



# EURAKNOS

## EXPLORER'S GUIDE TO THEMATIC NETWORKS

HOW TO DESIGN AND IMPLEMENT THEMATIC NETWORKS  
TO MAXIMISE USER ENGAGEMENT AND IMPACT



A GUIDE FOR THEMATIC NETWORK COORDINATORS AND CONSORTIUM MEMBERS

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A EURAKNOS publication (2020)

# FOREWORD

With this handy booklet we aim to help you to understand the dynamics of European Thematic Network projects. A Thematic Network is a multi-actor project working on a specific theme. Thematic Networks are promoted by EIP-AGRI and funded by the European Union's Horizon 2020 programme.

This guide is written as part of the EURAKNOS project 'Connecting Thematic Networks as Knowledge Reservoirs towards a European Agricultural Knowledge Innovation Open Source System', with funding from the European Union's Horizon 2020 research and innovation programme under grant agreement 817863.

The contents of this guide are the sole responsibility of the University of Ghent as coordinator of the EURAKNOS project and do not necessarily reflect the opinion of the European Union.

The recommendations in this guide were co-created with members from the EURAKNOS project's Knowledge Innovation Panel (KIP). The KIP represents the agricultural society in Europe, including researchers, farmers, foresters, advisors, policy makers, non-governmental organisations (NGOs), small and medium-sized enterprises (SMEs), and facilitators. We greatly appreciate their attendance at workshop meetings both online and in person to help develop these guidelines.

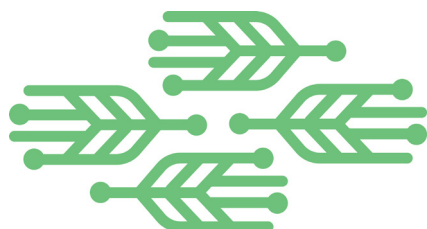
We also value the input and feedback we received from the EURAKNOS project's Strategic Innovation Board (SIB). The SIB consists of eight representatives from European and international organisations with interests in open source knowledge reservoirs (databases), and/or with strong links to Agricultural Knowledge and Innovation Systems (AKIS), agricultural practitioners and advisors.

This guide is based on best practices of Thematic Networks funded under the Horizon 2020 framework. Although the new Horizon Europe programme has further defined and refined concepts many of the best practices in this guide are still relevant for the design, planning and implementation of TNs in the more recent framework.

We are pleased to share with you this Explorer's Guide to Thematic Networks. This is thanks to the hard work of the EURAKNOS consortium partners. We hope you enjoy reading it.

*P Spanoghe*

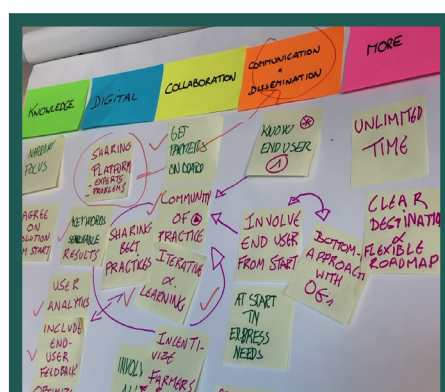
Pieter Spanoghe, EURAKNOS Coordinator



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## ABBREVIATIONS AND ACRONYMS

AKIS	Agricultural Knowledge and Innovation Systems
CAP	Common Agricultural Policy
COP	Community of Practice
EAFRD	European Agricultural Fund for Rural Development
EIP-AGRI	Agricultural European Innovation Partnership
e-KRP	Electronic Knowledge Reservoir Platform
EU	European Union
GDPR	General Data Protection Regulation
HIKR	High Impact Knowledge Reservoir
H2020	Horizon 2020
IG	Innovation Group
iNets	Interregional Innovation Networks
KPI	Key Performance Indicator
MA	Multi-actor
MAA	Multi-actor approach
MS	Member State
NRN	National Rural Network
OG	Operational Group
PA	Practice Abstract
SDGs	Sustainable Development Goals
SEO	Search Engine Optimisation
SME	Small and medium sized enterprise
SWG	Strategic Working Group
TN	Thematic Network

This guide references many examples using hyperlinks. These webpages were active at the time of publishing but their continued function depends on the actions of the sources e.g. discontinuing the website or relocating a resource.

# PREFACE



*“The future of innovation in European agriculture and forestry is based on the improved (digital) exchange of best practices between farmers, researchers and advisors from different sectors and member states” - EIP-Agri*

**W**elcome to the EURAKNOS guide on designing and implementing a Thematic Network (TN) to maximise user engagement and impact. EURAKNOS has brought previous and existing TNs together to share and learn from each other. This guide represents key insights from this community of practice, written for particular use by future coordinators and consortium members of TNs, to maximise their function and impact. It brings together the knowledge and experience of TN practitioners, as well as good practices from TN projects for you to explore and be inspired by. The aim of this guide is to act as a sounding board to facilitate your TN to achieve its highest impact.

## THE EURAKNOS PROJECT

EURAKNOS is strengthening EU agricultural knowledge by developing one place to house all knowledge generated by Horizon 2020 projects. The main outcome of EURAKNOS is to have all the information from across these innovation networks attractively accessible to farmers, foresters and the rural community.

## OUR MISSION



### FACILITATE

We facilitate and support thematic networks by connecting and extending the current network of thematic networks.

### COLLECT

We collect knowledge, materials and tools of the thematic networks.



### DEVELOP

We develop an EU-wide open source agricultural knowledge innovation database.



## EXPLANATION OF BOXES IN THE EXPLORER'S GUIDE



### GOOD PRACTICE

These boxes direct you to good practice or tools from across the TN community as examples of how the Explorer's Guide principles have been applied in practice. We cannot include all detail but provide the main insights. Please further explore the good practices used by TNs by following the links provided.



### EXPLANATION

These boxes provide a more detailed account of an Explorer's Guide process including the value behind the recommendation.



# 1. INTRODUCTION



## IS THIS GUIDE FOR YOU?

Are you currently part of or managing a TN (or Multi-Actor (MA) project), starting or planning to write a project proposal? If yes, then this Explorer's Guide is for you.

Are you working for the European Union (EU) as a Project Officer or evaluating TN or MA projects? If you are, then this guide might also be for you.

Are you interested in the Multi-Actor Approach (MAA) and looking for inspiration to design a project or improve end user engagement? If so, then this guide might also be for you.

If none of the above applies to you, but you are interested in TNs, you are also very welcome to use our Explorer's Guide!

## HOW TO USE THIS GUIDE?

The guide is deliberately not written as technical 'how-to' guidelines for implementing a TN because TNs operate in a complex environment. It is therefore not appropriate to provide simple blueprint solutions.

*"Approaches and methods are not a supermarket packaged meal for heating in a microwave: they are cooked from raw materials selected to fit the occasion. The huge and growing range and accessibility of ingredients gives scope for new recipes, for ingredients added in the course of cooking, for unique mixtures, and new combinations and inventions"*

Chambers (2017) p91.

Can We Know Better? Reflections for Development, Practical Action Publishing

Hence, TNs need to choose the right ingredients to fit their specific context and purpose.

## GOOD PRACTICE

In this guide, the term good practice - instead of best practice - is used to acknowledge that a TN operates in a complex environment and that something that works in one context might not work in another. For more understanding, have a look at the Cynefin Framework:

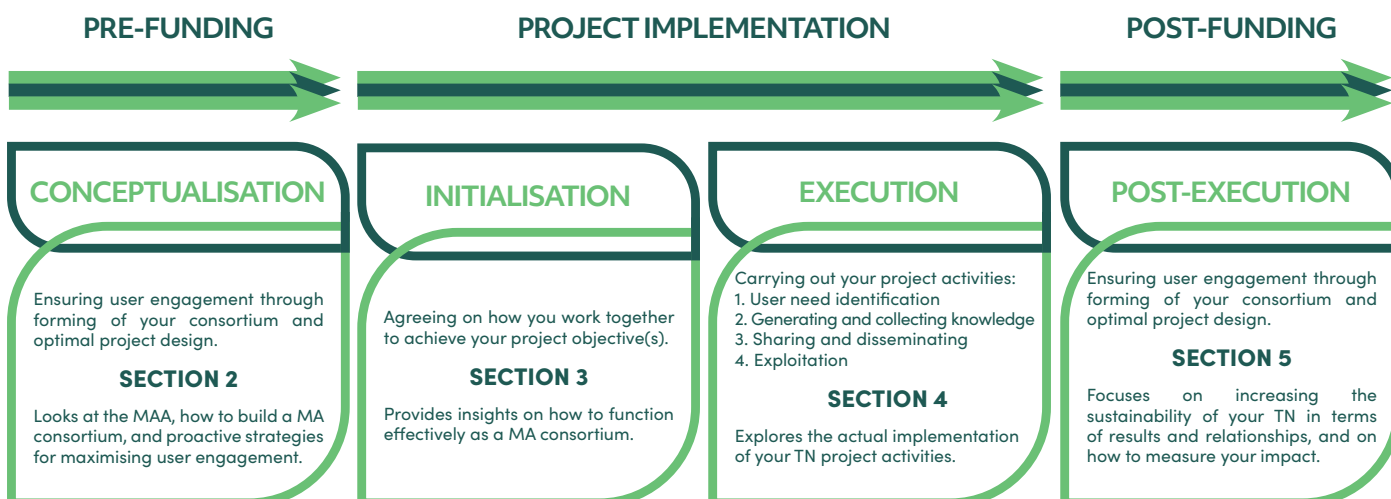
[www.youtube.com/watch?v=epXqgrm2hs4](https://www.youtube.com/watch?v=epXqgrm2hs4)

This Explorer's Guide provides you with a support framework to learn from previous TNs, reflect and implement the most relevant elements of the process to create a higher impact.

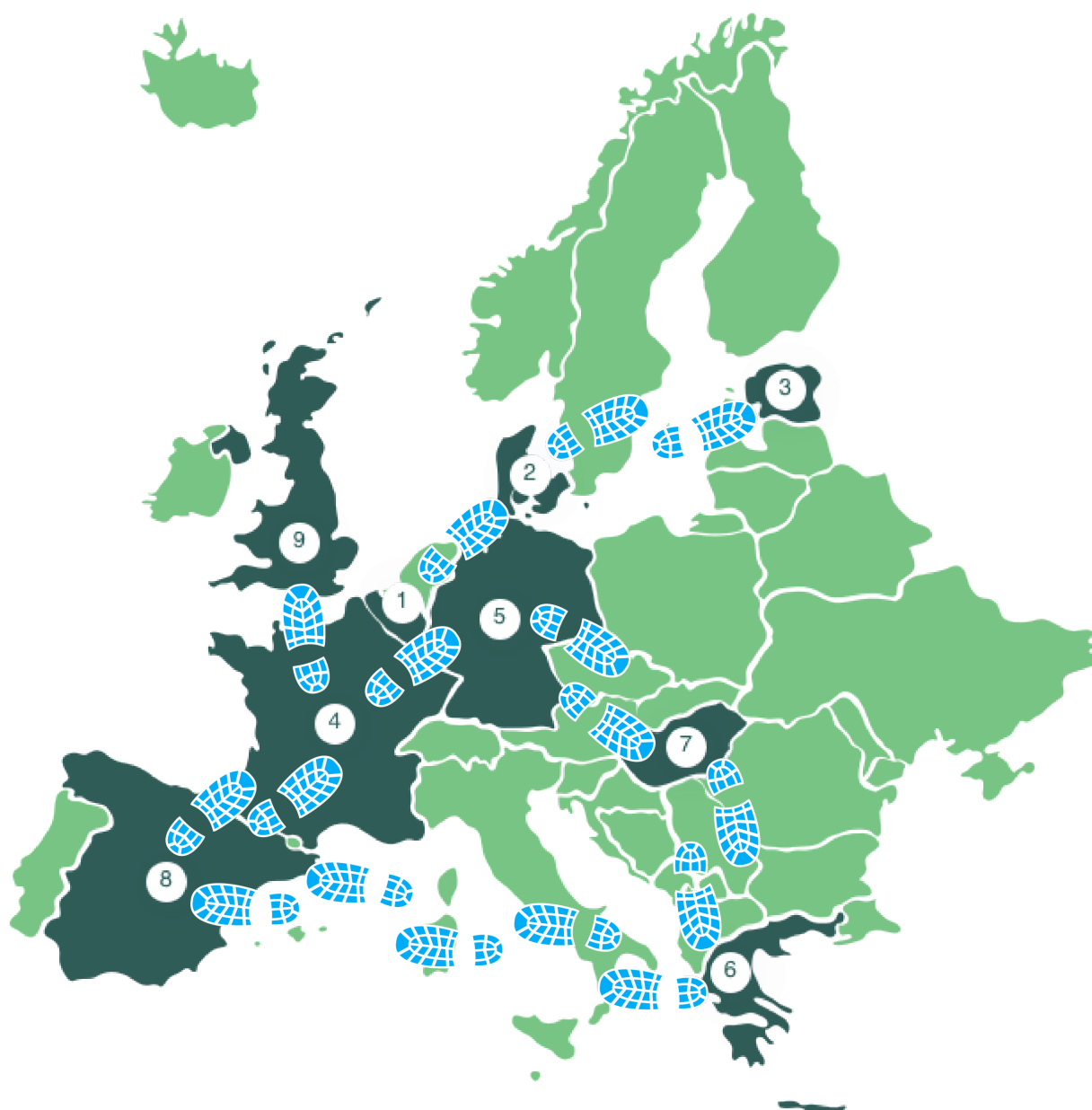
There are certain TN tools and channels currently specified by the European Commission. For example, each MA project should prepare Practice Abstracts (PAs). This Guide provides you with a structure and key questions you need to ask and reflect upon to optimise project design, implementation, user engagement and knowledge exchange. Your TN is a network of multiple actors and their engagement is the central driving force from start to finish.

This Explorer's Guide takes you on a journey through the timeline of your TN, from conceptualisation (pre-funding) through to post-execution (post-funding).

You can explore this guide from start to finish or dip into specific topics that you need to explore further. Draw inspiration from the good practice examples showcased throughout and follow the links for further insights and reflection.



## ENJOY THE JOURNEY AND NEVER STOP EXPLORING



# 2. THE MULTI-ACTOR APPROACH



## WHAT IS THE MAA IN A TN?

The MAA is all about bringing people together, with unique, complementary skills from science and practice, to work together to co-create knowledge ready for practice by farmers or foresters on a specific theme within agricultural research and innovation.

Building trusting relationships between organisations and individuals is, therefore, key to the success of your MAA. Collaboration between all actors in the project is key to combine these different sources of knowledge, experience and perspectives.

Your TN's goal is to generate practice-based solutions to current challenges faced by farmers, foresters and other users, jointly developing solutions together on a local, regional or national scale.

Key to the success of your MAA is a facilitator whose role is to maximise the inputs from all actors and keep the TN functioning as a dynamic, co-learning and co-creating knowledge ecosystem. In a TN, the MAA is implemented on two levels:

1. The **consortium level** with the formation of a MA TN involving all actors relevant to the purpose of the TN, for example advisory, research, farmer and forestry organisations.
2. The **project implementation level** where project activities revolve around working directly with users to co-create ready for practice knowledge to ensure uptake by users directly involved in the TN, and dissemination and exploitation of results to the wider farming and forestry community.

As the concept of your project is developed, a partnership between consortium members is formed. To ensure your TN tackles the user's needs, facilitating user engagement within the partnership is central to the MAA, to maximise the uptake and exploitation of your results. This section provides the key elements you need to consider when designing the MAA of your TN.

## 2.1. THE THEME OF A TN

### How to choose the right theme to get started?

TNs focus on the most urgent and challenging needs in the agricultural or forestry sectors. Themes are identified in response to a real need by users in the field or forest, or a topic where gathering or developing emerging knowledge in the field is pertinent to addressing current challenges.

Agricultural or forestry themes can be related to product or sector development and innovation, or cross-cutting subjects, as well as policy changes to address emerging needs, or new processes or relationships within the supply chain.

When developing the project proposal, the key theme(s) addressing users' needs should be co-designed by the consortium which directly includes farmers and foresters as users and beneficiaries of the TN's knowledge.

Therefore, farmers or farmer organisations must be part of the consortium as project partners. You can then consult and deliver market research to ensure your theme is fit for purpose. Your TN will therefore develop a clear objective and focus on the theme to tackle based on your target users' needs.

However, your topic should be flexible, and responsive to the evolving needs, expectations and experiences of farmers and foresters. A key tool to facilitate this is to include regular reflection and feedback to the consortium to improve the function and steer the direction of the TN.

*"In our conceptualisation phase we had representatives of farmers' organisations and others with direct connections with stakeholders"*



SKIN  
SHORT SUPPLY CHAIN KNOWLEDGE  
AND INNOVATION NETWORK





## THEMATIC NETWORK THEMES

The list below shows the TN theme categories of funded TNs and TNs of which good practice examples have been included in the Explorer's Guide.

For more information about the funded TNs and an updated list:

<https://ec.europa.eu/eip/agriculture/en/about/thematic-networks-%E2%80%93-closing-research-and>

### SOILS

- ☞ **BEST4SOIL** – Boosting 4 BEST practices for SOIL health in Europe

### WATER, NUTRIENTS AND WASTE

- ☞ **FERTINNOWA** – Transfer of INNOvative techniques for sustainable Water use in FERTigated crops
- ☞ **NUTRIMAN** – Nutrient Management and Nutrient Recovery Thematic Network

### SUSTAINABLE CROPPING SYSTEMS

- ☞ **PANACEA** – A thematic network to design the penetration Path of Non-food Agricultural Crops into European Agriculture
- ☞ **BIOFRUITNET** – Boosting Innovation in Organic FRUIT production through strong knowledge NETworks

### ANIMAL PRODUCTION SYSTEMS

- ☞ **EuroDairy** – A Europe-wide thematic network supporting a sustainable future for EU dairy farmers
- ☞ **4D4F** – Data Driven Dairy Decisions 4 Farmers
- ☞ **SheepNet** – Sharing Expertise and Experience towards sheep Productivity through NETworking
- ☞ **EU PiG** – EU Pig Innovation Group
- ☞ **BovINE** – BovINE Beef Innovation Network Europe

### ANIMALS AND HEALTH

- ☞ **DISARM** – Disseminating Innovative Solutions for Antibiotic Resistance Management
- ☞ **EuroSheep** – European Network for interactive and innovative knowledge exchange on animal health and nutrition between the sheep industry actors and stakeholders
- ☞ **HENNOVATION** – Practice-led innovation supported by science and market-driven actors in the laying hen and other livestock sectors

### PUBLIC GOODS

- ☞ **HNV-link** – High Nature Value Farming: Learning, Innovation and Knowledge

### PLANT HEALTH

- ☞ **WINETWORK** – Network for the exchange and transfer of innovative knowledge between European wine-growing regions to increase the productivity and sustainability of the sector
- ☞ **SMARTPROTECT** – SMART agriculture for innovative vegetable crop PROTECTION: harnessing advanced methodologies and technologies

### ECOLOGICAL APPROACHES AND ORGANIC

- ☞ **OK-Net-Arable** – Organic Knowledge Network Arable
- ☞ **CERERE** – CEreal REnaissance in Rural Europe: embedding diversity in organic and low-input food systems
- ☞ **AFINET** – Agroforestry Innovation Networks
- ☞ **Inno4Grass** – Shared Innovation Space for Sustainable Productivity of Grasslands in Europe
- ☞ **OK-Net Ecofeed** – Organic Knowledge Network on Monogastric Animal Feed

### RURAL DYNAMICS AND POLICIES

- ☞ **NEWBIE** – New Entrant netWork: Business models for Innovation, entrepreneurship and resilience in European agriculture

### VALUE CHAINS

- ☞ **SKIN** – Short supply chain Knowledge and Innovation Network
- ☞ **INCREDIBLE** – Innovation Networks of Cork, Resins and Edibles in the Mediterranean basin
- ☞ **ENABLING** – Enhance New Approaches in BioBased Local Innovation Networks for Growth

### DIGITAL TRANSFORMATION

- ☞ **SMART-AKIS** – European Agricultural Knowledge and Innovation Systems (AKIS) towards innovation-driven research in Smart Farming Technology
- ☞ **4D4F** – Data Driven Dairy Decisions 4 Farmers

### KNOWLEDGE AND INFORMATION SYSTEMS

- ☞ **AgriSpin** – Space for Agricultural Innovation
- ☞ **EURAKNOS** – Connecting Thematic Networks as Knowledge Reservoirs: towards a European Agricultural Knowledge Innovation Open Source System





## 2.2. THE MULTI-ACTOR TN

The MA TN is a partnership between key actors who share a common challenge or opportunities on a particular agriculture or forestry 'theme' and have the need, capacity and motivation to work together to find practical solutions based on existing knowledge.

In a TN, these partners need to be from at least three EU member states (MS) and from a variety of organisations e.g. advisory, research and farmer organisations, as well as enterprises, education, NGOs, administration, and regulatory bodies, all with different but important complementary knowledge and expertise required to solve the issue.

The formation of your consortium can feel quite daunting. You may have many questions on how to build and optimise your consortium to progress the issue at hand, such as 'Who are the main actors and stakeholders for this theme?' and 'How do I know what the right combination of actors are for the theme we want to address?' Let us explore these questions together.

### Who are the main Agricultural Knowledge and Innovation System actors to involve in my network?

An Agricultural Knowledge and Innovation System (AKIS) is the whole knowledge exchange system between people and organisations within a MS or region. AKIS includes farming practice, businesses, authorities, and research.

Doing a network analysis at the beginning of the project to identify all AKIS actors involved in the challenge and related opportunity your TN wants to tackle is a good place to start. Carrying out a network analysis and/or actor mapping will allow you to identify not only who should be involved, but also how different actors should be involved, and which not-so-obvious but essential actors you might be missing.

Remember, actors can be engaged in different ways and not all actors need to be part of the project consortium to actively contribute to the project and its outcomes. Whilst project consortium partners are defined as you conceptualise your project, you must be flexible and open to relevant actors joining the network at any stage of the project as the theme of your TN evolves.

In the context of Horizon 2020 projects, an actor is a 'partner taking an active part in project activities' while a stakeholder is a 'person expressing a view/stake at a certain moment during the project'. Actors therefore take an active role within your TN, influencing its direction and outcomes; whereas stakeholders have a stake in the outcomes of the TN, they do not invest time and energy in the collaborative process.

<sup>1</sup> Van Oost, I. (2015) The multi-actor approach under WP 2016-2017: what's new? State of play of EIP-AGRI and Operational Groups: what outcomes and on-going activities could be useful for the development of proposals:

<http://ec.europa.eu/programmes/horizon2020/en/news/interactive-innovation-motion-multi-actor-projects-and-thematic-networks-under-horizon-2020>

## ACTOR MAPPING AND NETWORK ANALYSIS

The training toolkit on Innovation for advisors developed by the AgriSpin project presents a network analysis tool to identify the various actors involved in an initiative. The network analysis maps out the necessary connections, identifying priorities for strengthening relationships. Details on how to do a network analysis can be found here:

[www.linkconsult.nl/files/Modellen%20\(2014\)/Engels%20\(2014\)/Network%20Analysis/120726\\_description\\_Network\\_Analysis.pdf](http://www.linkconsult.nl/files/Modellen%20(2014)/Engels%20(2014)/Network%20Analysis/120726_description_Network_Analysis.pdf)

A similar tool is Net-MAP, developed to help understand and visualize how stakeholder goals work out in a MA partnership. This tool helps to determine which actors are involved in a given network, how they are linked, how influential they are, and what their goals are. A step-by-step guide to use the Net-Map method can be found here:

<http://www.mspguide.org/sites/default/files/tool/net-map-manual-long1.pdf>

### How to identify the right combination of TN partners for the theme we want to address?

The formation of your project consortium can start with a few actors who have a specific interest in the theme, are motivated and engaged, and can inspire and advocate other actors to join. This initial group will have vision and ownership to drive the direction of the proposal. It is essential that all partners, including relevant users and user organisations, are involved in the co-design of the project. Assigning roles and dividing responsibilities across partners in the conceptualisation phase according to the different but complementary knowledge each actor contributes will help you to identify whether you are missing any key skills, relationships or capacities.

Once an initial network is formed, consider carrying out a capacity assessment exercise amongst the partners to help you to determine whether your partnership is complete. For example, professional communication is crucial for raising awareness and reaching a wider audience and therefore your TN's success. If no one within the consortium has this capacity and expertise, include a specialised partner for communication and media engagement.

Finally, focus on achieving gender balance, ethnic diversity and geographical representation (including Eastern Europe) within your consortium.





## DOES YOUR MA TN HAVE THESE CHARACTERISTICS?

- ☞ Do you have a shared and defined 'problem situation' or opportunity?
- ☞ Are all the key actors engaged in the partnership? (see network analysis tool above)
- ☞ Does your TN have a multi-layered structure in the network, taking into account the local, national, cross-regional and EU levels from start to finish to create impact at all levels?
- ☞ Do you have dynamic links at the national/EU-levels with regular meetings to facilitate communication between each level and overall coordination?
- ☞ Are you following an agreed but dynamic process and time frame with clearly assigned roles for each actor?
- ☞ Have you involved all actors in establishing their expectations for a good partnership?
- ☞ Do you have a fair gender balance, ethnic diversity, and geographical representation?
- ☞ How will you work with power differences and conflicts?
- ☞ How will you foster actor-learning over the life span of the project?
- ☞ How will you balance bottom-up and top-down approaches?

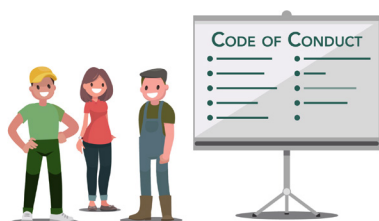
Adapted from MSP guide:  
<http://www.mspguide.org/msp-guide>

### What is the right size of my TN?

There are no hard and fast rules on the size of the consortium. It may depend on the objective of your TN, the capacity of its partners and the project budget.

Your TN should be made up of a diverse group of partners who all have their own institutional history and culture, priorities, and modes of working. Therefore, it is essential to invest time at the beginning to bring your consortium together.

Carrying out team building exercises to collaborate, build trust, engage and create ownership for all partners over the direction of your TN is key. Investing time and capacity to facilitate this process from the start will improve each partner's contribution within your TN, and increase the function of your TN as a healthy living network throughout its lifetime. Part of this process should include a co-created memorandum of understanding or codes of conduct agreed by all partners as to how to work most effectively, and how to keep up engagement, motivation and energy throughout the lifetime of your TN (this will be addressed in more detail in section 3).



In several TNs a professional facilitator is appointed to streamline communication between the partners for effective teamwork. Facilitation is a skill which should be identified, and project partners selected accordingly. The lead partner can be the project coordinator whilst another partner is the designated facilitator who facilitates interactions between partners and potentially between partners and other actors.

## 2.3. DESIGNING YOUR USER ENGAGEMENT STRATEGY

The user engagement strategy is essential to optimise knowledge exchange and ensure uptake and exploitation of results.

### How to ensure my TN meets the needs of the users?

Your TN aims to collect existing knowledge and best practices on the chosen theme and facilitate their use by farmers, foresters, and advisors and develop easily understandable material for practice, such as information sheets in a common format and audio-visual material<sup>1</sup>.

This creates huge opportunities for creative thinking and action, but also requires a clear understanding of the most accessible, appropriate and effective strategies to enhance the dissemination, uptake and exploitation of your TN's knowledge.

*"At the beginning of SheepNet, we defined the main topics of interest from the stakeholders, in this way we ensured full engagement. Stakeholders and users were contacted during the conceptualisation phase. We have consulted them through study meetings"*



<sup>1</sup> EIP-Agri (2016) Thematic Networks under Horizon 2020 Compiling knowledge ready for practice:  
<https://ec.europa.eu/eip/agriculture/en/publications/eip-agri-brochure-thematic-networks-under-horizon>





## LINKING WITH OPERATIONAL GROUPS

The main objective of the EuroDairy TN was to spread innovation and best practice across borders. A secondary objective was to demonstrate and test the effectiveness of an interactive approach to the development and dissemination of innovative practice.

A key measure under the European Innovation Partnership concept is the establishment of multi-actor Operational Groups (OGs), funded by regional Rural Development Programmes.

EuroDairy was charged with delivering 42 affiliated dairy-related OGs developing practice-based innovation, thereby connecting measures under the EIP (TNs) with those under Rural Development (OGs). You can read more about this here:

<https://eurodairy.eu/media/1944/d22-dairy-related-operational-groups.pdf>

### Who are the users of the results of my TN?

Your users implement or are inspired by the knowledge created within your TN, which will lead them to start investigating new learning for themselves. Decades of research in agricultural innovation has shown that decisions to adopt a new idea on-farm are complex and non-linear.

The interactive innovation model (promoted by the EU H2020 strategy) emphasises that innovation happens through collaborative learning processes with a range of AKIS actors and this interactive process is what provides practice-based solutions to real challenges faced by farmers (or foresters) on a day-to-day basis<sup>1</sup>.

Your assessment of your users' needs and where they are will drive your engagement, communication, dissemination and exploitation strategy. For example, users included as consortium partners can recommend strategies and channels for wider user engagement to maximise the impact of your TN knowledge.

Furthermore, farms are complex systems with different interrelated subsystems/elements and ecosystems. To address this complexity and take account of the inter-linkages while acknowledging that good practices are context dependent, you need to take a systemic approach. This assessment should be done in the conceptualisation phase, or as the first step of your project execution.

<sup>1</sup> SCAR, EU (2015) Agricultural knowledge and innovation systems towards the future - a foresight paper. *Standing Committee on Agricultural Research (SCAR), Collaborative Working Group AKIS, Brussels.*



## CHARACTERISTICS OF USER NEEDS

### FARMERS/FORESTERS

- Knowledge that is up to date and tailor-made, i.e. adapted to their context and specific needs (e.g. videos, factsheets).
- Information that is understandable and actionable (i.e. concrete and practical/applicable).
- The success of the solutions should have been proven/demonstrated in the field.
- As a lack of time is a major barrier to farmers' acquisition of knowledge, the 'ready-to-use' knowledge should be easily accessible and searchable.

### ADVISORS

- Should be able to meet the farmers' knowledge needs, share information, facilitate connections among actors, promote learning and dissemination, and explain theoretical knowledge in practical terms.
- Provide specific, local solutions for specific business and technical problems often requiring tailor-made knowledge.

### How do you design your TN user engagement to optimise knowledge exchange?

Sharing, co-creation and exchange of knowledge within your network includes continuous dialogue and action between users and consortium members to allow them all to influence the direction and knowledge exchange outcomes of the TN. Engaging users beyond your network is also a key strategy to create higher knowledge exchange impact. New users beyond the network who have not been directly involved in this knowledge generation often need an opportunity to see the context in which the knowledge was generated, and therefore reflect on how it may apply to their situation.

The Knowledge Exchange Pathways (figure below) illustrate the main mechanisms through which you can collect, share and present your TN's ready for practice knowledge to as many users as possible. The Knowledge Exchange Pathways highlight that there are two direct, intimate, and one indirect, less intimate mechanisms within and beyond your TN. The level of intimacy from the original source of knowledge creation gets less and less as you move through the pathways, where Pathway 1 is the source of knowledge collected directly and actively involving all users and AKIS actors in your network.



Your TN knowledge is generated through exchange, co-learning and co-creation. This knowledge is then collected or 'harvested' for further dissemination and exploitation by Pathways 2 and 3. Pathway 2 involves multiplying the TN knowledge by network members sharing this to new/other users. Pathway 3 is another step removed and involves presenting and dispersing the knowledge to new users via various tools (recommendation: videos and podcasts) or by actors not directly involved in the network.

The aim of this framework is to help you to reflect and identify the most accessible and appropriate knowledge exchange strategies for your TN. You should aspire to utilise all three pathways to collect, share and present, but your ability to do so will depend on your TN's context, theme(s), user targets, as well as time, budget and capacity. Using the Knowledge Exchange Pathways to compare the network opportunities of your TN against all possible pathways should help you to identify where best to focus your attention to create higher impact.

- **PATHWAY 1 - GENERATE:** Iterative process of learning and co-creation of knowledge between users directly acting in the network and collecting this to share and present in the following pathways.
- **PATHWAY 2 - MULTIPLY:** Up-scaling the network's knowledge to new and other users beyond the network through sharing by the network members.
- **PATHWAY 3 - DISPERSE:** Out-scaling the network's knowledge to new users and other users beyond the network by other stakeholders who have not been directly and actively involved in the network.

## PRACTICE-LED INNOVATION NETWORKS

Project partners concluded that successful MA, practice-led innovation networks depend upon on these key factors:

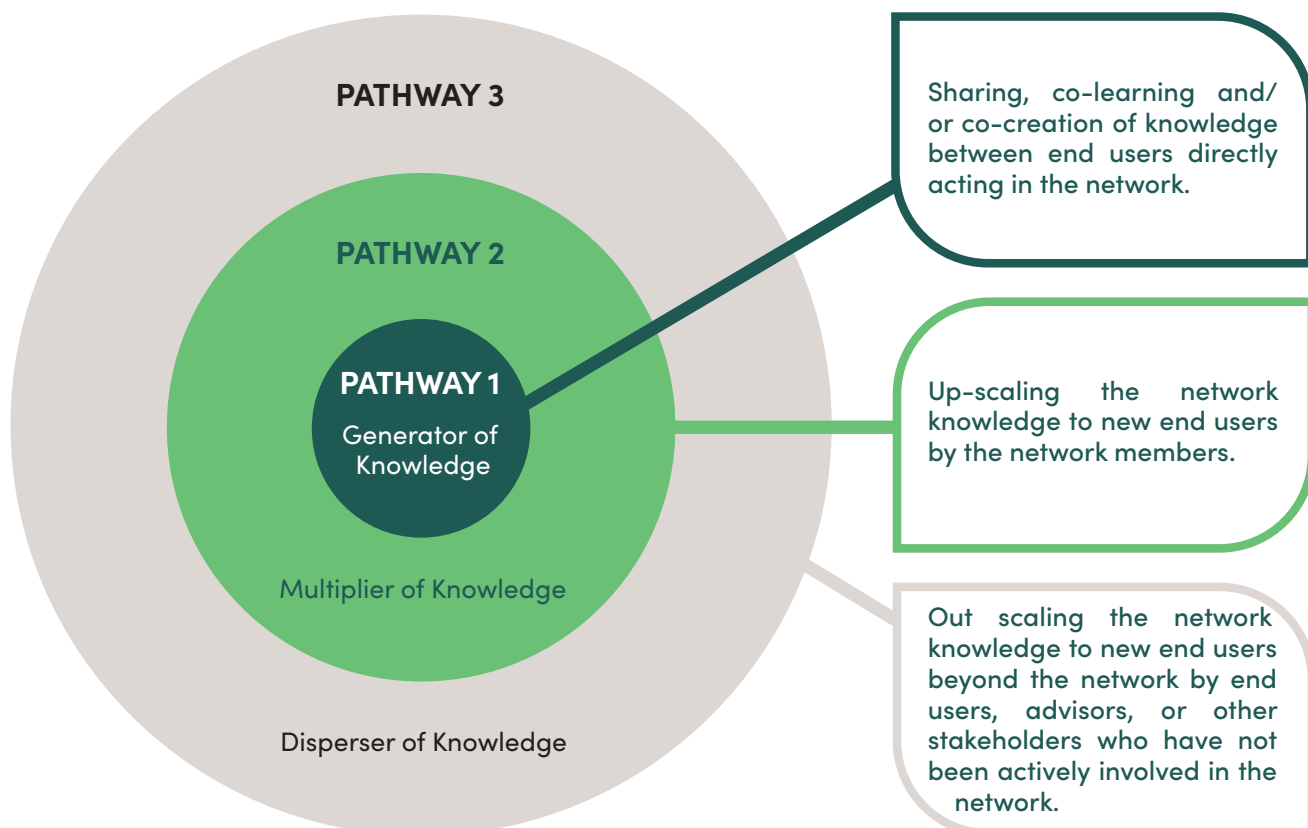
- Active participation from relevant actors
- Professional facilitation
- Moderate resource support
- Access to relevant expertise

Hennovation encouraged actors to work collaboratively to deliver practice-led approaches, by focusing and investing in a professional facilitator. This is key to the functioning of your TN as a sharing, co-learning and co-creating knowledge exchange ecosystem.

Have a look at the Hennovation approach and reflect on what facilitation processes you can apply to maximise knowledge exchange in Pathway 1:

<https://hennovation.eu/results/index.html>

## KNOWLEDGE EXCHANGE PATHWAYS





	PATHWAY 1: GENERATE	PATHWAY 2: MULTIPLY	PATHWAY 3: DISPERSE
<b>TOOLS</b>	<ul style="list-style-type: none"> <li>Existing farmer networks or online forums i.e. Innovative Farmers and Pasture for Life Association</li> <li>Farmer walks, trials and demonstrations and other peer to peer sharing activities</li> <li>Innovation fairs and events</li> <li>Farmer discussion groups and study days</li> <li>Championships, competitions and contests</li> </ul>	<ul style="list-style-type: none"> <li>Newsletters/articles/case studies sent to new end users from acting farmer organisations</li> <li>Field days/farm walks/discussion groups hosted by consortium members</li> <li>Seminars with champions/ambassadors/influencers/competitions/prizes for applying results</li> </ul>	<ul style="list-style-type: none"> <li>Videos, podcasts, webinars, knowledge libraries of learning histories, case studies of best practices</li> <li>Factsheets, newsletters, press/media coverage, infographics</li> <li>Presentations, posters at conferences, demo farms</li> <li>Advocacy training for advisors, new end users etc.</li> </ul>
<b>CHALLENGES</b>	<ul style="list-style-type: none"> <li>Knowledge not always transferable, need to set context and potential for outreach</li> <li>Farmers unwilling to share, co-learn, or co-create</li> <li>Competition between farmers or distrust of TN</li> <li>Capacity of TN to engage as many users as possible - time consuming, expensive, cannot reach everyone</li> <li>Different strategy required for networks with no OGs</li> </ul>	<ul style="list-style-type: none"> <li>Credibility of network actors and trust from new end users - engaging as many new end users as possible</li> <li>If multiplying outputs cross nationally, language may be a challenge</li> <li>Farmers will often need time to process and adapt a new practice on their farms - can user ambassadors from the TN provide space to facilitate this?</li> </ul>	<ul style="list-style-type: none"> <li>Engagement apathy by new end users</li> <li>Remote areas often neglected and not reached</li> </ul>
<b>GOOD PRACTICES</b>	<ul style="list-style-type: none"> <li>All relevant end users identify challenges which the TN will tackle</li> <li>Professional facilitation is key to involving users in defining problems and validating solutions</li> <li>Create strong links with existing national networks and interact with OGs</li> <li>Target end users in regions tackling the same problems to facilitate common needs</li> <li>Be creative and open to potential knowledge exchange outputs and innovations - from new seeds to new working relationships</li> </ul>	<ul style="list-style-type: none"> <li>Face to face communication and storytelling on-farm (peer to peer)</li> <li>Advocates/ambassadors/influencers from within the network sharing wider to new users</li> <li>Utilise videos and podcasts to bring TN story and best practices to life</li> <li>'Market' best practices on social media via trusted network organisations i.e. farmer organisations</li> <li>Utilise farming press/media to multiply reach</li> <li>Translate into as many languages as possible and use understandable language</li> </ul>	<ul style="list-style-type: none"> <li>Translate practices into many languages</li> <li>Out-scaling at the start of the project - what will you do? See if it matches with the common goal - then design the project around that</li> <li>Utilise multiple media - particularly video case studies and podcasts by end users</li> <li>Making use of key influencers in the new end users' communities</li> <li>For a great example, see Organic Farm Knowledge</li> <li>Use OGs/MAA partnerships as dispersers</li> <li>Involve managing authorities of Common Agricultural Policy (CAP) plans</li> <li>Utilise the national CAP networks</li> </ul>
<b>MONITORING IMPACT</b>	<ul style="list-style-type: none"> <li>Innovations 'good enough' to move to Pathway 2 - assessed by network</li> <li>Analytics that show interaction/community of practice</li> </ul>	<ul style="list-style-type: none"> <li>Policy makers - impact on national regulations, financial instruments</li> <li>Measure social media - number of followers, retweets, likes, interactions</li> <li>Evaluate impact of face to face, peer to peer and advocacy from network to new end users</li> </ul>	<ul style="list-style-type: none"> <li>How widely are the best practices adopted?</li> <li>Has the TN resulted in policy changes?</li> <li>Feedback to generators (Pathway 1) via new user on-farm case studies, surveys and consultations</li> <li>Changing trends or influencing trends</li> </ul>

To achieve these three objectives of generating, multiplying and dispersing the knowledge, you need to implement a tailor-made MAA, which enables the three pathways to complement each other, and ideally, to interact with each other. Previous TNs provide great insight on how to design your user engagement processes in Pathway 1 and you can find several examples of these in the good practice boxes provided.

Collaborative processes with and by users, including peer-to-peer exchange, are the most effective strategies to help exploitation of new practices on-farm. Some farmers across Europe love to travel and meet new farmers and share ideas, but most farmers also have their own knowledge and information networks, known as micro-AKIS with other farmers, advisors and network channels in their locality.

Therefore, the intimate sharing, learning and co-creation of knowledge, which is utilised by Pathway 1 is not possible for every user. Your knowledge exchange strategy must therefore collect the knowledge generated and shared to reach and inspire new users by, for example, utilising digital means of knowledge exchange - bringing the knowledge creation alive for the user through a video or podcast. Utilising all three pathways will create both depth and breadth for your TN's knowledge exchange, reaching far more users and creating higher impact.

The table above summarises tools, challenges, best practices and methods for impact monitoring, identified by existing communication and dissemination experts within TNs across the Knowledge Exchange Pathways.







## INTERREGIONAL INNOVATION NETWORKS

Interregional Innovation Networks (iNets) are the core tool of the INCREDIBLE project to promote knowledge on Non-Wood Forest Products across the Mediterranean basin. These networks encourage the sowing, collection, generation and dissemination of relevant technological, economic, innovative and research knowledge linked to the main relevant value chains. The iNets implement innovation-driven knowledge transfer processes.

In an iNet, actors from different regions are brought together to discuss the challenges they face and to explore potential solutions. Sometimes, stakeholders will realise that participants from another region (or value chain) may have developed solutions to certain challenges, e.g. a more refined harvesting technique or a protocol for quality control. That knowledge can then

be transferred between regions (or value chains). Sometimes, new solutions need to be developed.

This participatory approach used by INCREDIBLE created opportunities for stakeholders to interact and discuss, to exchange experience, to learn from each other as well as to co-create knowledge. To support the facilitation of the iNets and the stakeholder interactions, the project has created a Community of Practice (COP). This COP is a platform where innovation facilitators from all five iNets meet, share experiences, and discuss approaches for the next steps.

For more information, see the iNets manual and lessons learnt about facilitating innovation:

<https://www.incredibleforest.net/content/inets-manual-deliverable-11-0>

<https://www.incredibleforest.net/content/facilitating-innovation-nwfps-lessons-learn-t-d-14>



## THE SPIRAL OF INNOVATION

The AgriSpin project promoted the Spiral of Innovation to illustrate the various stages in the co-creation processes of Pathway 1.

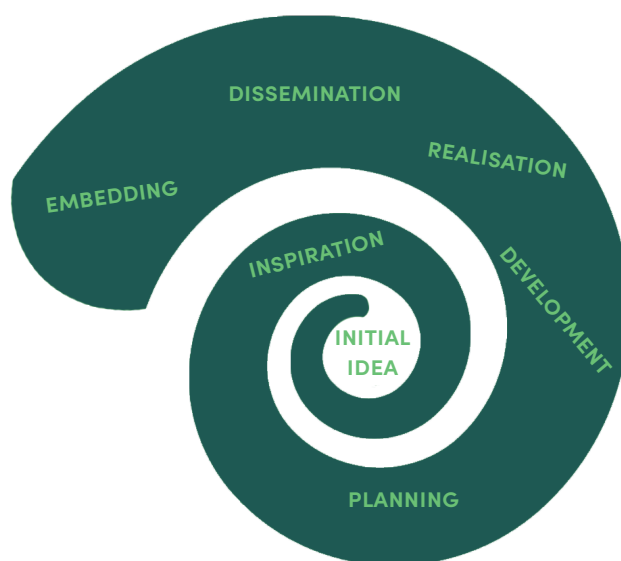
The co-creation process is not a linear process from A to B, hence it is presented as a spiral. The spiral consists of several stages and the co-creation process begins with an initial idea. It may come from an individual or emerge from a group. When they start talking about it, it may inspire others. An informal network develops. Sooner or later this network wants to move towards action.

Then the planning stage starts. Tasks are divided and the network tries to acquire space to work out their idea. With this space they can experiment and develop a practice that appears to work. This should convince stakeholders to move towards realising the initiative.

When it is successful, the new practice disseminates to others, who will emulate it. When the new practice becomes normal practice, procedures are adapted to it and it becomes embedded in the structure of regulation and society.

Detailed information on how to use this for the analysis of innovation processes is available at:

<https://linkconsult.nl/en/gereedschap/modellen>





## FARMER ACTION GROUPS

The purpose of the EuroDairy network was to improve the viability and sustainability of milk production in Europe. The project adopted the interactive approach of the European Innovation Partnership, putting farmers at the centre of practice-based innovation, adapting and developing new and existing scientific knowledge to produce implementable solutions, which can then be shared across the network.

In the UK, 5 Farmer Action Groups were established to reduce reliance on antimicrobials based on the Stable School methodology approach for experimental common learning:

<https://core.ac.uk/download/pdf/269158685.pdf>

These groups co-created a series of Action Plans to reduce their need and usage of antimicrobials on-farm. The groups consisted of 5-8 farms with 1-3 farmers from each farm attending each group meeting.

The structure of the meetings was centred around a farm walk, where the host farmer showcased his/her farm with the spotlight being on disease treatments, prevention and antimicrobial use. For more information on this approach:

<https://www.agricology.co.uk/field/blog/farmer-led-policy-leading-way-reducing-antibiotic-use-farm>

### How do you develop your Dissemination and Exploitation Plan?

Your communication, dissemination and exploitation plan should include key performance indicators (KPIs) but allow flexibility to respond to unexpected opportunities that arise throughout the development of your TN.

There is often some overlap between dissemination, exploitation and communication activities. Utilise existing guidance provided on how to develop a strategic communication plan.

For example, 'Making the Most of Your H2020 Project: Boosting the Impact of your project through effective communication, dissemination and exploitation',<sup>1</sup> and a 60-minute webinar: 'Communications workout to increase the communication impact of your projects'<sup>2</sup>.

The Horizon 2020 online manual also provides guidelines for developing your dissemination and exploitation plan:

[https://ec.europa.eu/research/participants/docs/h2020-funding-guide/grants/grant-management/dissemination-of-results\\_en.htm](https://ec.europa.eu/research/participants/docs/h2020-funding-guide/grants/grant-management/dissemination-of-results_en.htm).

<sup>1</sup> <https://www.iprhelpdesk.eu/sites/default/files/EU-IPR-Brochure-Boosting-Impact-C-D-E.pdf>

<sup>2</sup> <https://ec.europa.eu/easme/en/news/60-minute-workout-increase-impact-communication-your-project-webinar>



## THE DIFFERENCE BETWEEN COMMUNICATION, DISSEMINATION AND EXPLOITATION

**COMMUNICATION** about projects is a strategically planned process that starts at the outset and continues throughout your TN's lifetime, aimed at **promoting the action of the project and its results**. It requires strategic and targeted measures for communicating about (i) the action and (ii) its results to a **multitude of audiences**, including the media, the public, potential users – engaging in two-way communication exchange. **Communication aims to inform about and promote the project, its results and successes.**

**DISSEMINATION** focuses on the sharing of knowledge and results with the aim to enable others to use and take up outcomes, thus maximizing the impact of your TN. The aim of

dissemination is to describe and share your results and ensure these are **available for others to use** – the focus is on promoting the results (try to avoid using communicating in relation to defining D&E – it gets confusing!).

**EXPLOITATION** refers to the **utilization of results, making concrete use of results** in further activities beyond the original action concerned – developing, creating and marketing a product or process, creating and providing a service, or through standardization activities. This is not restricted to commercial use.

(Source: EC Research & Innovation Participant Portal Glossary/Reference Terms)

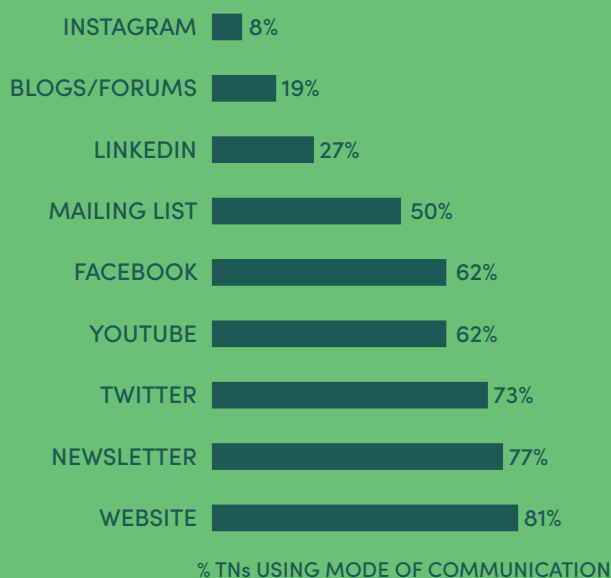




## THE USE OF SOCIAL MEDIA AND OTHER CHANNELS FOR PROJECT COMMUNICATION

EURAKNOS found that TNs use a variety of communication tools and channels. Social media is an incredible communication resource, but it also presents challenges. All information shared is public, which means it can re-posted or retweeted by people outside your audience.

### COMMUNICATION TOOLS AND CHANNELS USED BY TNS



- ☞ **KNOW YOUR AUDIENCE:** before deciding which platforms to utilise, know who you are targeting, their information needs and what platform(s) they use.
- ☞ **KNOW YOUR PLATFORM:** platforms are all different - functionality, lifespan, perception and length of posts. A post on Facebook, for example, has a lifespan of five hours versus 24 minutes on Twitter. Choose your platform accordingly.
- ☞ **HAVE A PURPOSE:** all social media engagement needs to be part of your well-thought-out project communication plan.
- ☞ **OPTIMISE ENGAGEMENT:** identify and target influencers (e.g. farmers' organisations and peers), create discussion through asking questions and making thought provoking comments.
- ☞ **USE APPROPRIATE LANGUAGE:** ensure the language is appropriate to your target audience.
- ☞ **PROTECT YOUR PROJECT'S DIGITAL IDENTITY:** develop a content approval process and protocol, and make sure all project consortium partners are aware of it and behave accordingly.
- ☞ **BE ACCURATE:** proof-read whatever you share and be critical about what you (re)share.
- ☞ **BE RESPONSIBLE AND RESPECTFUL:** adhere to social media etiquettes, be measured and transparent to create credibility and trust.
- ☞ **MEASURE YOUR SUCCESS:** monitor and regularly review your results using platform analytics.



# 3. WORKING EFFECTIVELY AS A MULTI-ACTOR NETWORK



Once your consortium is taking shape and the Grant Agreement has been signed (congratulations!), you need to co-create a process for working together in an engaging and interactive way. Throughout the lifespan of the project,

your MA partnership will continue to develop and deepen. Building effective working relationships takes time, particularly where partners are geographically distant. The box below includes learning from other TN experiences on how to do this.

*"We had a thorough exercise at the beginning. What we learned is to take enough time to define all these stakeholders and to define their role in the project. We made a scheme mentioning the dynamics between them in the work packages. On top of that, it was really useful to make a table with the different kinds of activities in the project and which actors were involved. It is a dynamic scheme that includes feedback mechanisms during the lifetime of the project so you can consult again with stakeholders and change the project accordingly if needed. Specifically, it is dynamic between the work packages - how do we consult and how do we get feedback."*



**SMART**

Sustainable Market Actors for Responsible Trade

## HOW DO YOU WORK EFFECTIVELY AS A TN CONSORTIUM?

- ✎ **CREATE A TRUST-BASED PROJECT ECOSYSTEM:** Developing the MA partnership can be quite challenging, especially where different partners have multiple backgrounds, perspectives, priorities and modes of working. Invest time and effort to build trust, engagement and create ownership over the project by all partners.
- ✎ **ESTABLISH A SHARED LANGUAGE AND JOINT UNDERSTANDING OF THE PROJECT PROPOSAL:** A well-written, co-created work plan establishing a shared language and creating a joint understanding of the project proposal will facilitate engagement, motivation and energy from partners throughout your TN's lifetime. Also think about how you would manage the change of personnel within organisations, expect new people to join throughout the project's life-span.
- ✎ **CO-DESIGN 'RULES OF ENGAGEMENT':** Project partners should co-design and agree the 'rules' for communication and collaboration. This can ensure every partner understands their purpose and role. This could be facilitated through, for example, a joint workshop during the kick-off meeting.
- ✎ **ESTABLISH EFFECTIVE TN MANAGEMENT, AND TRANSPARENT AND COLLABORATIVE DECISION-MAKING PROCESSES AT THE PROJECT LEVEL:** When multiple partners are involved,

clear procedures need to be defined for how decisions are made, which ensure inclusive, ethical and effective TN governance.

- ✎ **CREATE SPACE FOR REFLECTIVE MONITORING THROUGHOUT THE LIFE SPAN OF THE PROJECT:** Enhancing this MA partnership is an iterative, dynamic process that requires continuous reflection and refinement. Regular reflection sessions, for example at each consortium meeting, allow time to share, reflect and refine the MA process at the consortium level. This will encourage a process of learning and help partners to take ownership of, and responsibility for, project deliverables. Between consortium meetings, create a mechanism to share challenges you may face so that other partners can learn from these and share potential solutions. Allocate a dedicated budget, human and time resource for these activities during the project-design phase.

More details on the MAA in EURAKNOS' D2.4 and D3.4:

[https://euraknos.fra1.digitaloceanspaces.com/production/deliverables/D2.4\\_20200511\\_Report\\_on\\_MAA\\_in\\_the\\_short\\_medium\\_and\\_long\\_term\\_of\\_TNs.pdf](https://euraknos.fra1.digitaloceanspaces.com/production/deliverables/D2.4_20200511_Report_on_MAA_in_the_short_medium_and_long_term_of_TNs.pdf)

[https://euraknos.fra1.digitaloceanspaces.com/production/deliverables/D3.4\\_20200430\\_Report\\_on\\_HIKR\\_MAA.pdf](https://euraknos.fra1.digitaloceanspaces.com/production/deliverables/D3.4_20200430_Report_on_HIKR_MAA.pdf)



## 3.1. FACILITATING YOUR MA PROCESSES

The use of a facilitator to support the consortium, as well as user engagement, is utilised by TNs to 'make things easy'. Facilitation is a key tool for working with a diverse group of actors and there is no simple solution to the needs you are trying to address. A facilitator has a variety of crucial roles in your TN: from bringing actors together, encouraging interaction and exchange, mediating and managing differences, stimulating thinking outside of the box, as well as creating space for learning.

Facilitators must be able to understand the complexity of MA partnerships. Adopting a positive, can-do attitude is key for setting the scene and making space where partners feel comfortable and trust each other to share and discuss challenges as well as opportunities. The facilitator's main role is to ensure that all actors are engaged in the project and contribute whenever relevant, as well as triggering interactions along the Knowledge Exchange Pathways presented earlier. The facilitators need to be flexible and open-minded to succeed in facilitating a TN.

Another consideration is the independence of your facilitator and what knowledge the facilitator needs to effectively facilitate the process e.g. does your facilitator require in-depth understanding of the situation to do an effective job, does your facilitator need to be a technical specialist related to the theme of the TN? While a general understanding of the theme under consideration is useful, if your facilitator is a technical or knowledge specialist, they might fall into the trap of simply providing users with answers

to the questions they have, rather than promoting a process of self-enquiry, learning and co-creating of user-relevant knowledge. If you have technical and knowledge experts within your TN, our experience is that the facilitator does not need to be one of them, and it is beneficial that your facilitator is independent, as there is more equity for partners in the process.



### FACILITATION MANUALS AND TRAINING GUIDES

Several TNs have developed facilitation manuals and training toolkits on facilitating these MA learning and co-creation processes:

- AgriSpin Training Toolkit:  
<https://agrispin.eu/training-toolkit/>
- Hennovation Practice-led Innovation Networks in agriculture: a guide for Facilitators:  
<http://hennovation.eu/facilitating%20practice-led%20innovation/facilitation%20guidelines.html>



### COMPETENCIES OF A GOOD FACILITATOR

- Understanding the context and specific user, actor and stakeholder needs, including their behavioural, social and cultural background and perspectives on the theme.
- Strong capacity to connect with people and connect people.
- Ability to enhance cooperation and collaboration.
- Capacity to envisage and reflect on the process – what needs improving and when to adapt/use a different tool.
- Proactive approach towards relevant actors in the innovation process – ability to gauge motivation and adapt approach based on energy and enthusiasm for the task.
- Tools for recognizing and monitoring network patterns and phases.
- Flexibility to react to what is required in the moment led by a change in the dynamic of the group.
- Tools to reflect with the network on its health and function.

Adapted from AgriSpin Cross Visit experiences:  
[https://agrispin.eu/wp-content/uploads/2016/11/Cross-Visits\\_Improved-Methodology-1.pdf](https://agrispin.eu/wp-content/uploads/2016/11/Cross-Visits_Improved-Methodology-1.pdf)



### THE MULTI-STAKEHOLDER PARTNERSHIP TOOL GUIDE

Have a look at this tool guide:

[http://www.mspguide.org/sites/default/files/case/msp\\_tool\\_guide.pdf](http://www.mspguide.org/sites/default/files/case/msp_tool_guide.pdf)

It has over 60 tools to manage partnership processes grouped around six key purposes:

- **CONNECTION:** define the issue and become a group
- **SHARED LANGUAGE:** understand the issue and appreciate different perspectives
- **DIVERGENCE:** broaden perspectives on the issue and identify and appreciate differences
- **CO-CREATION:** develop options to address the issue and help people to engage and collaborate
- **CONVERGENCE:** decide which ideas could work, prioritise and refine what has been created
- **COMMITMENT:** agreement on actions, alignment and reflection





# 4. PROJECT EXECUTION



**A**t this stage of the process, you now have a well-planned TN MAA, understanding of how to create ownership of the project amongst the TN consortium partners, and insights into how to work effectively together. The next step is to consider how you put your Knowledge Exchange Pathways into practice.

## 4.1. ASSESSING AND IDENTIFYING USER NEEDS

The identification of users' needs starts in the project conceptualisation phase to ensure TN themes are based on the need for real practical solutions by farmers or foresters (see section 2.1). This process continues in the initial stages of project execution to further align the project activities to the needs of the users.

### How do you identify the needs and challenges of users?

A TN can use a variety of strategies depending on the level of participation of the users in the assessment. The higher the level of participation of the user, the more ownership of the results and higher the uptake of the TN results (see the ladder of participation on the next page). Participatory need assessments where users are involved in developing the assessment and the actual assessment itself creates ownership of the output.

Several TNs opted for running seminars and workshops involving local networks or existing OGs to facilitate the sharing of needs and clarification of TN themes to work towards solutions. Others opted for doing more consultative and informative exercises such as face-to-



### KICK-OFF SEMINARS TO IDENTIFY USERS' NEEDS

INCREDIBLE's Innovation Network (iNet) coordinators organised a scoping-kick off seminar for each iNet to adopt a road map to better target specific issues within its topic. Stakeholders had the opportunity to propose bottom-up, complementary activities and contributions to the iNets. At the seminars, the proposed approach was adapted as necessary according to the iNet's needs. Five seminars took place in Tunisia (essential oils), Spain (resin, mushrooms), Portugal (nuts), and Italy (cork). Seminars were held in English; the lead local partner considered the adequacy of translation to local language to overcome possible language barriers for participating stakeholders. Seminar outcomes were compiled in the synthesis report, 'A Road Map for innovating NWFPs value chains', and translated into participating languages. What can you learn from the INCREDIBLE approach?

[https://incredibleforest.net/sites/default/files/deliverable/files/d\\_1.3\\_v2\\_1.pdf](https://incredibleforest.net/sites/default/files/deliverable/files/d_1.3_v2_1.pdf)

face interviews or larger-scale consultations or surveys using local or regional user networks and organisations.

The information collected through these processes should feed back into your findings using participatory processes to triangulate the results.



## IDENTIFYING GROWERS' NEEDS THROUGH INTERVIEWS AND BENCHMARKING WORKSHOPS

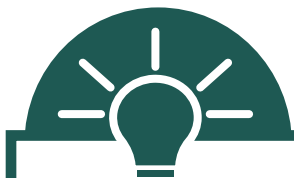
FERTINNOWA conducted interviews with growers at the beginning of the project to have a strong interaction with the users and to define potential needs and bottlenecks in relation to water and nutrient management practices in fertigated cropping systems. 371 growers, located all over Europe, were interviewed using a stakeholder questionnaire resulting in 513 system descriptions and evaluations. At a subsequent benchmarking workshop, the first results of this broad consultation of growers were presented to a diverse audience of actors that consisted of growers, growers' organisations, advisors, policy makers, regional government, researchers, industry representatives, etc.

The outcomes of the benchmark study formed the basis for the subsequent involvement of these other stakeholders. During the benchmarking workshop, several activities were organized which facilitated the interaction between participants, such as collaborative project presentations, working sessions, face-to-face meeting sessions, and technology showcasing. 88 stakeholders attended the second day which consisted of a field trip focused on regional issues and solutions regarding water management in horticultural cropping systems.

For more information visit:

[www.fertinnova.com/wp-content/uploads/2018/05/Deliverable-3.2.pdf](http://www.fertinnova.com/wp-content/uploads/2018/05/Deliverable-3.2.pdf)





## THE LADDER OF PARTICIPATION

Participation refers to the process by which users, in particular farmers and foresters, are engaged in the design and implementation of mechanisms, instruments and practices to achieve their intended outcomes. A variety of authors have defined the different types and degree of participation in typologies of participation to provide more clarity. Pretty (1995) adapted the typology to the context of farmer participation for sustainable agriculture and focuses on seven levels of participation:

- ☞ **MANIPULATIVE PARTICIPATION:** Participation is a simple presence, with representatives on boards who are unelected and have no power.
- ☞ **PASSIVE PARTICIPATION:** Farmers participate by being told what has been decided or has already happened. The information being shared belongs only to the external professionals.
- ☞ **PARTICIPATION BY CONSULTATION:** Farmers participate by being consulted or by answering questions. External agents define problem and information gathering processes and control analysis. Farmers have no share in decision making and there is no obligation to take farmers' point of view into consideration.
- ☞ **PARTICIPATION FOR MATERIAL INCENTIVES:** Farmers participate by contributing resources, such as labour, in return for food, cash or other material benefits. Farmers may provide field and labour but are not involved in the experiment, nor the process of learning. Farmers have no

stake in prolonging technology or practices when the incentives end.

- ☞ **FUNCTIONAL PARTICIPATION:** Participation seen by external agencies as a means to achieve project goals. Here farmers may participate by forming groups to meet pre-determined objectives related to a project. The involvement may be interactive and involve shared decision making but arises only after major decisions have already been made by external agents.
- ☞ **INTERACTIVE PARTICIPATION:** Farmers participate in joint analysis, development of action plans and formation of strengthened local institutions. Participation is a right, not just a means to achieve a project goal. This process involves interdisciplinary methodologies that seek multiple perspectives and employ a systemic and structured learning process. Farmers take control over local decisions and determine how available resources are used, so they develop a stake in maintaining structures and practices.
- ☞ **SELF MOBILISATION:** Farmers participate by taking initiatives independently of external institutions to change systems. They develop contacts with external institutions for resources and technical advice they need but retain control over how resources are used.

Source: Arnstein (1969) adapted by Macken-Walsh (2016)

## 4.2. GENERATING AND HARVESTING KNOWLEDGE

The remit of a TN is to 'summarise, collect, share and present existing scientific knowledge and best practices that are not sufficiently known (and applied) by practitioners'. So how do you generate best/good practices and the integration of science into ready for practice knowledge?

### How to make existing good practices emerge?

Knowledge or development of good practices comes from your expert farmers, foresters and advisors as knowledge providers, sharers and generators. The role of the TN is therefore to act as a facilitator to harvest good practices related to innovation, technology, processes, systems or relationships that can be applied or inspire other users to trial new ideas to optimize their agricultural or forestry practice. Knowledge Exchange Pathway 1 is where your TN generates its knowledge.

This can be done in a variety of ways, from identifying good practices using championships, to innovation networks and farmer action groups. Devising the processes and TN activities for generating and harvesting good practice across your TN is essential and the various good practices throughout this guide provide you with some ideas on how to develop your wider knowledge exchange activities.

*"The evaluation of the disadvantages and advantages of innovation is entirely in the hands of the users: it depends on their expectations, their interests, on the problems which they raise"*





## THE EUPiG GRAND PRIX TO FIND GOOD PRACTICE

The EUPiG innovation group (<https://www.eupig.eu/>) runs the EU PiG Grand Prix, an EU-wide contest, with more than 300 producers competing to become one of eight Ambassadors. The winners are selected by Regional Pig Innovation Groups (RPIGs), project partners, and stakeholders, and awarded the title of EUPiG Ambassador.

A panel of experts for each of the project themes run a rigorous evaluation process, looking at technical and economic factors, to narrow it down to the top five best practices for each of the

eight challenges. These challenges are identified in response to industry-wide challenges so producers are developing timely real-world solutions.

Each year the eight winning Ambassadors get to showcase their innovations and best practices. For example, RPIGs help Ambassadors to produce virtual farm tours, photos and reports, which are then promoted under the relevant key themes on the EUPiG website. Could your TN benefit from doing something similar? Find out more here:

<https://www.eupig.eu/grand-prix>

### How do you integrate research findings (science) into practice?

The second source of knowledge at your TN's disposal are research findings that are available to be integrated into farm or forestry practice as a result of outputs from scientific projects. Where your consortium lacks extensive knowledge on a topic or theme they want to tackle, completing a 'state of the art' review of academic and grey literature can inform and progress the application of potential solutions. A methodology for identifying and selecting ('funnelling') relevant research findings not yet integrated into agricultural practice should be the focus of your research partners. This ensures that scientific outcomes and practical knowledge are brought together to address the most urgent needs of the user and advance ready for practice knowledge as solutions.

Once your TN has gathered an overview of knowledge within your TN, you may identify that external scientific or technical expert knowledge is missing, and therefore external input is required. Here users and enablers (facilitators) should work together with these expert actors to develop potential outputs which ensure the user-friendliness, relevance, feasibility and therefore palatability of the outputs that your TN produces. The stage at which external actors are introduced is important and may be different depending on your context or outputs under development. It is the role of the facilitator to agree together with existing network users and actors when it is the right time to bring in external stakeholders. For example, your TN may identify that you need external stakeholders to create an enabling environment for the actual implementation or up-scaling of your output, such as proper regulation or value chain cooperation.

However it is possible that your TN does not require engagement of other external stakeholders at any stage as all required expertise were foreseen at the start of the project, partners were recruited accordingly, and the aims of the TN have not diverged or developed from the original vision. Where needed, your TN should

allow existing actors to flexibly adapt their role in the TN as the project matures. It is therefore useful to embed internal evaluation and reflection of each actor's role and contribution as the project progresses.



## THE 'FUNNELLING' APPROACH

Farms are complex systems with different interrelated subsystems embedded in them. To address this complexity and take account of the inter-linkages while acknowledging that good practices are context-dependent, your TN should consider taking a systemic approach. Key themes within the scientific and technical literature can help funnel, focus and support the practical application of solutions, and prioritise the needs of your users. Funnelling is the process of narrowing possible ideas into a specific research question or purpose. It forces you as a TN to think about how you can transform the big picture or real-world problem into a manageable practice-led trial on-farm. The top of the funnel starts with your TN's big picture concerns. For example, a need for better weed control or management of an animal welfare issue. During this search, you may find a gap in the literature. Could your TN focus on filling that gap? The more the funnel is narrowed; the more your research focus will begin to materialize.

Have a look at:

<http://www.bovine-eu.net/>





## SCIENCE BAZAARS

A key component of OK-Net EcoFeed was to engage with the organic monogastric farming and feed industries to identify current availability of regional, organic feed for pigs and poultry and assess how current availability can be increased. To facilitate this, 10 Innovation Groups (IGs) were formed in the project countries. These groups were either new, or formed from existing poultry and pig groups, and consisted of 6-19 members including farmers, advisors and feed company representatives.

The aim of the first IG meeting was to discuss relevant innovations and ideas and to begin to gather information needed for the monitoring framework. The IG meetings were predominantly face-to-face with one on-line survey and were followed by a Science Bazaar in each country. The aims of the Science Bazaar were to

formally report back to the group the outcome of the first IG meeting, to present relevant scientific information and to discuss potential innovative solutions, as well as any associated challenges or bottlenecks.

The Science Bazaars were attended by over 100 IG members across the eight project countries. The data collected included technical data relevant to the theme of the project as well as how knowledge was exchanged. The data was shared with the IG members and other project partners to inform further project work. Group management and data collection was carried out by IG facilitators in each country.

For more information visit:

[https://ok-net-ecofeed.eu/wp-content/uploads/2019/03/OKNet-EcoFeed\\_Description\\_of\\_Innovation\\_Groups.pdf](https://ok-net-ecofeed.eu/wp-content/uploads/2019/03/OKNet-EcoFeed_Description_of_Innovation_Groups.pdf)

### Who do you involve in the validation of your TN's results?

Several of the good practice examples we have included enable end-users and other experts in the field to validate the knowledge generated and collected by your TN. Validation in this context refers to whether the knowledge collected is 'ready for practice'. This can be determined through, for example, a matrix or set of key criteria designed to assess this i.e. stage of development, applicability, proven impact, added value, sustainability, or repeatability for application of the practice in other regions of the EU. A cost-benefit analysis of aspects of best practices (solutions) and broader feasibility assessment may also be useful.

## 4.3. SHARING AND DISSEMINATION

Once good practices have been identified and validated the next step is to share and disseminate these beyond your network actors as highlighted previously in the Knowledge Exchange Pathways. Pathways 2 and 3 represent the sharing of knowledge, which occurs beyond the scale of your TN. Whilst your dissemination activities will have been devised as part of your project plan, as your TN has developed there may be emerging channels or newly formed networks or relationships to take advantage of in disseminating your results.

### How do you disseminate information and knowledge to your TN's target groups to optimise its impact and reach?

The use of certain tools and channels are recommended by the European Commission, in particular, each MA project should utilise practice abstracts (PAs).

(<https://ec.europa.eu/eip/agriculture/en/eip-agri-common-format>)

We believe it is essential for your TN's dissemination (and exploitation) strategy to ensure best-fit in terms of context, audience and TN capacity. Best fit involves picking the most effective dissemination strategies, tailoring and optimising rewards to the specific needs of your users which match the environmental preferences in which you are operating. Furthermore, involving users in the co-translation of existing knowledge into understandable language and formats is paramount.

Effectiveness of channels must be considered. In some countries Twitter is perceived as the right channel to reach farmers, in other countries it is perceived as less useful. Therefore, research and identify which channels are trusted by your users to maximize impact and reach. Dissemination and communication tools and channels your TN can leverage range from direct engagement with end users through fairs, farm walks and demonstrations, to the use of champions (as described in the previous section), network meetings, audio-visual materials such as videos and infographics, print media including factsheets, press releases and posters, and digital tools including social media (Facebook, Twitter, WhatsApp), websites and newsletters. The most effective communication and dissemination tools identified by TNs are visual, such as photos, cartoons, videos and infographics. Podcasts are also becoming increasingly popular.





A final conference can be a great option for your TN, bringing users and partners together for active participation of external users and actors. For example, for the FERTINNOWA final conference ([www.fertinnowa.com/project/](http://www.fertinnowa.com/project/)), an interactive policy session was organized where different types of actors (farmers' organizations, policymakers, NGOs, consumer organizations, and researchers) presented and shared their views on specific issues.



Another example comes from SheepNet ([www.sheepnet.network](http://www.sheepnet.network)). A voting system using QR codes supported interaction between actors to select management practices and tools collected directly from the farmers and stakeholders. As a result, these management practices were actively implemented within the SheepNet project in each member country.



## TRANSNATIONAL WORKSHOPS

The SheepNet consortium tried to widen the scope of their transnational workshops by inviting stakeholders from countries not involved in the consortium. They had participation from different countries such as Hungary, Israel, Finland, Germany, Brazil, Portugal, Northern Ireland and New Zealand. SheepNet partners organized an Oceanian tour to initiate a long interaction and potential collaborations with sheep actors in New Zealand and Australia, the largest sheep meat exporters worldwide. In this way, they ensured that the outputs of SheepNet will be used beyond Europe. For more information:

[www.sheepnet.network/](http://www.sheepnet.network/)



## THE USE OF VIDEO FOR DISSEMINATION

An analysis of current TN dissemination videos showed the following features facilitated a wider reach to users and can therefore be considered as recommendations for creating higher impact:

- ☞ **Farmers and advisors presenting the TN story** creates the most engaging video for end users. This also utilises existing farmer and advisor followers and contacts, maximising visibility. For example, OK-Net Arable's Roller Crimper video with over 40,000 views since 8th February 2018: [https://youtu.be/E5\\_4ooS\\_Yqc](https://youtu.be/E5_4ooS_Yqc)
- ☞ **Hosting your videos on YouTube** ensures they have dissemination reach and legacy beyond the life of the project. For example, the AgriSpin video Dutch Potato Farmer Is a First Mover In Using Advanced Technology has had over 27,000 views since 30th May 2017: <https://youtu.be/UllvevQ5hIU>
- ☞ **Advisory and farmers associations promoting your videos** is key to creating the widest reach and therefore higher impact. For example, the 4D4F video on Automated Feeding and Climate Control has had over 13,000 views since 25th May 2017: [https://youtu.be/C3-\\_h9KDQ3k](https://youtu.be/C3-_h9KDQ3k)
- ☞ **Using more than two languages** facilitates a higher number of views. For example, The AFINET video on Olive tree pruning in a silvopastoral system: production pruning and frost damage recovery includes subtitles in 3 languages and has had over 8,000 views since 9 July 2019: <https://youtu.be/HJFtazeAKTA>
- ☞ **Filming your video in farm and field settings** are the most engaging locations. For example, the Inno4Grass video on Managing dairy cows at grass with robotic milkers has had over 7,000 views since 14 May 2019: [https://youtu.be/6nS\\_8s8-Vl8](https://youtu.be/6nS_8s8-Vl8)







## USE OF PRACTICE ABSTRACTS

The EIP-AGRI common format aims to facilitate knowledge flows on innovative and practice-oriented projects from the start until the end of the project and to provide farmers, foresters, advisors or whoever is interested with short and concise practical information in so-called 'practice abstracts' (PAs). These PAs are a central tool to spread knowledge generated by TNs and other H2020 interactive innovation projects.

The EIP-AGRI common format consists of a set of basic elements characterising the project. Practice abstracts "give visibility to actors involved and enable measuring impact and rewarding of researchers' work for practice, in an analogue approach to research abstracts in peer reviewed journals".

Many TNs used the opportunity of developing PAs to summarise their outputs in attractive factsheets and videos stored in a project- specific repository.

For example, INCREDIBLE summarises their practical and academic innovations that deserve more dissemination in 2-page factsheets. The body of the factsheets has 6 sections. The text of sections "Results" and "Recommendations" in the factsheets were copied to form the PA. For examples see:

<https://repository.incredibleforest.net/>

The hennovation project developed technical notes: <http://hennovation.eu/resources%20/technical%20notes%20and%20practice%20abstracts/technical%20note%202.html>

And an example of the 'Practice Abstracts' developed by OK-Net Arable below, also available here:

<https://organic-farmknowledge.org/tool/38117>

Several projects also use YouTube to disseminate their practical summaries in short videos, for example, Inno4Grass:

[https://www.youtube.com/channel/UCjUeGli6a\\_i3YCzN3izlPw](https://www.youtube.com/channel/UCjUeGli6a_i3YCzN3izlPw)

### OK NET ecovalia IFAM EU GROUP PRACTICE ABSTRACT

#### Whey for fattening organic pigs

##### Problem

According to the EU regulations, the organic farming will be obliged to provide food derived from 100% organic origin by 2021. To assure the sustainability of the feed supply, the regional feeds and raw materials shall be preferred. It is necessary to look for mutually beneficial collaborations with the organic sector stakeholders, such as food industry.

##### Solution

Whey is an alternative source of high-quality protein for fattening pigs (figure 1). It can supply one-third of their protein needs. At the same time whey is an important by-product of the cheese producers, as it represents approximately 70 to 80 % of the milk volume. Collaboration of organic cheese companies with the nearby organic farms can be mutually beneficial.

##### Benefits

- Whey is a natural ingredient derived from fresh milk and is characterized by its high nutritive value, palatability, and digestibility.
- It promotes feed intake in the post-weaning period.
- Whey fosters animal performance and gut health.
- Whey contains high-quality protein. It can supply one-third of the protein needs for fattening pigs.

##### Practical recommendation

- Whey is a quite seasonal product; hence, this determines the period when it can be used and the number of pigs that can be fattened.



Figure 1: Whey in a cheese factory. V. Rodríguez-Estévez, Universidad de Córdoba

##### Applicability box

###### Theme

Pigs

###### Context

Farms close to an organic cheese factory.

###### Application time

Year-round (more availability during spring and summer).

###### Required time

None, but no more than two days of storage.

###### Period of impact

3 to 6 months, depending on the slaughtering age and weight.

###### Equipment

Special equipment is needed, such as an automatic system for liquid feeding and two storage tanks, so that they can be cleaned between batches. Other cheaper option is tanks (these can be portable) connected to drinking troughs (figure 2). High salt content and low pH can deteriorate steel feeders and other equipment.

###### Best in

Growers and fattening pigs.



Figure 2: Fatteners drinking whey. V. Rodríguez-Estévez, Universidad de Córdoba

Whey for fattening organic pigs. Ecovalia & Universidad de Córdoba. OK-Net EcoFeed Practice Abstract.

### OK NET ecovalia IFAM EU GROUP PRACTICE ABSTRACT

- Whey can deteriorate very easily; two storage tanks are needed for hygiene reasons.
- Do not feed whey stored over 2 days.
- Sweet whey is the by-product remaining after the production of soft cheeses, while acid whey comes from hard cheeses and has a lower pH. It is important to consider that salt is added to the cheese before pressing; hence, the remaining liquid whey can contain as much as 10 % dry matter of salt.
- Pigs should be provided with water access ad libitum to avoid salt toxicity. Additionally, reduction or elimination of supplemental salt in the diet formulation should be considered.
- Salt and lactose contents should be considered to determine the daily intake rate. Fresh whey contains approximately 5% lactose, and growing pigs tolerate feeds containing up to 20-30% lactose (less for the older ones). Hence, whey should be analysed to determine the threshold for its inclusion before formulating pig diets.

##### Further information

###### Video

- The video "Whey for the pigs" shows pigs drinking whey.
- The video "Suero lácteo en la alimentación de cerdos I La Finca de Hoy" (Spanish) shows pigs drinking whey.

###### Further reading

- EWPA (n/d). *Whey in animal nutrition*. A valuable ingredient.
- Rodríguez-Estévez, V. and Mata Moreno, C. (2007). El suero de quesería, un recurso ganadero. In: *La fertilidad de la Tierra*, Vol 31, pp. 12-15.
- Scholten, R., van der Peet-Schwering, C., den Hartog L., Schrama, J. and Verstegen, M. (2001). Uso de diestas líquidas y co-productos líquidos para porcino. In: *ANAPORC*, Vol 209, pp. 101-116.

###### Weblinks

- Further documents can be found on the [Organic Farm Knowledge](https://organic-farmknowledge.org/) website.

##### About this practice abstract and OK-Net EcoFeed

**Published by:**  
Asociación Valor Ecológico – Ecovalia, Avenida Diego Martínez Barrio 10, módulo 12, ES-41013 Sevilla, www.ecovalia.org  
Universidad de Córdoba, Campus Universitario de Rácala, Departamento de Producción Animal, Facultad de Veterinaria, ES-14071 Córdoba www.uco.es  
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**Permalink:** [Organic-farmknowledge.org/tool/38117](https://organic-farmknowledge.org/tool/38117)  
**OK-Net EcoFeed:** This practice abstract was elaborated in the Organic Knowledge Network on Monogastric Animal Feed project. The project is running from January 2018 to December 2020. The overall aim of OK-Net EcoFeed is to help farmers, breeders, and the organic feed processing industry in achieving the goal of 100% use of organic and regional feed for monogastrics.  
**Project website:** [ok-net-ecofeed.eu](https://ok-net-ecofeed.eu)  
**Project partners:** IFOAM EU Group (project coordinator), BE; Aarhus University (ICROPS), DK; Organic Research Centre (ORC), UK; Institut Technique de l'Agriculture Biologique (ITAB), FR; Research Institute of Organic Agriculture (FiBL), CH; Bioland, DE; Associazione Italiana per l'Agricoltura Biologica (AIAB), IT; Donau Soja OS, AT; Swedish University of Agricultural Sciences, SE; ECOVALIA, ES; Soil Association, UK.  
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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 773921. This communication only reflects the author's view. The Research Executive Agency is not responsible for any use that may be made of the information provided. The authors and editors do not assume responsibility or liability for any possible factual inaccuracies or damage resulting from the application of the recommendations in this practice abstract.



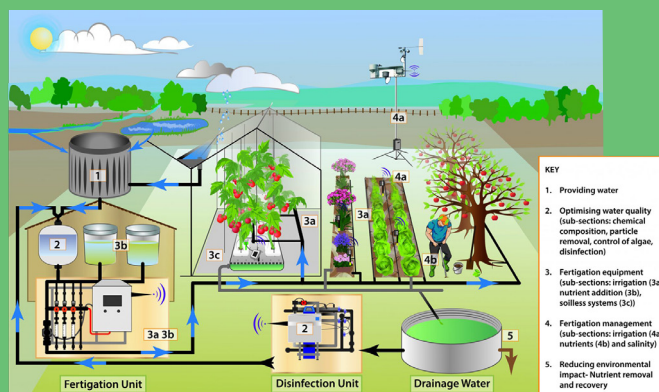


## DISSEMINATION OF RESULTS THROUGH A KNOWLEDGE HUB

The FERTINNOWA Fertigation Bible has been prepared according to the different stages of the fertigation process (see illustration). It describes the diverse technologies related to all aspects of fertigation within the EU. The purpose, principles, costs and benefits, as well as the regions, systems, operational conditions and techniques for 125 technologies are described.

The fertigation bible was the result of co-generating and harvesting knowledge from across 23 organisations in 10 countries. To find out more and read the bible yourself visit:

<https://www.fertinnowa.com/the-fertigation-bible/>



## LOCAL DISSEMINATION VIA REGIONAL NODES

Creating Regional Nodes was a key part of SKIN's action in partner countries to involve a greater number of stakeholders at the regional level.

In regions where there are established groups and networks already in place, it may be beneficial to build on them. This is likely to lead to "quick wins" by utilising existing contacts and partnerships to disseminate the key messages to target audiences. The idea is to:

- ☞ Structure local communities around a shared-access resource for knowledge on Short Food Supply Chains,
- ☞ Encourage/facilitate cooperation at the regional level.

The aim is to constantly foster the systemic uptake of innovation in Short Food Supply Chains by a wider community of stakeholders, rather than leave it to the initiative of a few players.

Could you develop such a regional approach in your TN? More information:

<http://www.shortfoodchain.eu/regional-node/skin-regional-nodes.kl>

## 4.4. EXPLOITATION OF RESULTS

Exploitation refers to the use of the results and outputs from your TN by users. There is a vast body of scientific literature available on the uptake/adoption, adaptation, and embedding of new knowledge on-farm which indicates that this is a complex, non-linear process. Exploitation is therefore strongly intertwined with impact.

### How to enhance the uptake and use of the TN results by users?

As explained in section 2.3, the highest levels of uptake are generally achieved if users are actively involved in learning processes and the generation of the knowledge. Further involvement of users to create ownership and buy-in can be achieved through delivering user validation workshops. The uptake of results can also be promoted through the use of competition and challenges through which users are encouraged to use the TN results in practice.

Consider enhancing your TN's exploitation reach by leveraging your good practices within training and education purposes. For example, through advisory training, vocational schools, and lifelong learning programmes. Other examples of aspirational exploitation outcomes include 1) integrating results in national policy 2) use of results in European regulations and 3) initiating new needs-based research. Has your TN leveraged all possible exploitation pathways?





## EXPLOITATION FOR QUICK WINS

Experience from previous and existing TN activities identified the following exploitation mechanisms for quick wins:

- ☞ Use flagship ambassadors to motivate harder to reach end users and give visibility and credibility to the knowledge exchange outputs
- ☞ Leverage existing farmer groups, monitor farms or discussion forums to share knowledge with new end user farmers
- ☞ Use existing farmer networks of influencers and existing and trusted means of communication to end users, working with existing exploitation infrastructures
- ☞ Harness existing transnational and national workshops, events, conferences and industry demonstration events, and international exchange visits for advisors
- ☞ To increase engagement with new end users, include a rating function of the knowledge exchange activity or output
- ☞ Work together with other projects and synergise exploitation activities



## DISSEMINATION AND EXPLOITATION CHALLENGES

The dissemination and exploitation challenges are four-fold:

- ☞ Language
  - ☞ Trust and credibility
  - ☞ Competition and intellectual property
  - ☞ Lack of facilitation skills
- ☞ **Language** is a main challenge where results need to be disseminated beyond the initial end users (Pathway 1) to multiply and disperse (pathways 2 and 3) across the EU. Translating from the main project language, for example English (Pathway 1), into other languages is paramount (Pathways 2 and 3). Many project workshops are conducted in English, which alienates end users who do not speak English. Knowledge exchange materials must also be translated into as many languages as possible to facilitate higher impact. Organising regional cross exchanges or country level workshops is an effective method to overcome this challenge.
- ☞ **Trust** in the source of information and its credibility is a major determinant for uptake of knowledge. Information from trusted voices or word of mouth is very effective. Furthermore, farmers and foresters will often use different sources for different types of information based on their experiences/ perceptions/preferences. For example, they might talk to or WhatsApp their neighbour when experiencing a hoof problem in their beef cattle but seek the local veterinarian's help if the cattle has a respiratory problem.
- ☞ **Competition** amongst farmers can hinder the sharing of innovations, especially in particular sectors. If there are any intellectual property related issues, this forms a barrier. Not all information is free, data sharing might be a hindrance and your TN has to think about how to deal with the commerciality of knowledge. Understand and know where you stand at the start of the co-generation and harvesting process.
- ☞ **Lack of facilitation skills** in the agricultural sector is another challenge your TN will need to consider for effective dissemination and exploitation. Advisors are able to facilitate to some extent, however, facilitating co-generation and harvesting processes in Pathway 1 can be a challenge in terms of the independency of the advisor and the departure from traditional top-down forms of knowledge transfer. Take a look at the 'i2connect,' project (<https://i2connect-h2020.eu/>) which is looking at the roles, skills and competences of interactive innovation advisors in the EU. What new knowledge can you learn from their outcomes?





## OPEN INNOVATION CHALLENGE

INCREDIBLE launched an Open Innovation Challenge to select the five most innovative business ideas with the potential to increase the environmental, economic or social value of five different Mediterranean non-wood forest products (NWFPs). The candidates had to present business solutions to tackle one of the priority challenges identified previously by stakeholders.

The five winners, selected by the consortium partners according to the potential impact and sustainability of the business ideas, were invited to attend the INCREDIBLE business acceleration programme designed by INCREDIBLE partner ETIFOR together with an international team

of leading business and NWFPs experts. This 10-day intensive training course helped these emerging businesses to improve their business plan, to create or improve their marketing strategy, to define their potential customer and to improve their corporate network. It was held at the Agripolis Campus (Padova, Italy) and was free of charge, with travel costs covered by the project. Participants had the opportunity to stimulate their thinking and boost their ideas thanks to lectures, workshops, industrial visits, seminars, support from mentors and experts for coaching. For inspiration and more information, please see:

[www.incredibleforest.net/content/open-innovation-challenge](http://www.incredibleforest.net/content/open-innovation-challenge)



## EDUCATION AND TRAINING MATERIALS

To encourage the use of TN outputs for training and educational purposes, specific materials for this purpose should be produced. For example, educational and training outputs are available through the AGRIFORVALOR website and were used to support AGRIFORVALOR's workshop, training academy and mentoring activities. The training materials were designed to support the 3 phases of bio-enterprise support from the AGRIFORVALOR training academy, as follows:

- Module 1: Strategy and Organisation
- Module 2: Social Enterprise Development
- Module 3: Business Planning and Business Models
- Module 4: Commercialisation and Intellectual Property

- Module 5: Finance and Marketing
- Module 6: Networking and Negotiation

Each module contains a background and overview of the topic, as well as case studies relating to the bio-based industries, and worksheets for use during the training workshops.

What education and training materials could your TN produce?

Find the AGRIFORVALOR training materials in the Academy section of the Downloads area of their website:

<http://agriforvalor.eu/downloads/>

### Other Avenues for Exploitation

Exploitation measures consider the use of project results, either by the consortium partners or interested third parties, in further research and innovation activities, projects, or tools. In the case of TNs, facilitation of the further use of the project's results depends more on active user engagement and innovation management. This is because TNs are more focused on exchanging existing knowledge, best practices, methodologies and innovative solutions rather than on the (co)-creation of new knowledge.

For example, the AgriSpin (Space for Innovations in Agriculture) TN developed a methodology for cross-visits that is reused in other national or European projects, such as NEFERTITI (Networking European Farms to Enhance Cross Fertilisation and Innovation Uptake Through demonstration).

Making use of TN results can lead to the use of a new product or service, and/or influence societal activity and policy changes through expediting agricultural innovation.





# 5. MEASURING YOUR IMPACT AND TN SUSTAINABILITY



## 5.1. MEASURING IMPACT

### How to develop a vision of impact for my TN?

Have you considered the impact of your TN at multiple levels? E.g. environmental, societal and economic impact. You should develop a vision of impact right from the start of your project. To help you formulate this, here are some impacts for your TN to consider:

- ☞ How do you contribute to the collection and distribution of easily accessible practice-oriented knowledge on the thematic area chosen, including delivering as many relevant and useful “practice abstracts” etc. in the common EIP-AGRI format as possible and as much audio-visual material as possible?
- ☞ How do you conserve the practical knowledge for the long term – beyond the project period – in particular by utilising as many Knowledge Exchange Pathways as possible, using the main trusted dissemination and exploitation channels that farmers/foresters consult most, and also suit education and training purposes?
- ☞ How do you increase the flow of practical information between farmers/foresters in Europe in a geographically balanced way, creating spill overs and taking account of the differences between geographical areas?
- ☞ How do you achieve greater end user acceptance of collected solutions and therefore a more intensive, higher impact dissemination and exploitation of network knowledge?
- ☞ Have you stimulated future research to fill gaps in the current knowledge base?

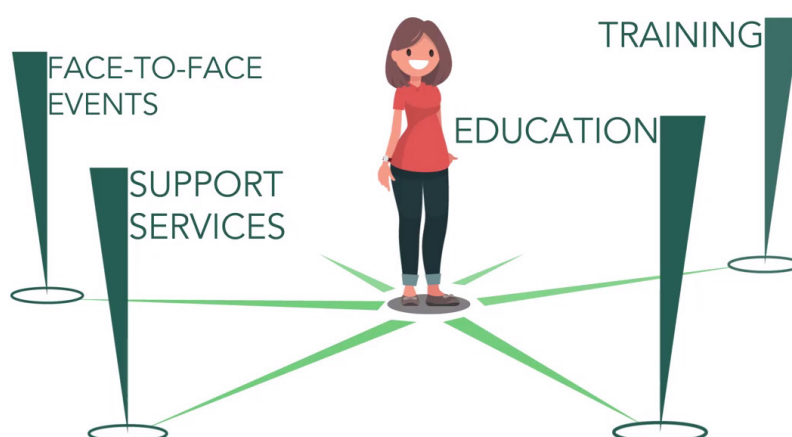
### How to measure impact in terms of uptake of TN results within the lifespan of the project?

Impact is the wider societal, financial or environmental cumulative change over a long period of time. Measuring impact is challenging. Impact can neither be reached nor measured within the timespan of a TN. Despite impact being of key importance and interest to a TN, it is largely out of the control of a TN and cannot be directly influenced. A TN can evaluate the *probability* of impact.

To do this, a TN can make outputs (products) and support outcomes (short- to medium-term changes in a situation). The most important thing for a TN is to have a clear goal so that outputs and outcomes can be defined. The more precise the better, and from here, indicators – qualitative as well as quantitative – can be formulated. Well-defined indicators can measure if an objective has been met, a resource mobilised, or an effect obtained. Useful indicators are SMART indicators: Specific, Measurable, Available, Relevant, and Time-bound.

The real impact or uptake of TN results (outcomes) can only be measured in a post-monitoring phase e.g. using surveys, interviews, or meetings etc. with the end users.

As there is currently no formal platform for post-evaluation of your TN, we have developed some output and input proxy indicators based on the practices of current TNs and their expected outcomes that we invite you to use as a checklist. These indicators pertain to several aspects of your TN, such as content, purpose, knowledge, storage, communication and dissemination as well as the MAA. The more areas you utilise, the better the chance that your TN knowledge exchange pathways will produce sustainable outcomes and create higher impact.





DISSEMINATION AND EXPLOITATION MATERIAL		QUALITATIVE OUTPUT INDICATOR	QUANTITATIVE OUTPUT INDICATOR
TEXT DOCUMENTS WITH PICTURES/INFOGRAPHICS		Clear scope, practice-oriented, technical content related to farmers/foresters needs	<ul style="list-style-type: none"> <li>Number of dissemination materials with practice-oriented knowledge in easily understandable and local language</li> </ul>
PODCASTS		Short podcasts explaining the solution to a farmer or forester's problem	<ul style="list-style-type: none"> <li>Number of podcasts available through apps</li> <li>Number of downloads/streaming statistics</li> </ul>
VIDEOS		Videos from the field about practical knowledge featuring a farmer/forester/advisor and/or key intermediary with an established network	<ul style="list-style-type: none"> <li>Number of videos disseminated</li> <li>Number of downloads/streaming statistics</li> </ul>
TRAINING MODULES		Training modules (ppt with text/videos) oriented to advisors with practical knowledge based on farmers needs	<ul style="list-style-type: none"> <li>Number of training modules</li> <li>Number of downloads/streaming statistics</li> <li>Number of persons using the training module</li> </ul>
WEBINARS		Interactive webinars for farmers/foresters and advisors facilitating peer to peer exchange	<ul style="list-style-type: none"> <li>Number of webinars</li> <li>Number of farmers; foresters/advisors attending</li> </ul>
CHANNELS		QUALITATIVE OUTPUT INDICATOR	QUANTITATIVE OUTPUT INDICATOR
TRADITIONAL CHANNELS		Use of resources trusted by users e.g. agricultural press, local radio, study days, well known websites of advisory centres, farmers organisations, chambers of agriculture	<ul style="list-style-type: none"> <li>Number of dissemination activities through traditional channels</li> </ul>
MULTIPLIERS		Use of multipliers connected to established networks such as sector-related organisations, the involvement of end user groups such as OGs, national and regional networks (e.g. NRNs)	<ul style="list-style-type: none"> <li>Number of multipliers involved in dissemination activities</li> </ul>
CROSS EXCHANGE VISITS		Cross exchange visits on experience sharing of practical innovative solutions	<ul style="list-style-type: none"> <li>Number of cross-exchange visits</li> <li>Number of farmers/foresters/advisors involved</li> </ul>
DEMONSTRATION EVENTS		On-farm demonstrations of new methodologies, technologies and best practices	<ul style="list-style-type: none"> <li>Number of demonstration events</li> </ul>
EDUCATIONAL INSTITUTIONS		Linkage to existing educational initiatives and lifelong learning programmes	<ul style="list-style-type: none"> <li>Number of linkages with local training initiatives and educational programmes for farmers/foresters and advisors</li> </ul>
ONLINE DATABASES		Availability of dissemination materials for farmers/foresters on open access and easily searchable databases	<ul style="list-style-type: none"> <li>Number of farmers/foresters and advisors consulting the database</li> </ul>

## 5.2. ENHANCING SUSTAINABILITY

### How to enhance the sustainability of the results generated and the established network?

The building of a self-sustaining and motivated TN community through the development of a common database is important to ensure long-term governance and continuity. An example is the Organic Farm Knowledge e-repository (<https://organic-farmknowledge.org>, see good practice box on the next page) that was set up during a network project and has since been used by several others.

Having a TN website on an existing website instead of creating a new one should be considered to leverage existing end user traffic. For example, the 4D4F TN made use of an existing Flemish sensor database. In addition, in Organic PLUS, some results are placed on an existing French database (Biobase and EU database Organic e-prints) with open access archives. Core partners are committed to keeping this database alive and current.

One of the main challenges is to convince an organisation to host an open-access database and regularly update it. The topic of the TN and the types of output may also be an influencing factor, e.g. topics that are of broad societal relevance tend to stay alive for longer.





## ORGANIC FARM KNOWLEDGE

The Organic Farm Knowledge platform was developed by two TNs, OK-Net Arable and OK-Net EcoFeed and a collaboration of three institutes (FiBL, ICROFS and IFOAM EU) committed to its sustainability.

The platform provides access to a wide range of tools and resources about organic farming to help improve production. Additionally, it aims to serve as a virtual meeting place for cross-border learning. The platform promotes the exchange of knowledge among farmers, farm advisors, and scientists, with the aim of increasing productivity and quality in organic farming across Europe.

The website offers clear menu-navigation and provides the option to translate the content into different languages (automatically

generated). The homepage puts the search-function and the three most important information categories front and centre, allowing the user to instantly explore content within one of these categories or conduct a search for specific content. The website is responsive and works well on both desktop and mobile devices. The news provided on the homepage is mainly of interest to the end user and information about the projects behind the e-repository (OK-Net EcoFeed and OK-Net Arable) is mentioned in the "about" section. The end user has easy access to the navigation and can use the secondary navigation tool underneath the heading of the page to know where they are on the website.

Check it out yourself:

<https://organic-farmknowledge.org/>



## ENHANCING IMPACT LIKE EURODAIRY

The EuroDairy TN model utilized existing relationships at a regional level to bring together multi-actor Operational Groups/innovation networks. Here are some tips from EuroDairy to enhance your TNs impact:

- ☞ Create a network of innovating pilot farmers and Knowledge Transfer Centres (KTCs) to demonstrate innovation and best practice
- ☞ Engage pilot farmers, farm advisors and experts in knowledge and tools exchange activity, within and across national/regional borders
- ☞ Establish a web-based learning and communication platform to promote

events, publicise outputs, present technical content, signpost to other sources of information, and communicate end user testimony to peers and other relevant actors.

- ☞ Organise International workshops and Cross border workshops with pilot farmers to share findings and insights and discuss their financial and resource management performances using benchmarked data collected within your project.

What can you learn from EuroDairy's approach? For more information, please see:

<https://eurodairy.eu/>

To summarise, enhancing impact and sustainability of your TN and its outcomes should be considered right at the beginning of your project conceptualisation. Getting a handle on impact and sustainability is key, since project evaluation at an EU level includes impact. Key areas to focus on are:

- ☞ Linking to existing networks at local, regional, national and international level
- ☞ Engaging local end user groups such as Operational Groups

- ☞ Linking to educational initiatives
- ☞ Keeping your TN website alive after the end of the project
- ☞ Keeping the network alive through social media (cheaper to animate than in-person events)
- ☞ Work with current and future projects that build on the results from EURAKNOS to develop a one-stop knowledge reservoir e.g. EUREKA



## 5.3. THE EURAKNOS/EUREKA EU FARMBOOK

Digital collaboration between TNs, OGs, and all the different actors within the European Agricultural Knowledge and Innovation Systems (AKIS) should be enhanced. A key element to support this aim is the development of a common, EU-wide, standardized, and interoperable digital platform for co-sharing practice-oriented materials and other relevant knowledge for sustainable innovation in agriculture and forestry. This will strengthen the integration of TNs and OGs within the AKIS, and thereby strengthen the AKIS at all levels (European, national, regional, and local).

This platform would serve to connect these diverse actors, initiatives and networks at local, national, or European levels to combine the outputs of different projects and bridge the gap between research and practice. Target users could easily find information in one place, resulting in higher web traffic compared to individual project websites.

It is essential that such a platform be well-maintained and adapted to user needs and expectations, including the use of local languages. Regional and national AKIS strategies need to be further developed to support digital knowledge reservoirs based on outputs from projects funded at the regional/national level to enhance knowledge sharing and link to the EU-wide platform. A digital platform should be combined with real-life activities such as demonstrations and face-to-face meetings, and link to trusted traditional channels such as agricultural magazines and local user networks.

EURAKNOS (and its sister project EUREKA, [www.h2020eureka.eu](http://www.h2020eureka.eu)) have worked to develop this central database, called the EU FarmBook, to ensure sustainability of a TN's outputs beyond the funding period of the project. The EURAKNOS/EUREKA database model is a significant step towards the goal of long-term storage and usability of your project's results and outputs. Ultimately, the purpose of the EU FarmBook knowledge repository is to provide a digital platform to bring together the EU AKIS community and stimulate exchange on sectoral themes in agriculture and forestry, as well as horizontal themes such as entrepreneurship, climate change, and generational renewal.

The EU FarmBook is not yet fully developed. EURAKNOS laid the groundwork and tested the concept of a well-developed but not fully functional prototype of the platform. EUREKA will deliver the working pilot version of the EU FarmBook for wide-scale testing with users before the project comes to an end in March 2022. Further development of the platform will continue through the new Horizon Europe programme.

### How can TNs work with the EU FarmBook knowledge reservoir?

It is important to emphasize that all output to be stored in a central platform such as the EU FarmBook must be FAIR: Findable, Accessible, Interoperable, and Reusable. This relies on proper data management throughout a project, especially with respect to annotation of data with appropriate metadata (descriptions of data content). Key areas to focus on are:

- Robust annotation of knowledge objects (projects' digital outputs) with necessary metadata
- The preferred file formats of knowledge objects
- Use of standards-based "structured data" on project websites/databases

The aim of facilitating long-term availability of your TN's outputs can be achieved by drawing upon a robust model which provides a well-structured, formal description of the knowledge objects (e.g. factsheets, practice abstracts, videos) and their properties, as well as relations that are core to the description of a TN's digital outputs. Using such a model would give three main options related to the potential contribution of the EU FarmBook to future TN efforts:

- **Option 1:** A TN develops and maintains its own Knowledge Reservoir, but its output is structured using the guidelines of the EURAKNOS/EUREKA model. This will enable the EURAKNOS/EUREKA knowledge reservoir to integrate the TN's output in the future.
- **Option 2:** A TN develops and maintains its own Knowledge Reservoir making use of the (appropriately adapted/extended) EURAKNOS/EUREKA model and the output is also stored and made available in parallel in the EURAKNOS/EUREKA knowledge reservoir. This is an intermediate step until we can develop Option 3.
- **Option 3:** A TN can access output available from the EURAKNOS/EUREKA repository through exploitation of the Application Programming Interface (API)<sup>1</sup>. The API will enable the TN to store their output in the EURAKNOS/EUREKA database and make the output also available via the TN's website.

To follow the development of the FarmBook, be sure to subscribe to EUREKA's news updates at <https://h2020eureka.eu/news>.

<sup>1</sup> An Application Programming Interface is a computing interface to a software component or a system, that defines how other components or systems can use it by defining the kinds of calls or requests that can be made, how to make them, the data formats that should be used, the conventions to follow, etc.





# EURAKNOS

EURAKNOS (2020)

ISBN 978-2-7148-0126-5



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