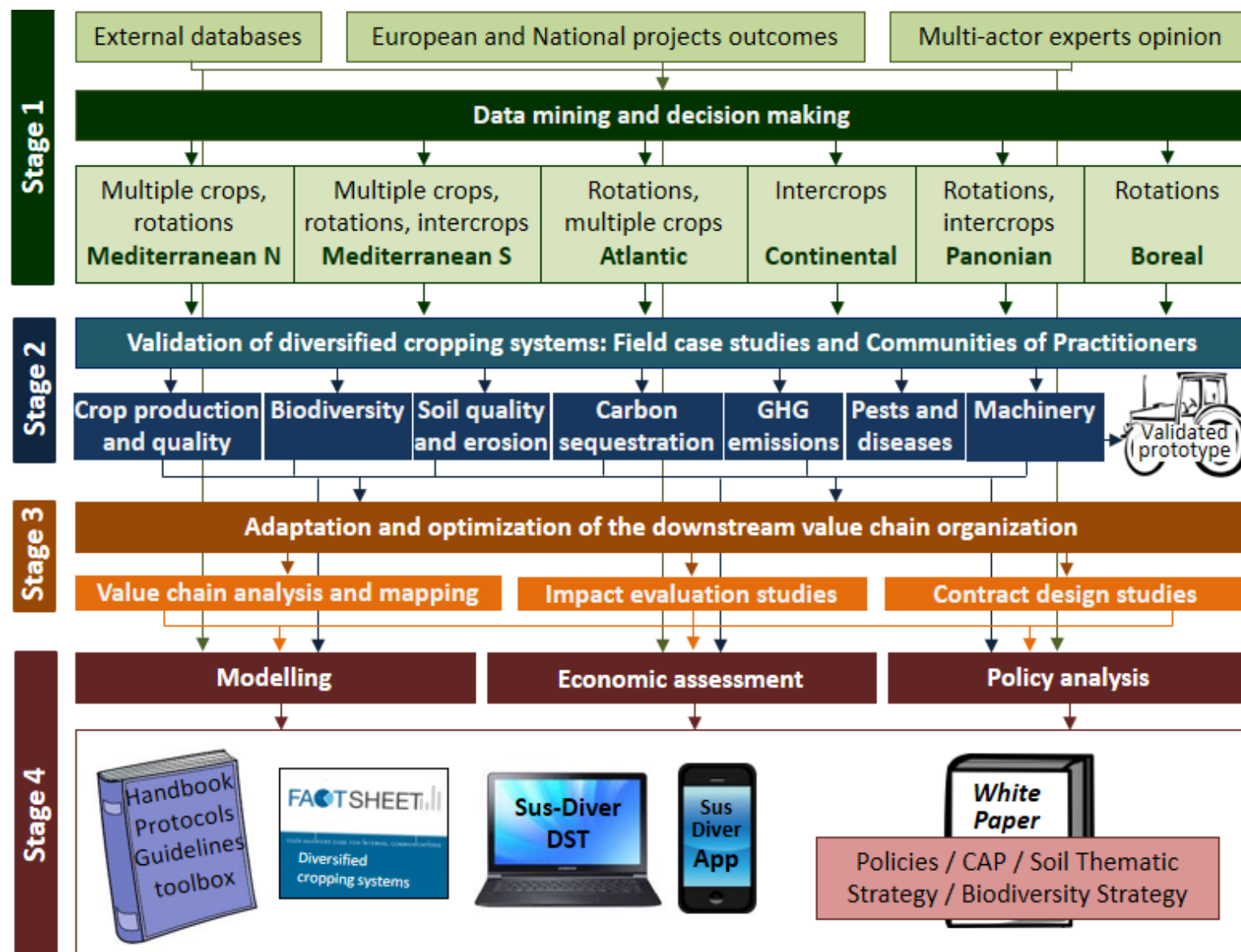
# DIVERFARMING



Source: PBL

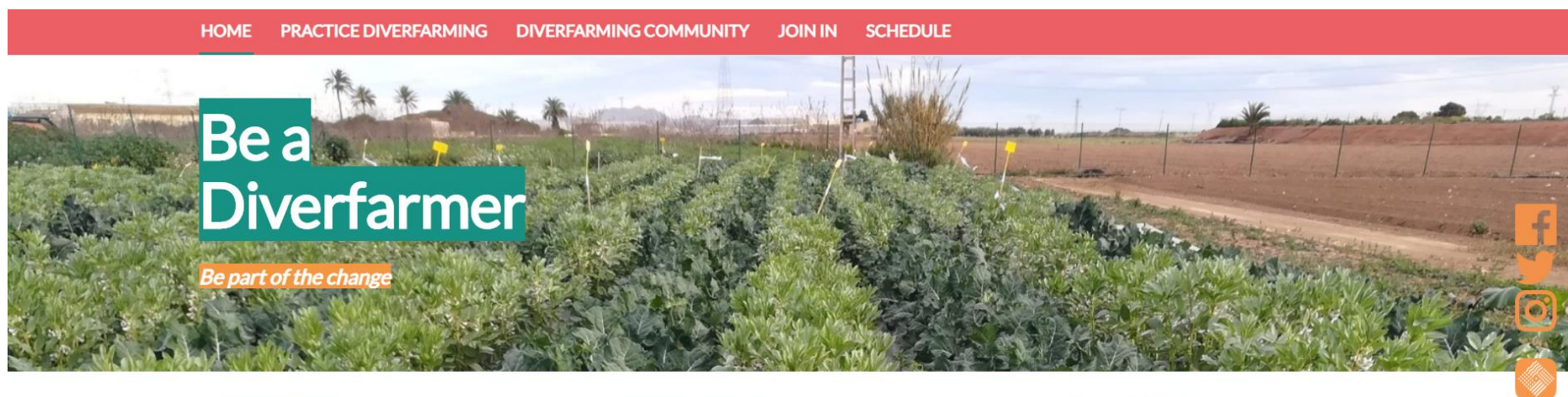


# DIVERFARMING



## Communities of Practitioners

- Volunteer adopter farmers and agribusinesses recruited to develop diversified cropping systems in their farming systems as real scenarios, and ensure longevity beyond the project.
- Used to assess why farmers in Europe are implementing crop diversification, and identify barriers why other farmers are not implementing it
- How?: Periodic meetings with stakeholders from case studies and questionnaires. Registration as “Diverfarmer” in the website [www.diverfarming.eu](http://www.diverfarming.eu)
- BE A DIVERFARMER strategy:



**PRACTICE  
DIVERFARMING**  
It's time to start



**DIVERFARMING  
COMMUNITY**  
For the common good



**JOIN IN**  
The change in  
agriculture has arrived



# ‘Crop diversification’ cluster of Horizon2020 funded EU projects



**Collaboration between projects to**

- **share information, methods and results**
- **increase the overall impact on crop diversification uptake**
- **sustain activities and infrastructures into the future.**

# ‘Crop diversification’ cluster of Horizon2020 funded EU projects



## Working groups

- Barriers to crop diversification
- Multi-criteria and multi-scale assesment
- Tools to support crop diversification
- Policy recommendations
- Communication

Total Budget funded by EC: 40 million €



**SFS-02-2016: Teaming up for good:**  
Exploiting the benefits of species  
diversity in cropping systems



**SFS-26-2016: Legumes - transition  
paths** to sustainable legume-based  
farming systems and agri-feed and  
food chains

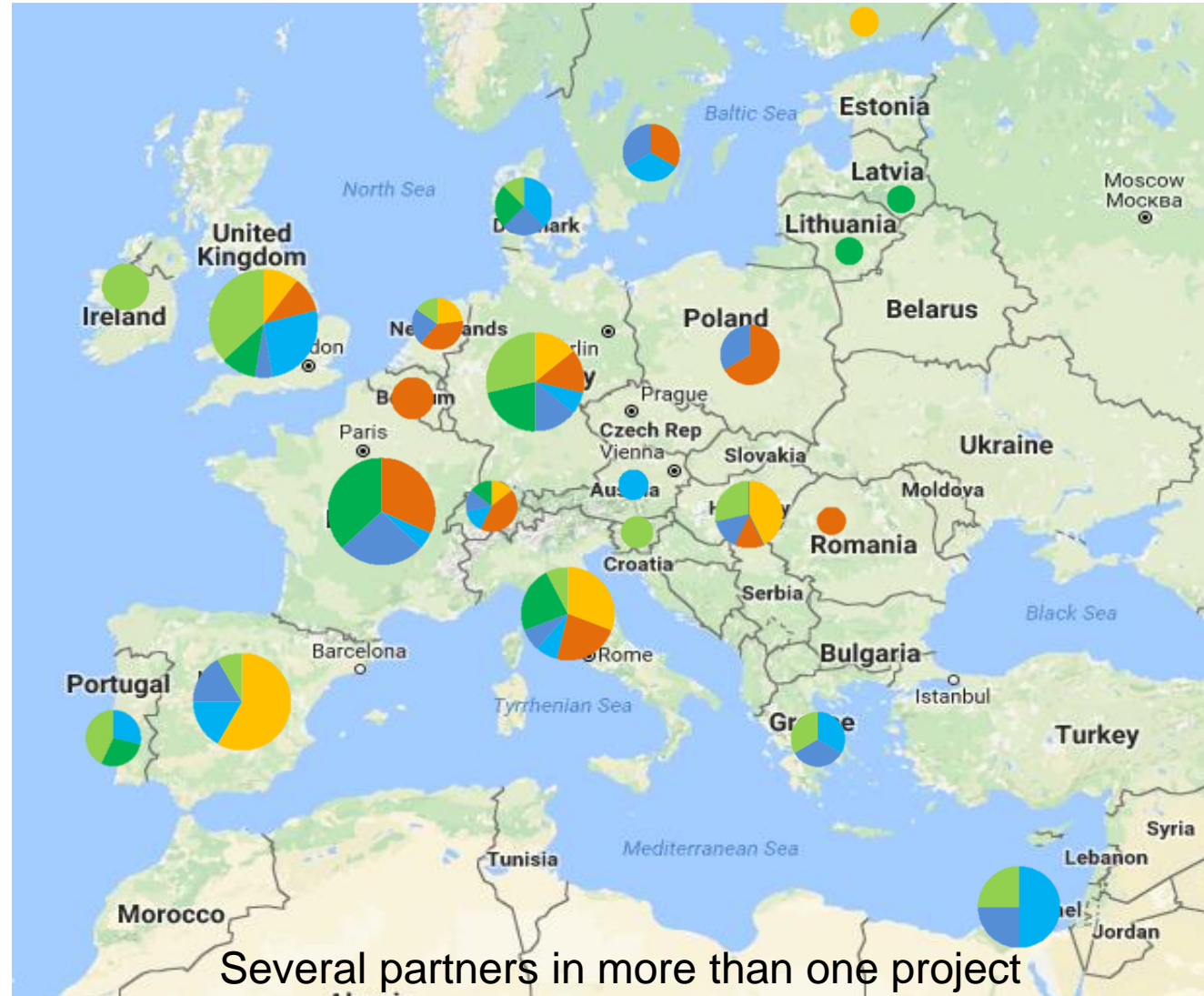


**RUR-06-2016: Crop diversification systems**  
for the delivery of food, feed, industrial  
products and ecosystems services – from  
farm benefits to value-chain organisation





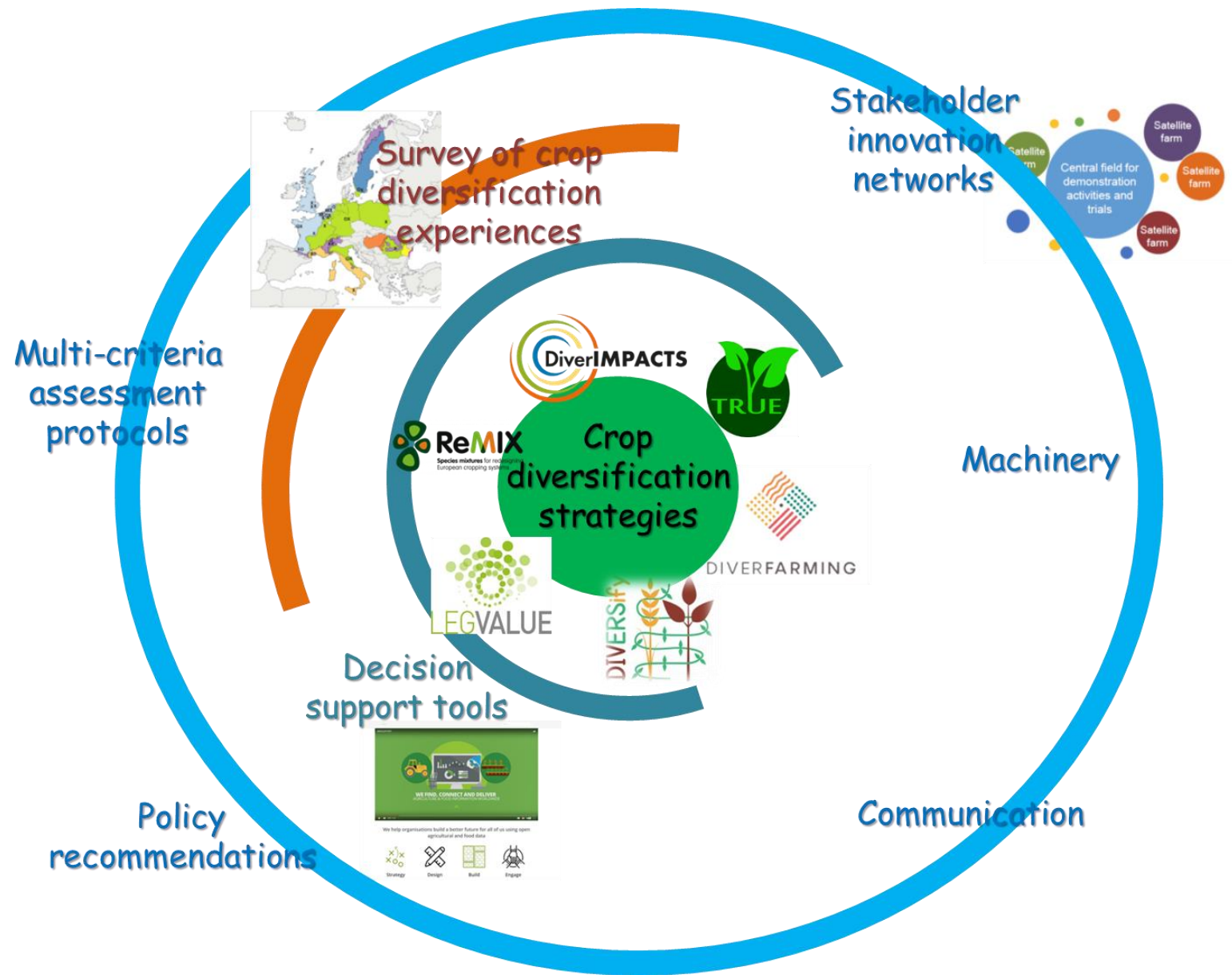
# Geographical spread of partners



DIVERFARMING  
DIVERIMPACTS  
DIVERSIFY  
REMIX  
LEGVALUE  
TRUE



	NB
AUT	1
BE	6
CH	3
DE	13
DK	6
ES	11
FL	3
FR	16
GR	3
HU	7
IRL	2
IT	11
LU	1
LV	1
NL	8
OTHER	4
PL	3
PT	7
RO	2
SE	4
SL	1
UK	14



# Towards a Crop diversification network?



DiverIMPACTS  
European Conference  
on Crop Diversification  
September 18-21, 2019  
Budapest, Hungary



Crop  
Diversification  
Cluster

- Which objectives?
  - Knowledge sharing
  - Building bridges
- Who should be involved?
  - Actors of agri-food systems
- Which governance?
  - Shared
  - Sub-networks
- Which structure?
  - Should allow individual and collective exchanges





# Projects involved



- **DIVERSify**, “Designing InnoVative plant teams for Ecosystem Resilience and agricultural Sustainability”, GA no. 727284, JHI, coordinator Alison Karley ([Alison.Karley@hutton.ac.uk](mailto:Alison.Karley@hutton.ac.uk));
- **ReMIX**, “Redesigning European cropping systems based on species MIXtures”, GA no. 727217, INRA, coordinator Eric Justes ([eric.justes@inra.fr](mailto:eric.justes@inra.fr));
- **LegValue**, “Fostering sustainable legume-based farming systems and agri-feed and food chains in the EU”, GA no. 727672, Terres-Inovia, coordinator Frédéric Muel ([f.muel@terresinovia.fr](mailto:f.muel@terresinovia.fr));
- **TRUE**, “TRAnsition paths to sUstainable legume based systems in Europe”, GA no.727973, JHI, coordinator Pete Iannetta ([pete.iannetta@hutton.ac.uk](mailto:pete.iannetta@hutton.ac.uk));
- **Diverfarming**, “Crop diversification and low-input farming across Europe: from practitioners engagement and ecosystems services to increased revenues and chain organization”, GA no. 728003, UPCT, coordinator Raúl Zornoza ([raul.zornoza@upct.es](mailto:raul.zornoza@upct.es));
- **DiverIMPACTS**, “Diversification through Rotation, Intercropping, Multiple cropping, Promoted with Actors and value-Chains Towards Sustainability”, GA no. 727482, INRA, coordinator Antoine Messéan ([antoine.messean@inra.fr](mailto:antoine.messean@inra.fr))

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# European Cluster and UBC Cluster collaboration

- Share/compare procedures and protocols
- Understand lock-ins, barriers and policy background in different territories to foster the adoption of diversified cropping systems
- Be part of the UBC Coordinated Distributed Experimental Network (CDEN)
- Collaborations in the open source technology platform for Data-Driven Agroecology
- Share open data. European Cluster upscaling and modelling members are gathering data for their analyses and create DST
- Collaboration in Workshops (several to come in Europe)
- Shared communication strategy
- Students exchange programs
- Finding funding options for joint research projects