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EUROPEAN UNION

**FILA**

## **FILA Model**

**An innovative model based on EIP  
approach to strengthen knowledge  
transfer in the agrifood sector in Puglia  
region, Albania and Montenegro**

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Strengthening and empowering cross-border innovation networks  
through **Fertilization Innovation Labs in Agro-food** for improving the connection between  
research and SMEs (EIP approach)

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## Introduction

The FILA Model was designed in the framework of the project “Strengthening and empowering cross-border innovation networks through Fertilization Innovation Labs in Agro-food for improving the connection between research and SMEs (EIP approach) – FILA”, EU funded through Interreg – IPA CBC Italy – Albania – Montenegro programme for a period of two years (2018-2020).

The project aims to enhance innovation and competitiveness of agrifood enterprises, through the creation of 3 local interlinked ‘Fertilization and Innovation Labs in the Agrifood sector (FILA Labs), in Valenzano (Italy), Korca (Albania) and Nikšić (Montenegro), respectively, and to reinforce the programme-level (through the cross-border Fila network) and international (through the link with EIP) collaboration.

FILA project indeed integrates with and adapts to the European Innovation Partnerships (EIPs) approach - which is a part of the Europe 2020 Strategy for smart, sustainable and inclusive growth - in the programme cooperation area of Italy, Albania and Montenegro. EIPs represent a new approach to research and innovation, seeking responses to challenges while maintaining a dual focus on social benefits and the rapid modernization of economy. Addressing specific sectors, each EIP stimulates cooperation between the stakeholders of the innovation chain, mainly among researchers and enterprises. The agricultural EIP (EIP-AGRI) aims to foster competitive and sustainable farming and forestry, ensuring a steady supply of food, feed, and biomaterials, thus developing its work in harmony with the essential natural resources farming is dependent upon.

Following the EIP AGRI approach, the FILA Model was conceived by gathering and sharing the needs and the associated solutions on knowledge and technology transfer with stakeholders.

Therefore, the FILA Model is aimed at strengthening the knowledge and technology transfer to favour cooperation among the innovation chain actors, not only by sharing and transferring research results but also by co-designing innovative new solutions and motivating young talents to implement open innovation processes.

## Methodology

The FILA model was designed following bottom-up collaborative and participatory methodologies that include: a) mapping of the 30 Innovation Support Organizations' (ISOs) best practices at the international level; b) analysis of 54 Operational Groups (OGs)<sup>1</sup>, 30 of which in Puglia region (among those that applied for the Submeasure 16.1 RDP Puglia 2014-2020), 10 in Albania (informal OGs) and 14 in Montenegro (informal OGs); c) results of the three living labs organized in Italy, Albania, and Montenegro.

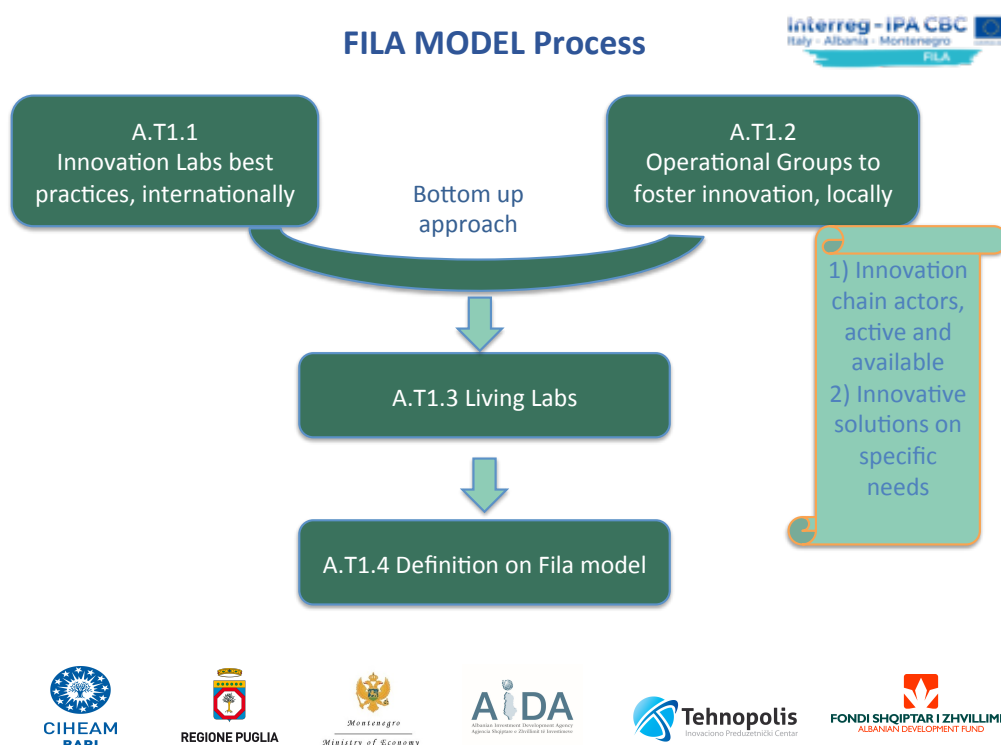


Fig. 1 - FILA living lab process.

Indeed, the FILA model is the result of these activities, and mostly the living labs have contributed to pool the results and share the knowledge and technology transfer in the agrifood sector with the innovation chain local actors, firstly in each country and subsequently shared during a cross-border meeting. In the living labs, the most important players of the innovation chain - like higher education and research institutions, SMEs and microenterprises, farmers, business support organizations, innovation brokers - were involved, among others.

The aim of these activities was to co-create the FILA model through the identification and hierarchization of the knowledge transfer problems and the associated solutions in the agrifood sector. The solution is only the final step of a generative process that first tries to analyze the type of problem. This approach not only focuses on people but actively involves them, creates an empathic relationship with them, and they often become co-creators.

A fundamental starting point for the construction of the model was the experience of the European Innovation Partnership approach (EIP-AGRI), as a practical implementation on the ground of the Agricultural Knowledge Innovation System-AKIS and the Agricultural Innovation System-AIS models. It is worth noting the rapid evolution of the approaches to knowledge exchange, learning and innovation

<sup>1</sup> Operational Groups applying the EIP-AGRI approach are intended to bring together multiple actors such as farmers, researchers, advisers, businesses, environmental groups, consumer interest groups or other NGOs to advance innovation in the agricultural and forestry sectors, tackling the needs and opportunities of farming practice.

in agriculture. Today, everybody involved in farming, advising, research, training and education is facing a number of challenges to adapt to a continuously changing environment. Among the initiatives promoted for the 2014-2020 period, the European Innovation Partnership (EIP) is the tool that most facilitates this systemic approach<sup>2</sup>.



Fig. 2 - EIP approach (EIP-AGRI, 2015).



Fig. 3 - EIP Participatory approach (EIP-AGRI, 2019).

### European Innovation Partnerships (EIPs)

The establishment of the European Innovation Partnerships (EIPs) in different sectors represents a new approach under the Europe 2020 Strategy to advance EU research and innovation: Flagship Initiative "Innovation Union". The European Innovation Partnership (EIP) as a new tool for fostering innovation through linking existing policies and instruments. It is a tool that most facilitates the innovation systemic approach. Designed to facilitate flows between the production and utilization of research, EIP involves all the components of the AKIS model, promotes a multi-disciplinary vision, and strengthens opportunities for exchanges and fusions between different territories with common needs.

In this framework, the more research meets business needs, the more it becomes successful, and the more it is applied at the territorial level. This makes it possible to measure its effectiveness, identify criticalities and outline future developments.

Innovation is thus the result of a systematic approach based on the creation of a network, on interactive learning, and on negotiation between a heterogeneous group of stakeholders centred on the entrepreneur.

EIP AGRI is actually applied through the EU REGULATION No. 1305/2013 Article 35 - Cooperation that provides for financing of 3600 operational groups for innovation in Europe through the RDP Measure 16.

<sup>2</sup> Five European Innovation Partnerships (EIPs) have been launched in different sectors: [Active and Healthy Ageing](#), [Agricultural Sustainability and productivity](#), [Smart cities and Communities](#), [Water](#), [Raw Materials](#).

In the past, apparently, it seemed sufficient to work on solutions in a research environment and then pass them on to the farmer. Nowadays, new and better ways to share knowledge and expertise are essential to keep agriculture and food production competitive and rural areas dynamic. Thanks to the EIP-AGRI “interactive innovation model”, knowledge is now co-created by farmers, scientists, advisers, enterprises, NGOs. The term Agricultural Knowledge and Innovation Systems (AKIS) is used to describe the whole knowledge exchange system: the ways people and organizations interact within a country or a region. AKIS can include farming practice, businesses, authorities, research, etc., and can vary a lot depending on the country or sector. When developing new AKIS, technical, organizational and social dimensions should be taken into account (a “system approach”), to help bridge the gap between science and practice.

The EIP-AGRI aims to promote farmers’ interactive innovation projects and close the gap between research and practice.

	<b>Transfer of Technology (ToT)</b>	<b>Farming System Research</b>	<b>Agricultural Knowledge &amp; Information Systems (AKIS)</b>	<b>Agricultural Innovation Systems (AIS)</b>
<b>Periods/Era</b>	Central since 1960s	Starting in 1970s and 1960s	From 1990s	Since 2000s
<b>Purpose</b>	Supply technologies through linear processes	Learn farmers’ constraints through surveys	Collaborate in research [participatory research] & extension	Co-develop innovation involving multi-actor processes and partnerships
<b>Scope</b>	Productivity increase	Efficiency gains [input-output relationships]	Farm-based livelihoods	Value chains, institutional change
<b>Innovators</b>	Scientists	Scientists and extensionists	Farmers, scientists and extensionists together	Multiple actors
<b>Role of Farmers</b>	Adopters and laggards	Source of information	Experimenters	Partners, entrepreneurs, innovators, exerting demands
<b>Role of Scientists</b>	Innovators	Experts	Collaborators	Partners, one of the actors responding to demands
<b>Key changes sought</b>	Farmers’ behaviour change	Removing farmers’ constraints	Empowering farmers	Institutional change, innovation capacity
<b>Market integration</b>	Nil	Nil	Low	High
<b>Capacity development</b>	Technology adoption and uptake through development of technical skills & infrastructure	Technology adoption and uptake through development of technical skills & infrastructure & integration of ecological and farm-economic conditions	Enhancing communication between actors, co-evolved technologies better fit livelihood systems	Capacity to interact, innovate & learn, creating enabling conditions

*Fig. 4 - Development of knowledge transfer systems (Tropical Agriculture Platform, 2016).*

This bottom-up and participatory approach inspired by the EIP-AGRI model enables the FILA model to adapt to the current situation of each participating country by offering concrete solutions.

## FILA Model Description

In current knowledge transfer systems, something goes wrong. We are often engaged in research projects and their results do not reach the operators of the sector, or they are far from their needs and, accordingly, cannot be used.

It is urgent to bring together the pieces of a system that exhibits critical levels of fragmentation, weak and unstable connections, missing profiles in skills and competences being aware of the limits of the current linear approach to innovation; namely, an "ecosystem that cannot be built only by a sum of supply chains for innovation but requiring inter-chain and systemic relations with all the innovation actors present at the territorial level".

Currently, in many territorial contexts there is no network between operational groups/supply chains for innovation. Relationships with public and private organizations dedicated to development processes and technology transfer of innovations are weak.

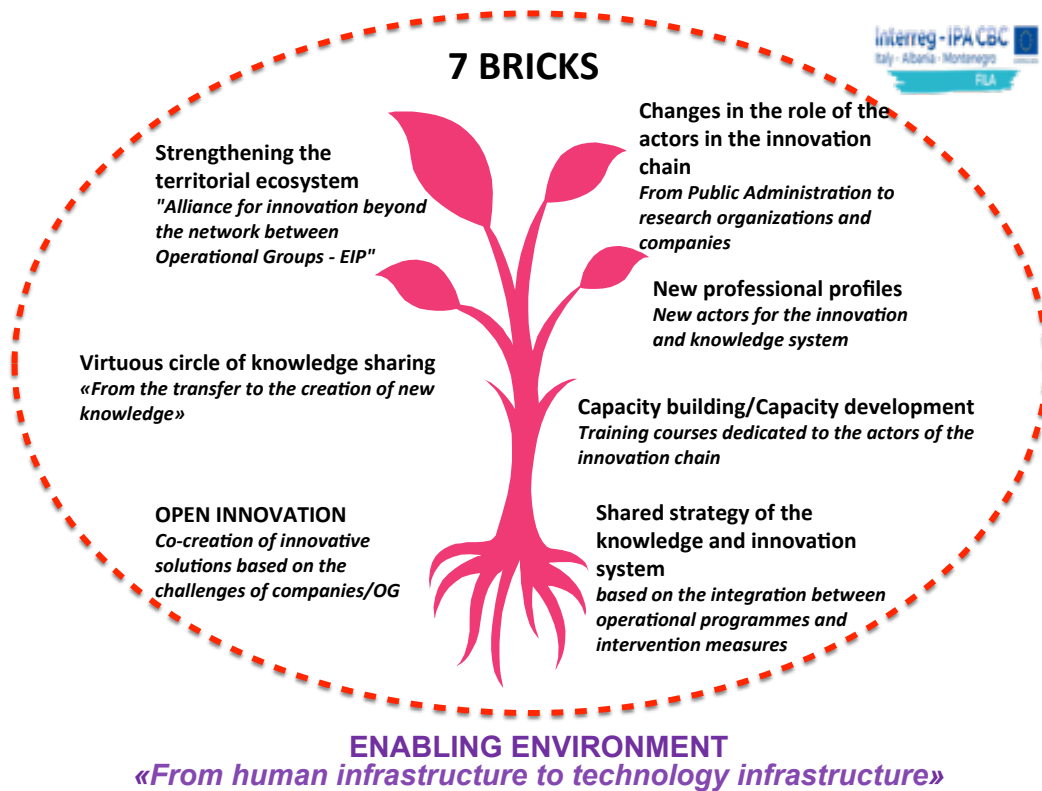
This document is intended to contribute to the improvement of technology transfer in the agrifood sector and to the construction of an innovation ecosystem, based on the analysis and living labs promoted within FILA project.

### *«Innovation that starts from people not from technology»*

The model was created with the intention of understanding how to build an environment that would favour innovation, starting from the assumption that single interventions lose their value in the absence of an environment that enables their inter-operability and connection in a systematic logic. The model emphasizes the need for creating and strengthening the regional and the cross-border innovation ecosystem in order to build up an enabling environment firstly based on human infrastructure and, secondly, on technology infrastructure. The model suggests a range of operational solutions to the seven main areas of intervention identified in the three considered programme countries. The seven issues could be figuratively compared to the bricks of the enabling human environment and technology infrastructure. The model purposes to empower the human capital and to set up a system that involves all the actors of the innovation chain in sharing knowledge, taking advantage of exchange of expertise, and transferring and conveying the research results.

It is an ecosystem composed of 7 important elements - Innovation Bricks (Fig. 5) - to guide the actors of the innovation chain and mainly to favour interactions among them. It is based on a fundamental concept: the **enabling environment, without which the seven** innovation bricks would not be fully effective.





**Fig. 5 - The seven Innovation Bricks.**

**The ENABLING ENVIRONMENT is an infrastructure that is human first and then technological,** capable of managing innovation, standardizing the level of understanding between the various players in the agrifood innovation chain and connecting them effectively.

When we talk about innovation, we often refer to new technologies, but they are only a means, an enabler of change, the real innovation starts with people, and it is precisely in this direction that the concept of ENABLING ENVIRONMENT points.

For a long time, technological innovation has represented, and still represents today, the core of modernization and economic development, but it brings with it many contradictions such as socio-economic and natural imbalances.

We live in the age of digital transformation, blockchain, artificial intelligence, but **human beings** remain the essential element. For organizations, **the real challenge is to enable people to do their best in a context that, unlike in the past, is unstable, uncertain and changeable.**

## Principles and tools of the FILA model

***The abovementioned seven Innovation Bricks are made up of different Enabling Tools.***

The FILA model is based on seven principles that are crucial for building up the enabling environment infrastructure for innovation processes of the entrepreneurship system and its production chains (Fig. 5). For each brick, tools and enabling measures were identified as a concrete contribution to the achievement of the principles of the infrastructure/innovation environment (Fig. 6).

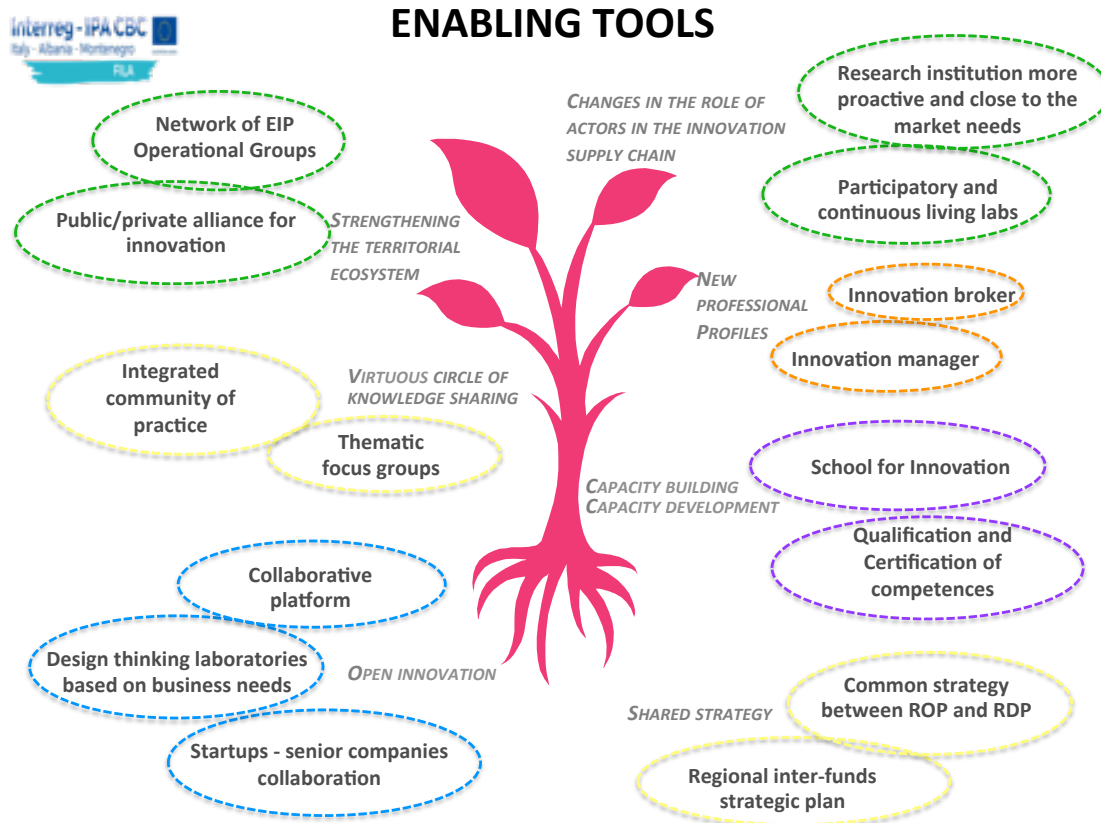


Fig. 6 - The enabling tools..

## The seven Innovation Bricks and related tools

### 1. Strengthening the territorial ecosystem

#### *"Alliance for Innovation beyond the network between EIP Operational Groups"*

One of the main objectives of EIP-AGRI is to accelerate innovation through an "interactive model" that includes farmers, consultants, researchers and businesses. However, in a scenario like the present one, where innovation becomes increasingly complex and changeable, this type of involvement must be consolidated and expanded.

One of the major problems is that some key subjects of the innovation landscape, such as businesses, incubators, startups, hubs, innovation support organizations-ISOs, are often excluded from the innovation ecosystem.

All these actors should be involved in a systematic way. No less important is the involvement of public administration, local authorities, research organizations as "partners" within the innovation chain and not only as experts, collaborators, promoters, planners, and controllers.

Moreover, there must be an interactive sharing and collaboration process among innovation chain actors/OG network, aiming not only at disseminating the OG results but at creating a cycling process of design and implementation of innovative solutions.

Only through a strengthened, expanded and active system of connections associated with changes in the roles, it will be possible to build an efficient system of innovation.

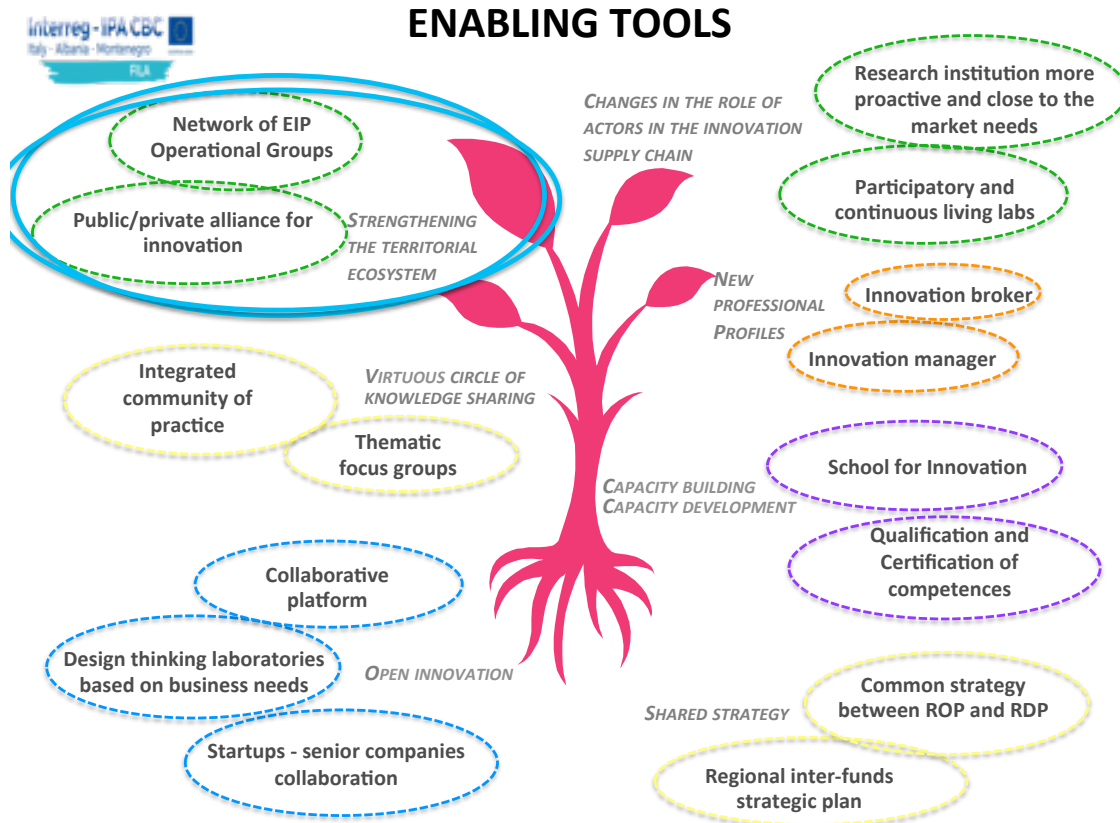


Fig. 7 - Strengthening the territorial ecosystem

### a) Creating the Network of EIP Operational Groups for innovation chains

Experimental projects and implementation of innovative technologies, processes and products are carried out by OG–EIP/Innovation supply chains to build bridges between research and agricultural practice. These groups should be set up following a bottom-up approach by interested players wishing to collaborate: farmers, scientists, consultants of agricultural enterprises, entrepreneurs and other actors.

The problem with these OGs is that they often form a variable-geometry structure that is valid only for the action of a call, for a project. They are often subject to top-down approaches established by the research organization, rather than starting from the needs of the company.

One of the main critical points of OGs/supply chains is the poor quantity and quality of dissemination in terms of sharing results between actors inside and between the OG/supply chains. As previously mentioned, OG/supply chains often involve limited professional categories linked to the world of innovation, a world that becomes exponentially larger and more complex and that needs to gather more and more new actors (marketing and communication experts, designers, business experts, startupper, anthropologists, and sociologists).

These OGs often lack professional profiles capable of bringing together different worlds (T-Shape profile), this being a characteristic that is becoming increasingly crucial in the current competitive scenario. This aspect - and not only that - affects the construction of real collaboration networks between OG/innovation supply chains aiming at sharing results (knowledge) and (human and technological) resources that would favour consolidated and sustainable innovative processes of the production systems.

### b) Public/private alliance for innovation

To make this "environment" more capable of sharing, creating and developing knowledge, it is necessary to build new and more structured relationships between public and private, within public administration, research organizations, businesses and citizens, building public/private alliances for innovation where all actors are peer to peer partners but with different roles and skills in an innovation process.

If OGs/innovation supply chains are the first level of public-private collaboration, networks represent the second level; innovation alliances are the highest level of inclusion and participation that can better contribute to creating an enabling environment for innovation through the active inclusion of other public partners not currently involved in the OG-EIP.

## 2. Virtuous circle of knowledge sharing

*"From the transfer to the creation of new knowledge"*

"Innovation is circular". To create a model that transfers knowledge in a more effective way, it is important to create opportunities and activities that can map the needs of the businesses, identify and test solutions, transfer and share the results, but also plan the development of new knowledge compared to renewed needs of the companies.

One of the key critical points of the system of knowledge and innovation in agriculture is the weak coordination between its components. The first problem we face is the weak ability to involve the end user in the research and innovation processes. In other words, the researchers' ability to listen to the real needs of innovation of enterprises is poor or nonexistent and, consequently, research activities are essentially top-down. This approach equally produces its negative consequences when it is needed to experiment, transfer and validate the research results in businesses.

In any innovative process, and in the agri-food sector in particular, it is extremely important to start from real needs. The great challenge for innovators is not to have a great idea but being the first to identify a key problem to be solved. For this reason, it is important to strengthen or introduce tools that may contribute to consolidate dialogue and collaboration among the various actors of the innovation chain, and firstly between researchers and businesses.

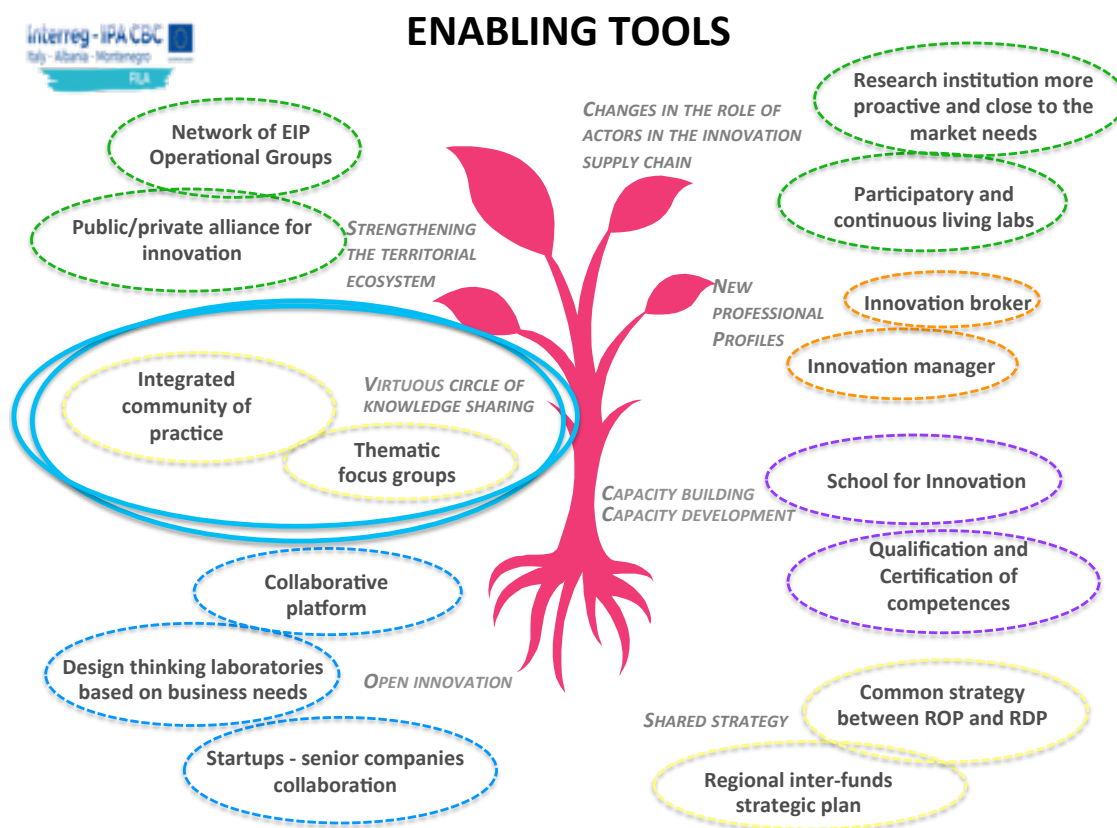


Fig. 8 - Virtuous circle of knowledge sharing.

### a) Integrated community of practice

An attempt to bridge the abovesaid gap was proposed by the Communities of Practice, and it would be even more effective if associated with a specific sector.

Communities of Practice are "interest groups" involving researchers, technicians/advisers and entrepreneurs who deal with the same issues. They jointly analyze the problems of rural areas or share and analyze practices, identify needs and solutions, verify the applicability of innovations produced by research, develop new ideas for third parties and carry out scientific and technical studies.

Their aim is the creation of a permanent communication system between research centres, regional development services and agricultural enterprises to facilitate the transfer of research and innovation.

The Communities of Practice could be organized following the SECI model. This model regulates the relationships between tacit and explicit knowledge. It is a spiral model and is divided into four phases: Socialization, Externalization, Combination, Internalization.

The spiral in the model means that every time the knowledge spreads, the cycle is expanded and improved; it is in the form of an open framework.

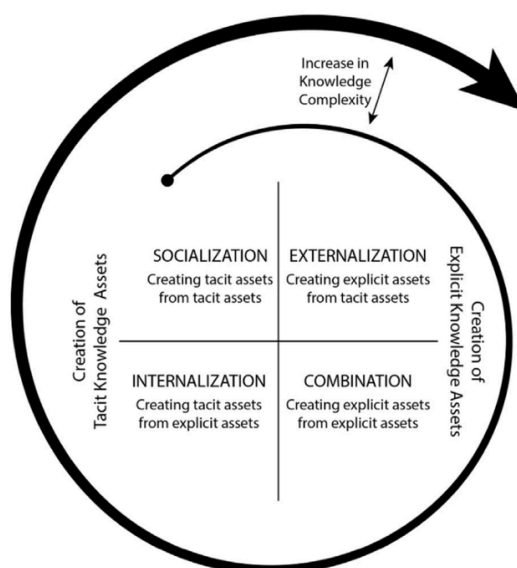


Fig. 9 – SECI Model of Dynamic Knowledge Creation. Adapted from Nonaka, 1994 (in Bandera et. al., 2017).

### b) Thematic Focus Groups

The Thematic Focus Groups represent an important mode of action of the EIP network: they consist of a maximum of 20 experts committed to sharing knowledge and proposing innovative practical solutions to face the main challenges posed by agriculture.

They are structured on a specific topic, each group shares knowledge and experience and explores innovative practical solutions to problems or opportunities.

The same methods could be applied and objectives could be achieved by organizing national/regional Thematic Focus Groups.

### 3. Open innovation

*"Co-creation of innovative solutions based on the challenges of companies/OG"*

The term Open Innovation means an approach to innovation that allows companies to focus also on ideas, resources and technological skills coming from outside, in particular from startups, universities, research actors, suppliers and consultants. The term was coined by the US economist Henry Chesbrough in his essay "The Era of Open Innovation" (2003). According to Chesbrough, the paradigm of "closed innovation", or innovation within the company, could no longer be enough despite the fears of the companies that they are no longer the only "owners" of inventions and the legitimate attempts to protect their intellectual property. The same approach could be applied at the OG/innovation chain level.

Open innovation is a great opportunity for companies, but we need to know how to put it into practice. There are examples of companies that have succeeded in innovating using the most appropriate ideas from employees, collaborators, researchers or startups, and others that could not understand how to apply this strategy and failed.

Open innovation specifically includes: inter-company agreements, financial support for startup competitions, hackathons, the acquisition of innovative startups by large corporations, the creation of a corporate accelerator for startups, the partnership with universities, research centres and incubators to innovate in specific sectors.

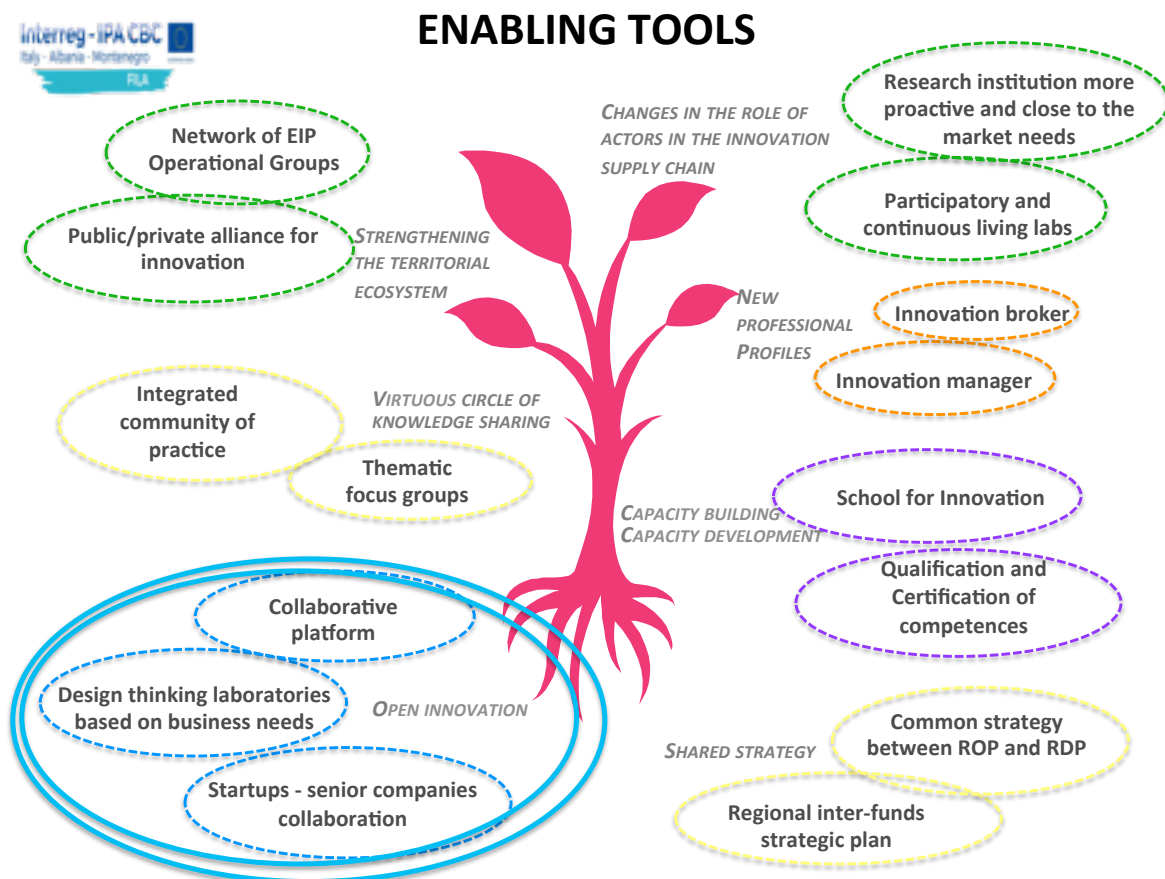


Fig. 10 – Open Innovation–enabling tools.

#### a) Collaborative platform for Open Innovation

This is a collaborative tool that aims to encourage and support the matching between the demand for innovation coming from the big players and the offers of technological solutions expressed by innovators.

Regional, national and international big players or large and medium-sized enterprises together with the public administration are asked to explain their innovation challenges. Innovation actors - small businesses, startups and spin-offs - are asked to find solutions that meet these needs, which in fact represent the "new" market for innovation.

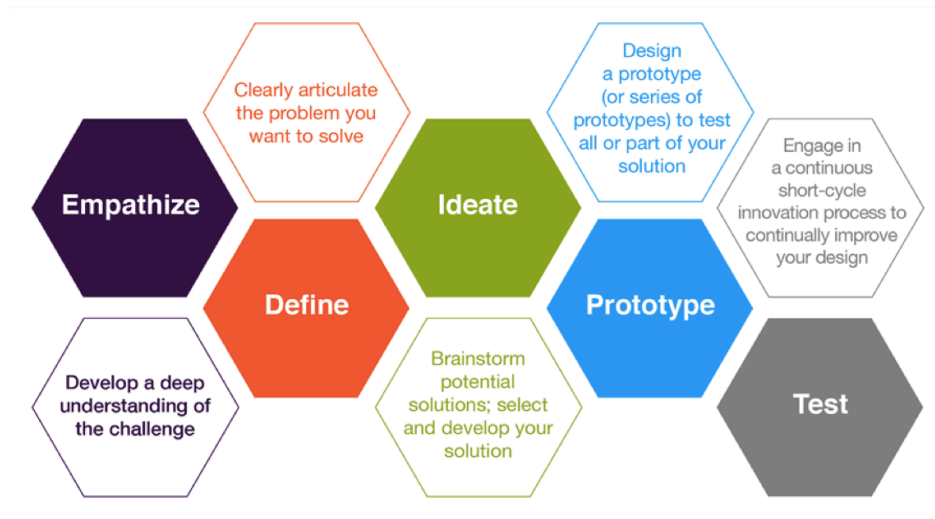
Open Innovation is a collaborative environment where one can convey cross-fertilization actions and, not lastly, promote the entrepreneurial discovery process aimed at identifying the new actors to be supported and developed (scouting).

**b) Design thinking laboratories based on business needs**

Design thinking is a process for creative problem solving.

It has a human-centered core. It encourages organizations to focus on the people they are creating for, which leads to better products, services, and internal processes. It's based on the following key concept:

- Empathy — Understanding the needs of those you are designing for,
- Ideation — Generating a lot of ideas. Brainstorming is one technique, but there are many others,
- Experimentation — Testing those ideas with prototyping.



**Fig. 11** – Stanford D. School design thinking process.

Design thinking can be one of the methodological approaches to be used in the innovation cycle of an OG/innovation chain, namely through identifying the innovation need/challenge to business experimentation and validation of the innovative solution. It is cyclic in that business-application of an innovative solution, also through discussion and sharing with other business experiences, can become a triggering element for improvement.

**c) Collaboration of senior companies with startups**

A meeting is a mutual opportunity through which companies experience new possibilities and roads, and startups have an important opportunity for business development.

Collaboration enriches both of them by sharing a different cultural approach in respect of innovation (remember that startups are not small versions of structured companies). The large company has internal processes that do not allow it to be as fast as a startup. On the other hand, the startup is more

dynamic and though being well prepared for the product/service, it lacks specific know-how on the entire business system.

#### 4. Changes in the role of the actors in the innovation chain

“From public administration to research organizations and companies”

As previously said, the transition from a traditional linear technology transfer model to a systemic and circular one implies, in parallel, greater complexity of the innovation processes and also a greater number of actors involved, both public and private (ranging from public administration to research organizations, enterprises and agencies/innovation-support organizations). On one hand, the number and heterogeneity of the actors involved is a problem for the construction of collaborative processes for innovation, on the other hand, the change in the roles of the actors of the innovation chain is a challenge – namely, ensuring that everybody contributes as “partner” to the innovation process by networking competences and experiences by overcoming/integrating the current “tasks”: control, surveillance, top-down decision-making of research, etc. A peer to peer relationship is needed between the various actors to participate in the OG/innovation chain, and also extremely important is the relationship between OG/innovation chains themselves for the creation of an innovation ecosystem.

This greater number of involved actors must also be accompanied by a more proactive role within the innovation landscape. For some actors it is a "revolutionary" step.

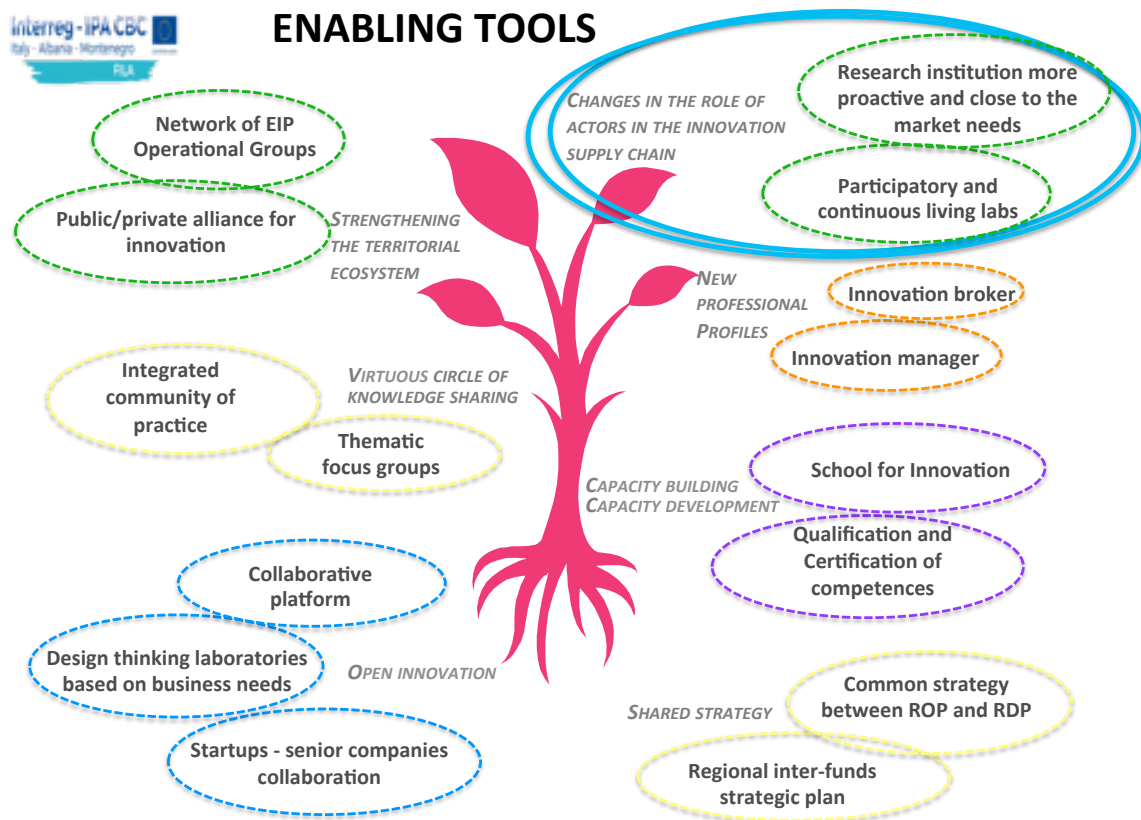


Fig. 12 – Changes in the role of the actors in the innovation chain.



### **a) Research institution more proactive and close to the market needs**

Research organizations and universities must switch from the role of mere research producers to a more company-oriented role directing research towards mapped needs.

They must become partners in the innovation process and the innovation chain, at the same level as companies and other actors to co-design and share actions.

To this end, TTO/ISO may play a strategic role with a view to strengthen their role both within the university and in the relationships with enterprises and other territorial actors, and the market as well.

### **b) Participatory and continuous living labs**

This more proactive role is also extended to institutions such as local authorities and public administration that not only have to plan and implement territorial development but should also play a more effective role in identifying the needs of the actors involved in the innovation processes, in the implementation phase acting as "partners" and not as "controllers", in a participatory and circular process that can contribute to the improvement of future programming.

In this perspective, it is important to plan events – living labs - that may succeed to bring these actors together in a timely and continuous manner over time.

It is necessary to avoid that such events become episodic and unrelated to each other. Indeed, they should be part of the PA policy, so as to address the challenges emerging in the living labs.

## **5. New professional profiles**

### ***“New actors for the innovation and knowledge system”***

*“New actors” means to train and strengthen new professionals (innovation managers and innovation brokers) who are essential for the creation and strengthening of the innovation chain, both during the chain construction phase (innovation broker) and for a more proactive role of the business (innovation manager).*

### **a) Innovation broker and Innovation manager**

The professional broker profile is experiencing a profound and rapid transformation. The continuous innovations in terms of changes in laws and regulations that govern the activity, the development of new products and services, the introduction of new communication and business management techniques, are putting a strain on the organizations that provide typical brokerage services.

The profile of the Innovation Broker and the Innovation Manager cannot be merely related to Technological Innovation.

He/she must deal with all the innovations - technical, organizational, economic and financial. Consequently, his/her role requires specialized multidisciplinary training.

The function of the Innovation broker is to foster innovation, to listen to and interpret the innovation needs of enterprises, to create innovation chain/OG, collaboration between entrepreneurs, companies, to support competitiveness of the entities involved in the agricultural supply chain on the one hand, and sustainable development on the other.

The Innovation Manager has many functions but his/her focus is not so much confined only to favouring the collaboration network but he/she should also create pathways for listening, and bring forward related proposals for change.

## ENABLING TOOLS

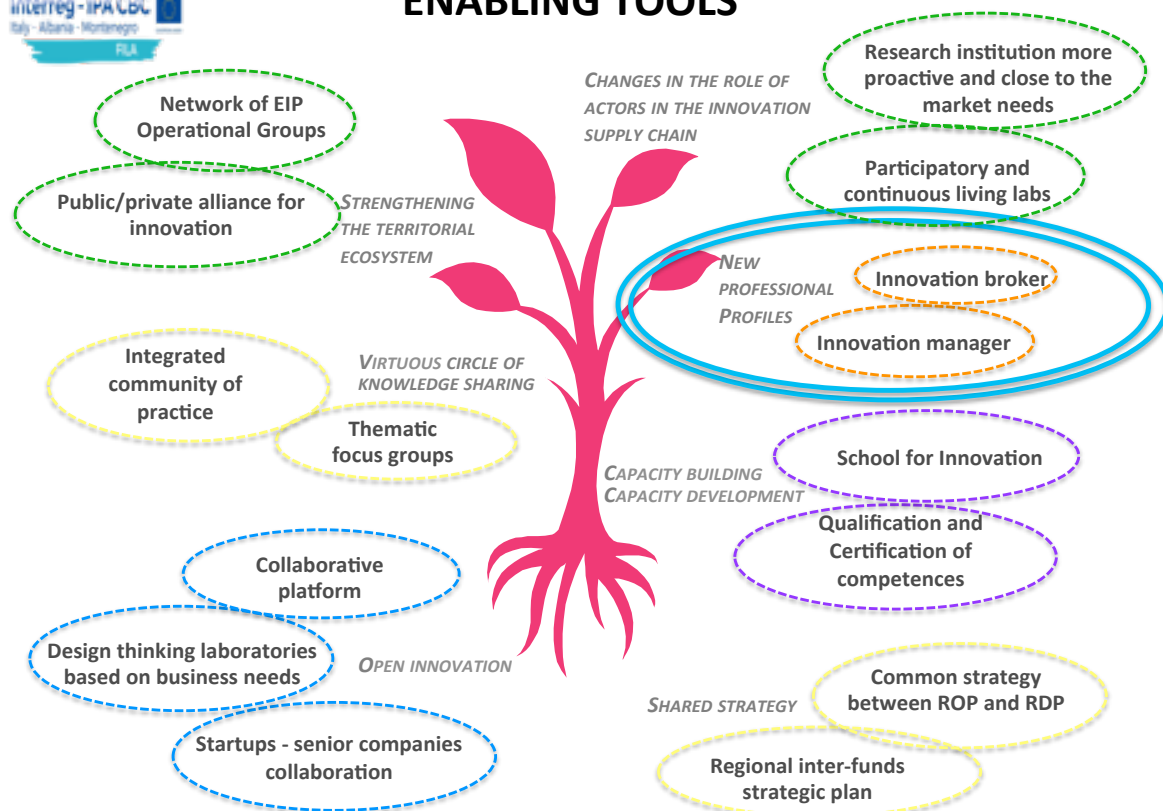


Fig. 13 - New professional profiles.

### b) Construction of dedicated training courses for innovation manager and innovation broker

There is a need for dedicated training courses based on structuring the skills of the main players in the world of innovation (Universities, Research Centres, Business Incubators, Startupper, Entrepreneurs). In particular, they should focus on innovation managers and innovation brokers: the former for the innovation processes within the enterprise, and the latter to facilitate and promote collaboration between the innovation actors. They both contribute to build OG/innovation chains by matching the enterprise's needs with the research results of scientific organizations.

At a regional and national level, it could be wise to envisage setting up a register of the new abovementioned professional profiles, and certification schemes of skills.

## 6. Capacity building/capacity development

### *"Training courses dedicated to the actors of the innovation chain"*

Nowadays, a programme should be supported to develop the skills and competences of all the players in the innovation chain, from public to private actors, businesses and citizens included. The construction of the innovation ecosystem is primarily defined by the growth of human capital.

To this end, different approaches might be applied to foster the link among the innovation actors and to formalize the new professional profiles mentioned in paragraph 5. Some of those approaches are listed below:

## ENABLING TOOLS

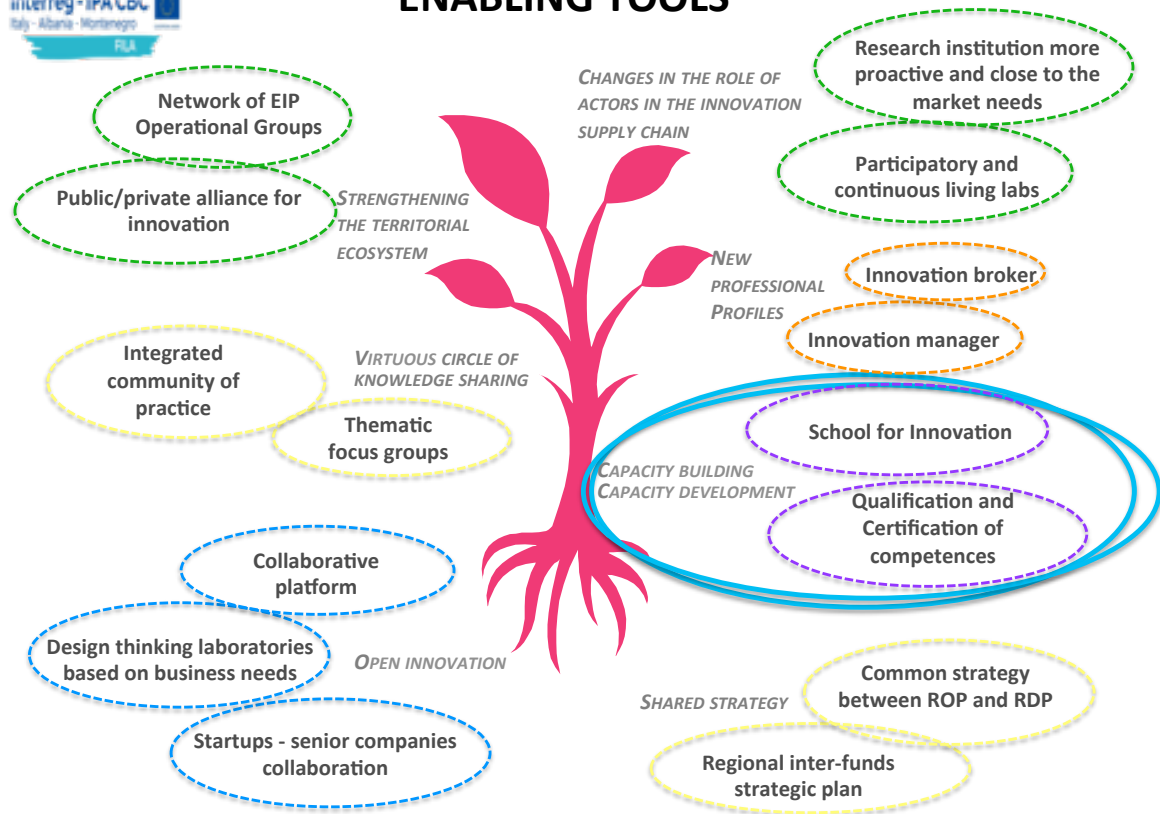


Fig. 14 - Capacity building/capacity development.

### a) School for Innovation

Imagining customized training paths for actors in the innovation supply chain in the agrifood sector is important not only for production and consultancy companies but for all the actors from public administration to researchers. The theme of skilling, reskilling and long-life learning must systematically impact this world too, setting up structural measures to support these programmes. A new “school” needs to be created to keep up with both the training needs to meet the rapid development of methodologies and approaches that characterise innovation processes, as well the rapid evolution of research and available solutions for the agrifood sector. There is a need for a “school” that makes the different approaches available depending on the target and its needs:

- advanced training courses and I and II level masters,
- learning participatory approach: participatory workshops are also known as Participatory Rural Appraisal (PRA) or Participatory Learning and Action (PLA), dialogue café, unconference, cocktail parties for innovation, action learning sets,
- short training courses.

### b) Qualification and certification of competences

The “school for innovation” necessarily calls for the need of having qualified and certified professionals. In a strongly competitive and rapidly evolving sector like the agrifood sector, some key professionals like innovation managers and innovation brokers must follow qualified training and refresher courses and should be subject to a certification scheme for their qualification. To this end, universities and professional associations may play a crucial role in setting up the requirements of the qualification and certification paths of such competences and the criteria for maintenance over time.

## 7. Shared strategy of the knowledge and innovation system

### *“Integration between operational programmes and intervention measures”*

Looking at the current intervention policies, it is very common to notice a mismatch between operational programmes and the implementation of intervention measures, which might create a waste of economic resources, and accordingly reduce the social impact and the replicability of the proposed action. Moreover, it is very rare to find a multi-sectorial approach that might facilitate a constructive contamination and capitalize the financial resources and know-how of each sector.

#### **a) Common strategy between Regional Operational Programme (ROP) and Rural Development Programme (RDP)**

The territorial “development plans” are often the exclusivity of a single fund and an economic sector (e.g. rural development) with weak connections with other funds and economic sectors (e.g. industry).

Similarly, equally weak are the systemic approaches between the interventions relative to the objectives, interventions of the same fund/plan not functionally and temporally systematized and integrated (e.g. activating the training measure of innovation brokers before the measure to favour OG for innovation).

At present, creating an ecosystem of innovation means integrating programmes, plans and interventions in the territory in a systemic and synergic way, overcoming sectorial approaches (agriculture, industry, commerce, etc.).

Systemic approaches should be applied not only between institutions (regional councils/ministries), funds and programmes, but also as a renewed system of relations with private parties, more focused on sharing and co-participation in interventions, overcoming the “co-financing scheme.”

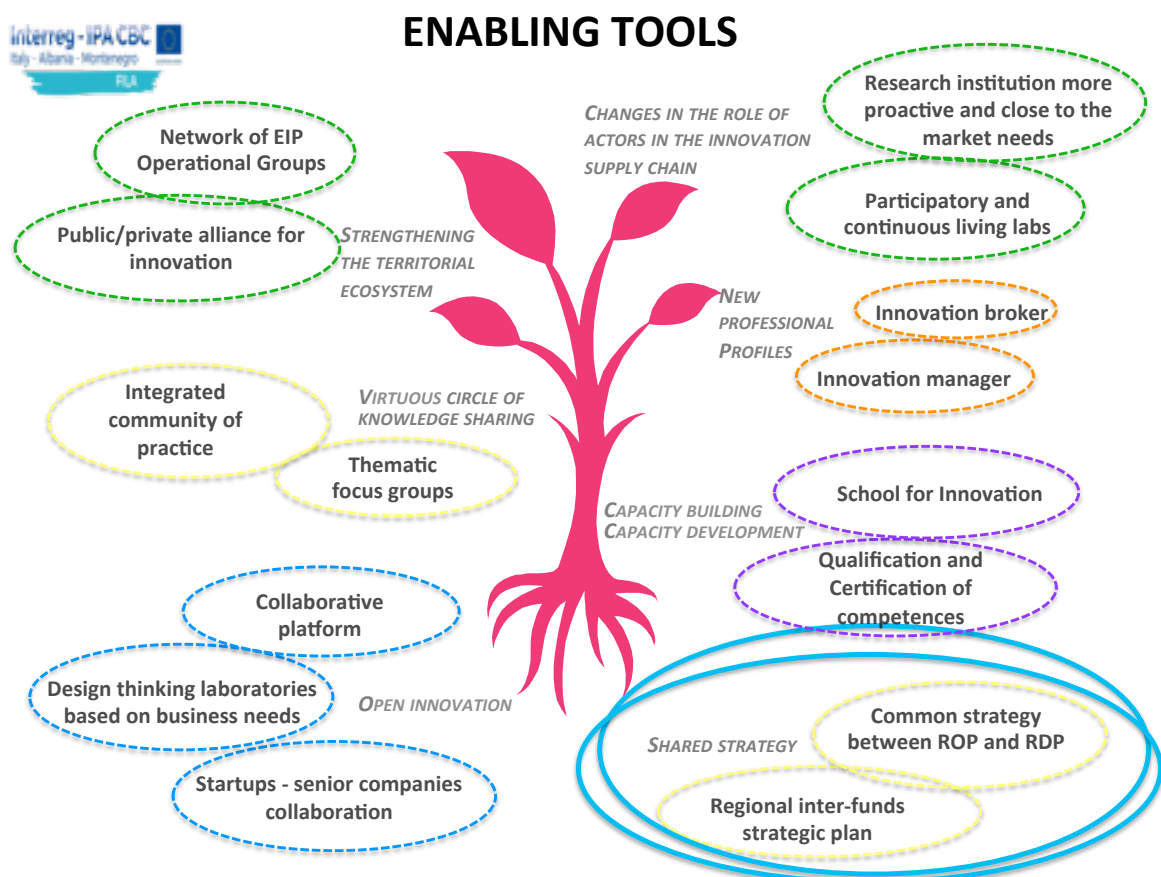


Fig. 15 - Shared Strategy of the knowledge and innovation system.

**b) *Regional "Inter-funds" strategic plan***

The regional inter-funds strategic plan is based on greater integration between funds and programmes to pursue common territorial objectives on the innovation of production systems.

RDP should interact with other regional programmes and follow a common strategy based on objectives and logical sequence of interventions both between operational programmes and within the same regional programme avoiding mismatching between the measures (e.g. RDP measure 16 was launched without a specific measure to train innovation brokers, which would have helped the process of building up the OG/innovation chains foreseen in RDP measure 1)

New schemes of interventions based on public-private relations relating to economic-financing-technical collaboration.

## Conclusions

The FILA model can represent a reference point for the technology transfer design aimed at supporting innovation and competitiveness processes of the entrepreneurial system in the agrifood sector. Based on the outcome of the participatory design of the model, it is evident that a deep change is needed in the organization of services and associated tools, but especially a priority cultural change at any level is needed, from public administration to enterprises - including service companies - which imposes a strong investment in training.

It is not possible to build a technological infrastructure that enables and supports technological transfer services based on new paradigms (e.g. the EIP approach) without preliminarily building a qualified human infrastructure. This means to impact on both the skill development of single actors and on the interactions with each other. The experience of the EIP approach in Europe and in Puglia region, as well as the less financially supported experience analyzed in Montenegro and Albania, exhibit a positive evolution in the technology transfer approaches and economic enhancement of the results of research and innovation. For sure, there is better dialogue between the actors of the innovation chain and better listening to the needs of enterprises, but they still denote some missing pieces in the implementation of various collaborative chain processes.

To this end, it is essential to develop professional skills and change the role of the actors of the innovation chain in sharing challenges and in the implementation practices of businesses. It is a circular process for continuous improvement in which all the actors participate on equal basis.

In this ongoing process, it is important to complete the adaptation pathway of the innovation broker capacity, and strengthen the role of the innovation manager within the enterprises. It is also extremely necessary to make a change in the role of public administration, and in the research approach that needs to be more responsible and mainly based on the needs of enterprises. It is also crucial to strengthen the enterprises' capacity to identify their innovation challenges, and the researchers' capacity to support the challenges of businesses' innovation and identify the best solutions. All the above points are not in place yet, and then represent an important obstacle to more effective technology transfer and improvement in the competitiveness of enterprises.

In conclusion, the main result is the representation of a model that identifies important suggestions to the EIP approach, by defining bricks of a "still evolving ecosystem" for which a strong human capital investment is necessary at any level of the innovation chain.

## REFERENCES

Bandera C., Keshtkar F., Bartolacci M. R., Neerudu S. and Passerini K. (2017). Knowledge management and the entrepreneur: Insights from Ikujiro Nonaka's Dynamic Knowledge Creation model (SECI). *International Journal of Innovation Studies*, 1(3): 163-174. DOI: 10.1016/j.ijis.2017.10.005

EIP-AGRI (2015). *Brochure EIP-AGRI Network*.

<https://ec.europa.eu/eip/agriculture/en/publications/eip-agri-brochure-eip-agri-network-2015> Last Access November 2019

EIP-AGRI (2019). *Participatory approaches for agricultural innovation*.

[https://ec.europa.eu/eip/agriculture/sites/agri-eip/files/eip-agri\\_brochure\\_participatory\\_approaches\\_2015\\_en\\_web.pdf](https://ec.europa.eu/eip/agriculture/sites/agri-eip/files/eip-agri_brochure_participatory_approaches_2015_en_web.pdf) Last Access November 2019

Standford D. School design thinking process.

<https://dschool.stanford.edu/resources/getting-started-with-design-thinking>

Last Access November 2019

Tropical Agriculture Platform (2016) *Common Framework on Capacity Development for Agricultural Innovation Systems. Conceptual background*. Wallingford: CABI.