



ClieNFarms
Climate Neutral Farms

D1.1 I3S Network architecture

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1 Executive summary

The general objective of ClieNFarms is to co-develop and upscale systemic locally relevant solutions (organisational, financial, technical) to reach climate neutral and climate resilient sustainable farms across Europe, interactively integrating and improving existing solutions to achieve economically viable business models in farming systems by involving farmers, extension services, agri-food business, policy-makers, finance and citizens.

The I3S network

The core concept of the ClieNFarms approach is the 19 Innovative Systemic Solution Space (I3S). Systemic because it takes into account not only the farm but also the surrounding (eco)system (suppliers, advisors, research, agro-equipment, etc.). Solution space because different solutions will be proposed and tailored for each farm, depending on their pedoclimatic conditions, resources availabilities and constraints. Innovative, because the proposed solutions will induce emergence and adoption of efficient innovation including different new elements such as finance, banks, collaborative proposals.

Objective	Contribution of the deliverable	Task concerned	Impact
Facilitate multi actor knowledge exchanges and climate solutions between I3S.	Group of I3S per thematic with a dedicated thematic leader for each thematic to facilitate discussion.	Task 1.1	Organize the discussion about the climate solutions.
Organize cross-border visit and exchanges for cross fertilization of I3S.	The thematic group permit to prioritize the visit the I3S managers want to attend.	Task 1.2	Monitore the impact of climate solutions.
Catalogue of climate solutions for different systems.	The thematic network will permit to share the work to identify climate solutions and also describe the factsheet and farmers testimonies.	Task 1.4	Catalogue of climate solutions available for farmers and farm advisers.

Farm level solutions to be displayed, demonstrated and debated

In order to achieve the objectives of the project, I3S network will have to implement solutions on their demonstrative, lead commercial and commercial farms. The objectives of WP1 is to cross fertilize I3S and demonstrate solutions already in place or in progress to be implemented to all I3Ss.

In order to organize these exchanges, a well-functioning European network of multi-actors I3S must be co constructed. It will be used to exchange knowledge through various visits, meetings and presentation, quantify the performance baseline of the I3Ss and to build a reservoir of existing solutions which will be used and update throughout the project. WP1 constitutes the nexus of the project as collaborative and creative arena across I3Ss and starting point of a sustainable European Agriculture through climate-neutral farms.

This document will summarize the first two co-construction meetings with I3Ss managers and WP1 members to build a common network through the establishment of **six sub-thematic networks** with **thematic leaders** and the definition of responsibilities and management rules.

I3S Coordinators exchanged knowledge during months 1 to 3 and discussed about interesting themes to structure the network. The cross-fertilisation on the different thematic areas will be conducted throughout the project by implementing the annual knowledge programs.

Conclusion

During the first three months of the ClieNFarms project I3Ss managers has been identified. They met together with WP1 members in two “half-day knowledge exchange session” to co-construct the I3S network architecture taking into account their needs, interests and curiosities in a bottom-up approach. Following these meetings 6 thematic has been identified with a thematic leader nominated for each one of them. The I3S network is well functioning at the 15/03/2022 with already a workplan for exchanges and visits for 2022.

2 Introduction

2.1. Purpose of the document

The network of 19 I3S has been identified and exchanges started. This document presents the specific methodology which has been decided in a participative approach with I3Ss managers.

It provides:

- a representative sample of the European agricultural systems greenhouse gas emission: 19 I3S description that have high potential to reduce emissions and demonstrate solutions in their respective value chains. Other important criteria like product destination (bioenergy, feed, food), organic and conventional, policy, industry and finance will enable the interconnection of the I3S together in view of permanent knowledge exchanges.
- The identified I3S manager that has been appointed for each I3S. The managers of the I3S already started to implement the project activities in their own area through design thinking in a multiactor setting.
- The connection with other I3S has been described with an I3S network architecture following six themes. Exchanges will be organized regarding these six themes throughout the project.

2.2. Structure of the document

This document is structured in two major sections

An interactive map presents the 19 I3Ss and their managers. It is the first level of organisation of the I3S network. To have a I3S manager to participate to exchanges with other I3S and to make the link and spread the solutions with the demonstrative farm and the lead commercial farms within his I3S. This map will also permit in a glance for other actors to identify I3S that could be of interest for him.

An I3S Network architecture description. This network architecture is organized into 6 themes. It will permit to ease exchanges and divide the work to identify, test and describe climate solutions regarding

D1.1 I3S Network architecture

to farm system (livestock, crops...) or family of solutions (carbon sequestration, renewable energy production...).

3 I3S Interactive map

Following the start of the project and discussion among WP1 and WP3 task leaders, I3Ss have been described regarding various characteristics:

- Location (country and region)
- Climatic zones (based on the EPPO zoning)
- Partners involved
- Manager
- Main agricultural and livestock systems
- Demonstrative farm
- Existing network (projects, supply chains, banks, territorial approaches...)
- Main innovative solutions already or to be implemented: technical, organisational, financial, policy, supply chains level...)

These different characteristics have been gathered using the klaxoon tool and a map allowing a full representation of the network created (see figure 1). This is an interactive map, ie, when some one clicks on a site, more details are given

Link to the Interactive map: <https://sites.inra.fr/site/gdc-carbon-neutrality/SitePages/WP1.aspx>

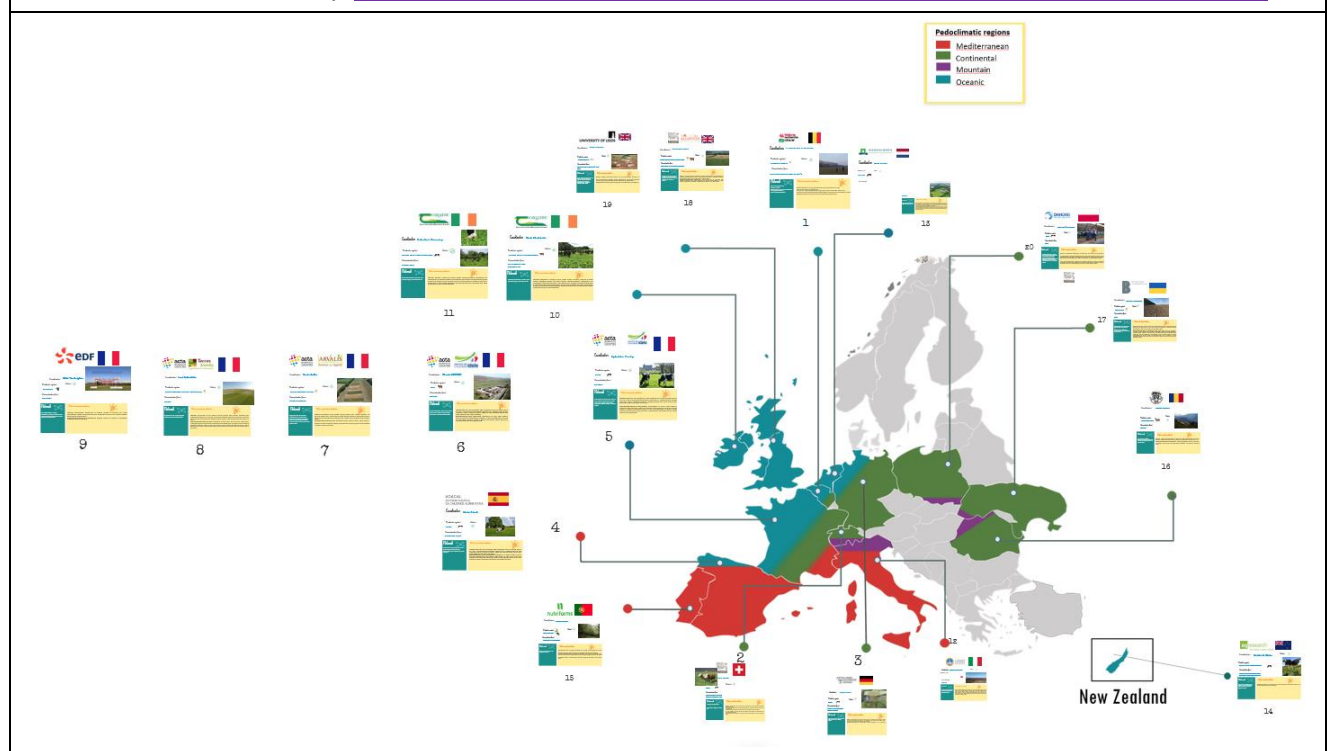


Figure 1: Interactive map of the 19 I3Ss.

4 I3S Network architecture

The coordinators of the I3S have been identified during M1 (table 1). They started to implement the project activities in their own area. The Dairy and Beef I3S are including in majority **mixed crops-livestock farms**.

Table 1: I3S and I3S coordinators

Country	Production	Leading Partner	I3S Manager
Belgium	Crops	CRAW	Michaël Mathot
Switzerland	Dairy	BFH-HAFL - Nestle	Oscar Godin
Germany	Dairy (organic)	JLU	Deise Knob
Spain	Dairy	AGACAL	César Resch Zafra
France	Beef	IDELE	Thomas Gontier
France	Dairy	IDELE	Sylvain Foray
France	Crops (south)	ACTA	Oscar Godin
France	Crops (north east)	ACTA	Anne Schneider
France	Wine and energy	EDF	Mike van Iseghem
Ireland	Beef	Teagasc	Karl Richards
Ireland	Dairy	Teagasc	Deirdre Hennessy
Italy	Tomato	UCSC	Andrea Ferrarini
Netherlands	Dairy	WR	Jouke Oenema
Portugal	Olive oil	NutriFarms (DF & LF)/CONSULAI (Outreach farms)	Isabel Ribeiro
Romania	Sheep	IBNA	Catalin Dragomir
Ukraine	Crops	BFH-HAFL - ukraine	Oleksii Omelianenko
UK	Crops	Game & Wildlife Conservation Trust (Allerton project)	Alastair Leake
UK	Pigs	University of Leeds	Lisa Collins
Poland	Dairy	Danone	Anna Reps-Bednarczyk

In order to stay connected to other I3Ss and to facilitate exchanges and dissemination of solutions a network has been built through design thinking in a multiactor participative approach.

Approach to get the structured network

This work was conducted during two “half-day knowledge exchange workshop” and a collaborative work (figure 2) was conducted aiming to identify:

- Needs for I3S coordinators
- Interests for I3S coordinators
- Existing solution/project in each I3S
- Lacks / possible improvement in their I3S

This work was used to structure the I3S network in **six majors structural themes** (two main themes linked with production type solutions and four transversal themes links to the type of solution implemented). These thematic have been reduced from 8 (in the initial proposal) to 6 at the demand from WP1 partners and I3S managers. The 19 I3S managers found that 6 themes will be enough and it will permit to discuss in wider groups and to participate to a larger number of solutions. A theme leader has been identified for each theme (table 2). The Theme Leaders will organise the knowledge exchange activities between the I3S Coordinators. Following feedback from I3Ss coordinators:

- All I3Ss coordinators will be invited to all I3Ss visits.
- During “knowledge exchange workshops” discussions and agendas will be structured according to the theme: each I3S could present a solution, experience, proposition

Annual programs will be discussed in plenary session and structured according to the six major structural themes.

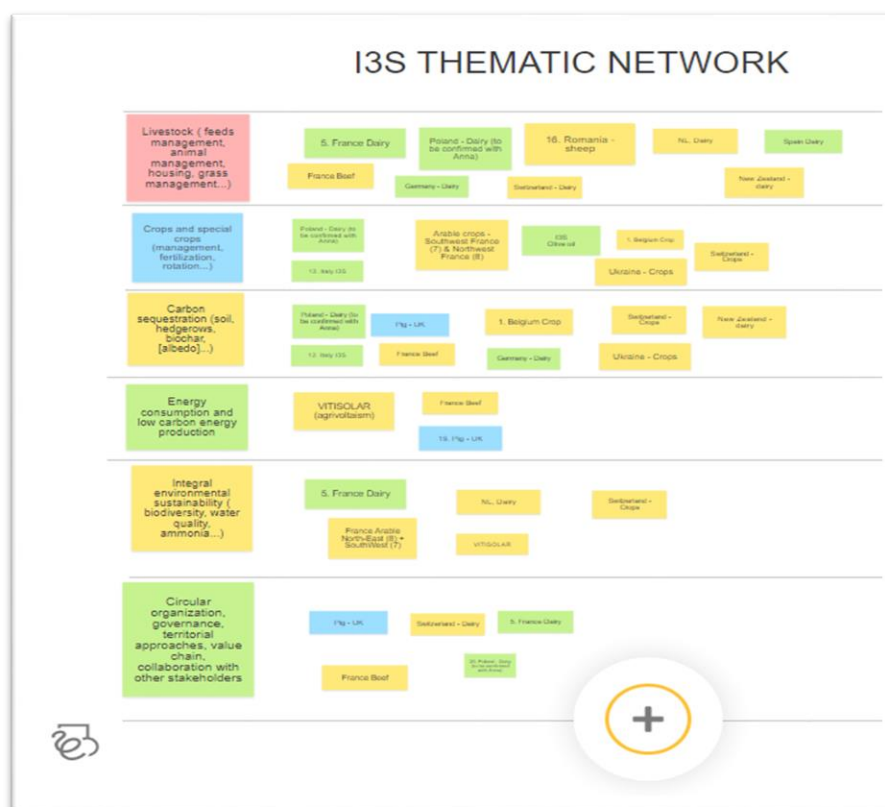


Figure 2: Example of collaborative work “online brainstorming” to structure I3S network

Table 2: I3S network themes

Theme	Thematic leader
1. Livestock (feeds management, animal management, housings, grass management...)	Deirdre Hennessy TEAGASC
2. Crops and special crops (fertilization, soil management, crops management, specific mitigation practices, crops rotation...)	Anne Schneider ACTA Andrea Ferrarini USCS
3. Carbon sequestration (soil, humic balance, impact of farming practices on soil carbon sequestration, effect of hedgerows, agroforestry, biochar...) albedo...	Laura Van Vooren BIOFORUM
4. Low carbon energy production, energy	Mike van Iseghem

(fuel and electricity consumption, biogas plant, wooden chips from hedgerows, photovoltaic...)

5. *Integral Environmental sustainability*

(Biodiversity, risk of nutrients leaching, ammonia emissions, soil erosion...)

6. *Other approaches*

Circular organization, governance, territorial approaches, value chain, collaboration with other stakeholders...

EDF

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5 Conclusions

The goal of WP1 is to establish a well-functioning **European network of multi-actors I3S**, to exchange knowledge, quantify the performance baseline of the I3Ss and to build a reservoir of existing solutions which will be used and updated throughout the project.

This network will permit to organize exchanges and work among I3S managers. Participation of I3S managers and other experts are very important for the success of the catalogue of climate solution (task 1.4) in particular.

At M3 of the ClieNFarms project WP1 and I3S managers have co-designed the precise structure of the I3S Network through the establishment of six sub-thematic networks and the definition of responsibilities and management rules has been assigned to thematic leaders.

At M3 of the ClieNFarms I3S Coordinators have already started to exchange knowledge and cross-fertilise on the different thematic areas. The swarming of ideas and good will in the first two “knowledge exchanges meetings” will be organized and channelled in these 6 thematics. I3Ss managers will continue the foreseen work throughout the project by implementing the annual knowledge programs according to those themes. The first “cross border visits” are currently on discussion with three I3S volunteering to host the first one in June 2022 as expected in the foreseen road map. For this first “cross border visit” all I3Ss and WP1 members will be invited. A second visit is expected in October 2022.