

Deliverable 1.2 ISSs inventory Report | PU



Funded by the European Union



Call	HORIZON-CL6-2021-GOVERNANCE-01-26
Project	ATTRACTISS
Duration	72 Months
Start date of Project	01/10/2022
Project management	WAB
Person in charge	Tina Pawlakowitsch
Deliverable	D1.2. ISSs inventory
Туре	R (Report)
Dissemination Level	PU (Public)
Due date of deliverable	31/01/2023 (28/02/2023)
Actual submission date	DD/MM/2023
Work Package	WP1. Practice-based conceptual and methodological framework
Work Package Leader	CREA
Deliverable Lead	AKI
Author(s)	Lívia Kránitz, Somaya Aboelnaga, Szabolcs Vágó (AKI)
Contributor(s)	Patrizia Proietti (CREA)
Version	Version 3







History of changes

Version 1	14/12/2022	Somaya Aboelnaga (AKI)	First draft deliverable
Version 2	20/01/2023	Somaya Aboelnaga, Szabolcs Vágó (AKI)	Second draft deliverable
Version 3	15/02/2023	Lívia Kránitz, Somaya Aboelnaga, Szabolcs Vágó (AKI)	Final draft deliverable with the first analysis
Version 4	20/02/2023	Patrizia Proietti, Marleen Gysen	Feedback on the final draft
Version 5	28/02/2023	All partners	The final version was reviewed by AKI after the partners' feedback







Table of contents

	of changes	
	contents	
	Tables	
	Figuresations	
	ve Summary	-
	oduction	
1.1.	Purpose of the deliverable (Why are we mapping ISS)	9
1.2.	Relation to other activities in the project	10
1.3.	Objectives and expected Impacts	10
1.4.	Overall approach and methodology	10
2. ISS	inventory	11
2.1.	The Scientific background (research and awareness)	11
2.2.	The theoretical background of ISS functions	12
2.3.	Innovation process	15
2.4.	Structure of the mapping	15
2.5.	Sources and methods of data collection	20
3. Eng	agement process	21
3.1.	Consortium Partners	21
3.2.	Non-partner Countries	
4. Case	e studies	
4.1.	Case 1: a case in the Netherlands	
4.2.	Case 2: a case of Belgium	
4.3.	Case 3: a case of Hungary	25
	ults of ISS database analysis	
5.1.	ISS entities across countries	
5.2.	Status of the provider	
5.3.	Types of ISS provider	
5.4.	Mandate of service delivery	27
5.5.	ISS providers' working level.	
5.6.	ISS providers' sectoral distribution	
5.7.	Dedicated role in the national regional CAP SP	29
5.8.	Providers' contact with the EIP operational team	29
5.9.	Service delivery frequency	30
5.10.	Functions of the ISS providers	30



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the European Commission can be held responsible for them.



6. Next steps	33
7. Conclusions	
8. References	35
Annex	
Annexe 1: Type of service provider	39
Annexe 2: Framework for service delivery	41
Annexe 3: Framework for service delivery	43

Table of Tables

Table 1 ISS functions phases matrix	. 13
Table 2 Countries distribution among the partners	. 20
Table 3 descriptive card of innovation support services ZLTO	. 22
Table 4 Activities dynamic within ISS functions in ZLTO	. 24
Table 5 descriptive card of innovation support services Boerenbond	. 25
Table 6 descriptive card of innovation support services Discovery Center	. 25
Table 7 ISS entities across countries	. 26
Table 8 Functions of the ISS providers distribution	. 30
Table 9 Types of ISS provider	. 43
Table 10 Mandate of service delivery	. 43
Table 11 ISS providers working level.	. 43
Table 12 Sectoral distribution of ISS providers	. 43
Table 13Dedicated role in the national regional CAP SP	. 44
Table 14 Providers' contact with the EIP operational team.	. 44
Table 15 Services delivery frequency	. 44

Table of Figures

Figure 1 ISS entities across European countries	
Figure 2 Innovation Spiral phases 1	15
Figure 3 Flow chart of providers' characteristics 1	18
Figure 4 Flow chart of characteristics of the services 1	19
Figure 5 Types of ISS provider	27
Figure 6 Mandate for service delivery 2	28
Figure 7 Working level	28
Figure 8 Sectorial distribution of the ISS providers	29
Figure 9 Dedicated role in the national regional CAP SP 2	29
Figure 10 Providers' contact with the EIP operational team	30
Figure 11 ISS function distribution	31
Figure 13 Type of ISS providers and function correlation	32





Abbreviations

Abbreviation	Meaning
AKIS	Agricultural Knowledge and Innovation System
CAP	Common Agricultural Policy
DIH	Digital Innovation Hub
DMP	Data Management Plan
EIP	European Innovation Partnership
FAIR	Findable, Accessible, Interoperable, Reusable
ISS	Innovation Support Services
LAGs	Local Action Groups
MA	Managing Authority
MAA	Multi-Actor Approach
MAE	Multi-Actor Engagement
MAEP	Multi-Actor Engagement Plan
MS	Member States (EU Member States)
NRN	National Rural Networks
OGs	Operational Groups
PMT	Project Management Team
PSC	Project Steering Committee
SMART	Specific, Measurable, Achievable, Realistic, Timely
VC	Venture Capital
WBS	Work Breakdown Structure
WP	Work Package
CAP SP	Common Agricultural Policy Strategic Plan
СВ	AKIS Coordination Body



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the European Commission can be held responsible for them.

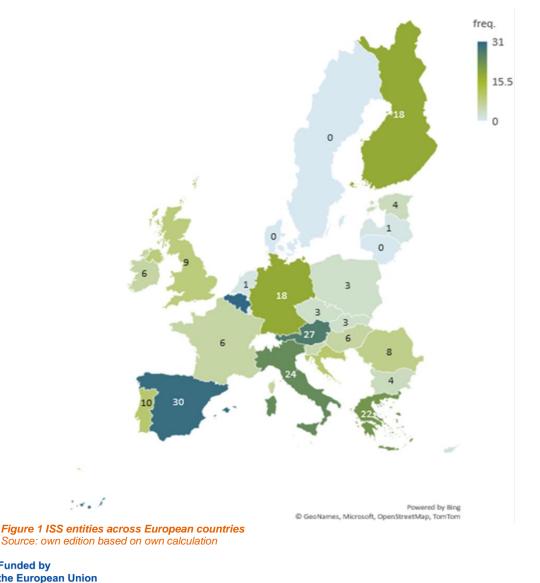


Executive Summary

The focus of T1.2 is to survey ISS providers with the intention of generating new knowledge about the variety of actors who are providing ISSs in the Member States (MSs), both at local and system levels, the functions that they are performing, their organisational models and the AKIS environment (and governance models) in which they operate. Task 1.2 aims at identifying not only the ISS providers but also the services provided by them.

With the contribution of the project partners, information about 265 ISS providers from 24 countries have been collected. This first inventory is based on the criteria defined in D1.1.:

- the provider already delivers some kind of innovation support service according to the 7 ISS functions (§ D1.1).
- the provider has been appointed as an innovation support provider in the Member State or region based on the CAP Strategic Plan.









It is therefore not exhaustive and, above all, largely reflects the knowledge of the consortium partners. Also due to this, the western and southern European countries (Atlantic-North Sea region and the Mediterranean) are much more represented than eastern and northern Europe (Danube-Balkan and Nordic-Balkan region).

The service providers in the list are representing several types of entities, most often they are Consultants/advisors and their organisations which represent (19.1%), and Farmer cooperatives/associations/chambers represent (17.6%) of the total. At the same time, Government institutions represent (14.5%), and Agriresearch institutions (9.8%) are also very frequent among ISS providers. The mandate for service delivery is dominated by innovation advisors and innovation brokers, but the CAP network support unit and market service are also frequent.

Approximately 60% of the listed providers operate nationally. Whilst a slight majority are specialized in agribusiness and a third of them carry out their activities horizontally without sectoral specialization. Most of the listed providers do not have a dedicated role in the CAP SP. Most of the ISS providers, their activities fit more than one ISS function. Some functions are provided by all types of entities (ISS1, ISS2, ISS4), some are very specific, and only a few entities provide them regularly (ISS3, ISS5).





9



1. Introduction

1.1. Purpose of the deliverable (Why are we mapping ISS)

The deliverable aims to provide an overview of the process and methodology for the mapping of ISS providers and a summary of the first mapping exercise.

According to the common understanding and the criteria identified in D1.1, in this initial phase, the ISS mapping includes all actors in the network who, with different titles and degrees, conduct (support) activities to advance the innovation process forward.

This will allow the project to study a wide range of cases in order to gain an indepth understanding of the type of operation of the entities, the scope of ISS providers' activities, their relevance to the CAP and the types of services they provide to support innovation processes.

Based on the current knowledge (§ 2.1), the first mapping of innovation support services providers is based on two main criteria:

- the provider already delivers some kind of innovation support service according to the 7 ISS functions (§ D1.1).
- the provider has been appointed as an innovation support provider in the Member State or region based on the CAP Strategic Plan.

The mapping targets the 27 member countries, bringing together all the entities providing innovation support services in the agri-food sector.

The deliverable also summarises the key findings of the first survey, providing an overview of the ISS providers' entities, their thematic coverage, territorial focus, relationship with the CAP and type of innovation support service.

At the same time, it is important to emphasise that the first mapping has a broad understanding of ISSs providers, which includes a wide range of actors. Furthermore, in many cases, the information that can be obtained about the actors is limited.

However, the mapping will be updated regularly (M34, M60) during the implementation of the project, allowing actors to be progressively engaged by ATTRACTISS, to monitor the (hopefully) growth of ISS providers and to identify new practical cases to learn from.

This first mapping includes actors carrying out other core activities and doing innovation support as a supplementary activity e.g., research institutes, banks etc. The ATTRACTISS mappings will allow, in the future, to fine-tune the selection criteria and define the innovation support services, leading to possible adjustments in the mapping.

The deliverable is accompanied by an excel Database listing the ISS providers identified by consortium partners and other cooperating organizations from non-partner countries according to the criteria presented in section 2.4.

Funded by the European Union



1.2. Relation to other activities in the project

The deliverable provides a list of ISS providers, which is the basis for a number of other project activities. In principle, it contributes to all WPs, but it is mainly needed for the following Tasks:

- T1.3. providing stakeholders potentially involved in the assessment of the skills and competencies needed by ISS providers.
- T1.4. providing stakeholders potentially involved in designing impactful pathways to empower and embed ISSs.
- T2.1. providing for the Multi-Actor Engagement Plan with an overview of the nature of the ISS providers.
- T4.1. providing background for the Capacity building programme, with an overview of the nature of the ISS providers.
- T4.2. providing background with the aim of allowing actors engaged in the ATTRACTISS to analyse innovation support practices.

1.3. Objectives and expected Impacts

The deliverable is intended to contribute to a broader overview of ISS providers in the 27 EU countries, their main characteristics, and the range of services they provide to support innovation.

The deliverable does not contribute directly, but indirectly by defining the first mapping of the ISS providers, to the launch of the further activities of ATTRACTISS and thus to the expected impact defined below:

Develop sound, coherent, and well-prepared innovation generation and support methods, which enable individual grassroots innovative ideas to come to fruition. Member States' authorities and actors of the agricultural knowledge and innovation system (AKIS) need insights and tools to improve the interaction, connections and drafting skills for the preparation of innovation project proposals.

1.4. Overall approach and methodology

The methodology and the whole mapping process were based on the common knowledge and the joint effort of the partners, 1) both in the design of the ISS database that formed the basis of the mapping; 2) and in the identification of the ISS providers.

At the monthly meeting on the 17th of November 2022, we discussed how to structure the first initial mapping. It was agreed then that in a simple database created in MS excel, partner countries will collect the ISS providers they know.

The development of the database template for the mapping was a collaborative process, involving partners from the beginning. From the time when the meeting for all consortium partners was held on the 24th of November 2022 to discuss the first draft of the database template prepared in advance by the AKI.

Funded by the European Union





The pre-defined and approved database template was filled in by the partners according to the 'Snowballing' method: starting with the initial list of partners, to which some key actors were added for countries that are not included in the ATTRACTISS consortium. The monthly consortium meeting on the 1st of December 2022 provided an opportunity to answer dilemmas and further questions about filling in the inventory.

At the monthly meeting held on the 13th of January 2023, it was decided to postpone the deadline for submission of deliverables by one month to allow time for non-partner countries to be involved. It was also decided at this time to organize an informational webinar for non-partner countries in order to create synergies with them and activate ISS providers. The webinar took place on 2nd *February 2023* between 14:00-15:30.

2. ISS inventory

2.1. The Scientific background (research and awareness)

The D1.1 provides the conceptual basis for the identification of ISS providers in the first phase, it also describes the current state of the art of ISS, based on several scientific articles. The framework for defining the first mapping structure was mainly defined by the following conceptual dimensions according to D1.1.:

Innovation support services (ISSs) represent a novelty from a policy perspective; therefore, many effective implementations and embeddings are required to foster the respective **national/regional AKIS such as governance models**, **approaches**, **competencies**, **and tools**.

The term 'innovation support services' came into the **mainstream a few years ago** and it is new in the CAP framework.

The implementation of the European Innovation Partnership (EIP) for agricultural productivity and sustainability has fostered the introduction of a systemic perspective of innovation, based on the involvement of a diversity of actors (multiactor) and user-centred, to address complex socio-ecological challenges that often require transformative forms of innovation, capable of promoting more sustainable and resilient development paths (Beers, Sol & Wals, 2010; Moschitz et al. 2015; Ingram et al. 2020; Fieldsend et al, 2021). Within this perspective, which configures **innovation as an interactive (or social) learning process** (§ the next chapter 2.3, figure 2), **agricultural extension and advisory services take on new roles and functions**, which include facilitation of exchange, learning, vision building among diverse communities, mediation of conflict situations, network, and knowledge brokerage, matching of demand and supply of innovation support services (Koutsouris 2018; Leeuwis & Aarts 2011).

A **wide corpus of literature has been developed** concerning roles, goals and functions of services aimed at facilitating innovation processes and/or fostering system innovations(Elzen et al. 2004; Geels, 2005; Barbier and Elzen, 2012; Faure et al., 2016; Knierim et al., 2017; Kivimaa et al., 2018; Leeuwis and van



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the European Commission can be held responsible for them.



den Ban, 2004; Smits and Kuhlmann, 2004; Heemskerk et al., 2011; Kilelu et al., 2013; Labarthe et al., 2013; Allebone-Webb et al., 2016; Steyaert et al., 2017). Actors providing services have been labelled as innovation brokers (Howell, 2006; Klerkx and Leeuwis, 2009; Perèz et al., 2010; Herman et al.,2012; EU SCAR, 2012), free actors (Wielinga et al., 2008), hybrid actors (Elzen et al., 2012), facilitators (Cristóvão et al., 2012; Koutsouris, 2014), boundary spanners (Tisenkopfs et al., 2015; Vilas-Boas et al., 2022), pointing out to the diversity of strategies and functions played in carrying out their activities.

These studies have been extensively analysed by Mathé et al. (2016), who summarised the **diversity of services and providers** in supporting innovation under the concept of Innovation Support Services, a term that may be understood either as an organizational body (called a service provider) or as an activity (Albert, 2000). Following Gadrey (1994) and Labarthe et al. (2013), Faure et al. (2019) describe **ISS as an activity, that is "an immaterial and intangible service that involves one or several providers** and one or several beneficiaries in activities in which they interact to address a more or less explicit demand emerging from a problematic situation and formulated by the beneficiaries and to co-produce the services aimed at solving the problem". (Mathé et al., 2016).

2.2. The theoretical background of ISS functions

D1.1 provided a comprehensive overview of the description of ISS functions, which formed the basis for the survey of ISS providers in terms of their activity classification. The results section provides a comprehensive picture of the prevalence of ISS functions in the agriculture sector by surveyed ISS providers.

Within the AgriSpin project, **the diversity of services provided to support innovation processes were summed up into 7 functions** (Mathé et al., 2016): access to knowledge; advisory, consultancy and backstopping; marketing and demand articulation; networking facilitation and brokerage; capacity building; access to resources; institutional support for niche innovation and scaling mechanisms stimulation.

However, for the sake of clarity, in ATTRACTISS, it was decided to rename the first function identified by Faure et al. from 'Awareness and exchange of knowledge' to 'Awareness and knowledge dissemination'. This is because knowledge exchange implies a two-way flow between two actors, whereas it is clear from the authors' descriptions, that this function concerns essentially a one-way transfer of knowledge.

As stated by *Faure et al. (2019)*, ISSs depend on the phase of the innovation and each phase entails a wide range of support activities, in the following table (table 1) describes the activity matrix of the ISS functions and their phases and the definition of each function according to Faure et al. (2019) and the previous ATTRACTISS deliverable D1.1.

Funded by the European Union





Table 1 ISS functions phases matrix

	ISS function	Definition	innovation phases Initial ideas Inspiration Planning Development Realisation Dissemination							
				Inspiration	Planning	Development	Realisation	Dissemination	Embedding	
	ISS1. Awareness- raising and knowledge dissemination (new definition by ATTRACTISS consortium)	All activities contribute to knowledge awareness, dissemination of scientific knowledge, or technical information for farmers. For instance, providing knowledge based on information dissemination forums, meetings or demonstrations and exchange visits	Emergence of new ideas based on research findings, projects, or initiatives	External visits and exchanges where innovative ideas are being practised	0	nt information from to learn	from previous farming, proces		nination of technical practices regarding ssing, or market tunities	
	ISS2. Advisory,	Targeted, supportive activities aimed at solving	Key consi	Key consultancies to generate new ideas at the farm level				Advisory services for new agricultural practices and new management practices, a consultancy based on stabilized knowledge		
	consultancy o	complex problems (e.g., a new farming system), based on the demands of actors and	Key consi	ultancy to generate	e innovations for o	rganisations				
	&backstoppin	the co-construction of solutions		Key consultancy	to fine-tune ideas	6	Consultan	cy based on stabilise	ad knowledge	
	D organ n le		Key technical or financial consultancy from outside the network (including research, and consultants) to fine-tune ideas			Consultant		cu knowledge		
innovation functions	ISS3. Demand articulation	Services targeted to help actors to express clear demands to other actors (research,	Award to identify and valorise innovators.	Workshop to share experiences.	Workshops for diagnosis and organising ideas.	demand and supply (provide inputs or market products)			Key consultation to more strength and improve demand, e.g.,	
		service providers, etc.). This is targeted support to enhance the innovator's ability to express his/her needs to other relevant actors.	Call for innovative proposals in the organisation	Trips and cross- visits	Workshop for coordinating actions (production, access to market)	Support to new farmers' organisations (cooperatives, associations, etc.) to articulate demand and supply (collect, process or market products) acquisition scheme to improve de by organic				
	Provision of services to help organize or strengthen networks; improve the relationships between actors and align services in order to		Facilitation for emergent informa		Facilitation of informal network connecting people who matter (pioneers, entrepreneurs,	Strengthening of informal networks Building innovation platforms	Strengthening networks to become more formalized	Facilitation for documenting and enabling collective learning based on previous experiences.	Connecting actors with outside to share their	
	facilitation and brokerage	be able to complement each other (the right service at the right time and place). It also includes all activities aimed at strengthening collaborative and collective action.	networks aiming at generating new ideas as well as inspiration		etc.) or influential people able to move the idea forward. Support to a temporary association of actors	Organising permanent workshops Designing participatory monitoring and evaluation	Steering committee to <u>M&E</u> Negotiation with actors who are affected by the change.	Improving the multilevel governance at the territorial or value chain level	experiences and get new ideas (keep being innovative)	



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the European Commission can be held responsible for them.





ISS5. Capacity building	collective and/or organizational level.	thinking outside the box, generating new Support to key individuals (pioneer, entrepreneur, change agent)		A training programme based on learning from the development	Capacity building through regular tra more or less partic newco	aining based on a ipatory method for		
	Provision of services for innovators aimed at enhancing the acquisition of resources to	ng		Implementing incubators to support start-ups and collective action	Access to cre	dit subsidies to inve newcomers	est especially for	
ISS6. Enhancing/ supporting access to resources	support the process. This could be facilitating access to inputs (seeds, fertilizers etc.), facilities and equipment (technological			Access to financial resources for		Building alliances to be eligible for access to fu and support from national and international proje programmes		
platforms, labs etc.), and funding (credit, subsidies, grants, loans, etc.).				experimenting.	Short-term financial support to boost the sustainability of the innovation			
ISS7. Institutional support for niche	Provision of institutional support for niche innovation (incubators, experimental infrastructures etc.) and for scaling out and	Endorsement of an initial idea from the start by institutions and key actors to encourage and protect the innovation process at the beginning					certifications (for esses, or advisors).	Taxes and subsidies for orienting individual and collective actions.
innovation and scaling mechanisms	scaling up the innovation process. This refers to support for the design and enforcement of norms, rules, funding mechanisms, taxes,			Legal authorization to experiment	Identification of certification bodies		New norms for production and processing	
stimulation	subsidies, etc. that facilitate the innovation process or the diffusion of innovation.			out of the legal institutional framework	Communicatio	on and marketing	New indicators for monitoring and assessing advisory services	

Source: own version based on (Faure et al.,2019)



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the European Commission can be held responsible for them.





2.3. Innovation process

The first survey of ISS providers did not allow for the interpretation of ISS functions at different phases of the innovation process in terms of the innovation spatial approach. The fact that the basic information on ISS providers was provided by the partners limited the range of details that could be obtained about ISS providers. However, the following surveys, as well as T1.3 and T1.4, will allow a better understanding of the ISS providers and thus a deeper insight into the innovation processes carried out by the ISSs provided.

ATTRACTISS considers the innovation process as an iterative cycle involving multiple loops (feedback) which are repeated and adjusted over time. The cycle starts with the need to solve a problem or take advantage of an opportunity and ends with its implementation and dissemination. Each problem-solving cycle brings about changes (increases in available knowledge and organisational, social, or economic changes), which in turn generate new definitions of problems and opportunities, and consequently new research processes, according to the cyclical flow (Figure 2).



Initiatives do not always evolve through these phases in this order. People regularly step back within the spiral, and some phases are passed through more than once.

2.4. Structure of the mapping

The consortium has decided to adopt inclusive criteria that will allow, at least in this first phase, to map and include in the network all actors who, with different titles and degrees, carry out (support) activities to push the innovation process forward. This will allow the project to study a wide range of cases in order to gain an in-depth understanding of the type of operations, scope of their activities, their relevance to the CAP and the types of services they provide to support innovation that is specific to the identified ISS providers. However, the analysis also enables





Figure 2 Innovation Spiral phases Source: (Wielinga et al., 2008)



16

us to define additional or different criteria for the mapping exercise to be carried out in the coming years. These identified criteria are summarised in the conclusions section.

Based on current knowledge (§2.1), the first mapping of innovation support services providers is based on two main criteria that have been applied, according to D1.1.

The database on which the survey is based has been developed in line with the criteria defined above, with the involvement of the partners. As the collection was essentially based on the knowledge of the partners and non-consortium partner contacts, the range of information that could be asked and collected was limited. With the first mapping, the aim was to collect as many ISS providers as possible with contacts and key characteristics, so that this database could then form the basis for further tasks/contacts and snowballing exercises. This objective was fulfilled by the first mapping, as a high rate of the respondents were able to fill in the given characteristics.

The deadline to complete the excel for both partners and non-partner country contacts was 10 February 2023.

The provider's characteristics cover the following: 1) institution or individual; 2) type of entity; 3) service delivery mandate; 4) working level; 5) sector; 6) connection with EIP OGs. The characteristics of the service are 1) frequency of service delivery; and 2) classification of functions.

Thus, based on the current knowledge (section 2.1), the ATTRACTISS consortium members as well as the non-consortium partner should identify innovation support service providers in the Member States, which are selected based on the following characteristics and the aligned answer options:

- All respondents have to perform at least one of the services (activities) based on their own perception of national innovation support services (ISS) falling under its functions.
- Identify the characteristics of ISS providers and their services.
- Since ISSs are not only institutions but also might be individuals, it is proposed to define the status of the provider.
- Categories each entity that can be considered as ISS providers are,
 - Consultants/advisors and their organisation,
 - Agricultural policy advisors/organisations,
 - Academic/Training centres,
 - Agri research institutions,
 - Farmer cooperatives/ associations/chambers,
 - Banks, Insurance, and financing institutions,





Deliverable 1.2 ISSs inventory

- NGOs/International agricultural federations/civil society organisations,
- Educational organisations, Government institutions,
- Industry associations, Consumer Organizations,
- Suppliers of agricultural products and services,
- Technology input providers
- Indicate if the entity has a service delivery framework or not, and what is the type of this framework (Technology platform, Public-private partnerships, Venture Capital (VC) communities, Innovation brokers, Innovation advisors, CAP network support unit for innovation/rural development/other, DIH /Digital Innovation Hubs, Market services, Buyer-seller relationships, Company Alumni, University Alumni)





Deliverable 1.2 ISSs inventory

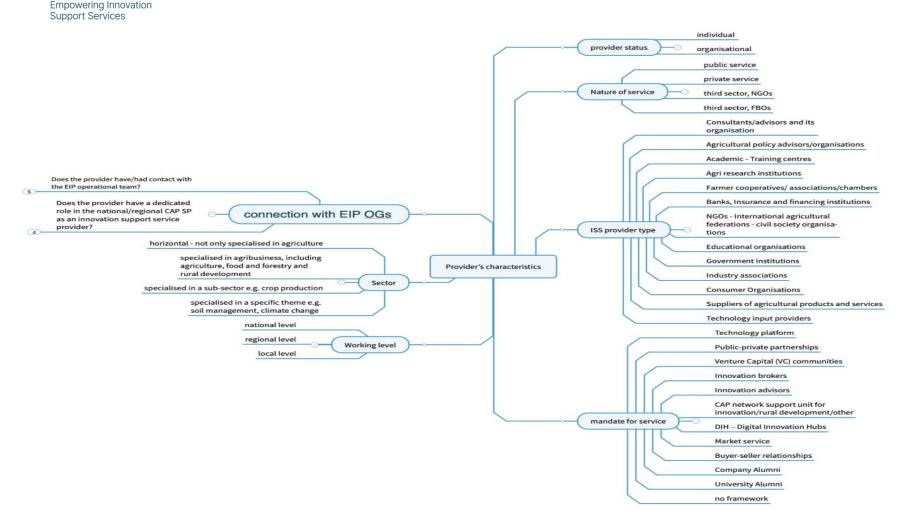


Figure 3 Flow chart of providers' characteristics Source: Own edition

TRACTISS



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the European Commission can be held responsible for them.

19



- The most important factor in defining the providers' characteristics is the innovation support services functions, the seven ISS functions based on D 1.1 which are:
 - Awareness and knowledge dissemination;
 - Advisory, consultancy and backstopping;
 - Demand articulation;
 - Networks, facilitation and brokerage;
 - Capacity Building;
 - Enhancing/supporting access to resources;
 - Institutional support for niche innovation and scaling mechanisms stimulation.
- The next ones not to ignore are the working level (national, regional, local) and the working sector of each entity as if it is horizontal or specialized in a specific sector.
- Designate the provider dedication role in the national/ regional CAP SP as an innovation support service provider.
- Mention if the provider has/had contact with EIP operational group at any stage.
- Indicate the provider's nature whether it's public or private or both.
- Besides defining the frequency of the service delivery.

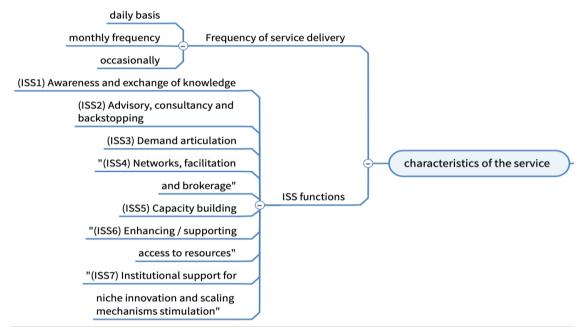


Figure 4 Flow chart of characteristics of the services Source: Own edition

Funded by the European Union



2.5. Sources and methods of data collection

The first mapping was conducted by the following two approaches: 'Snowballing': starting with the initial list of **partners**, representing their member country, including the CAP network, their relationship with the national AKIS, and CBs, and providing information on potential ISS providers.

Some key actors were added for countries that **are not represented in the ATTRACTISS consortium** (which were identified within the modernAKIS project), and each one was asked to propose the ISS providers that they know, continuing in a rapidly expanding manner. As new actors are added, multiple iterations of snowballing with several different starting points will be repeated thus reducing identification bias.

The non-partner country contacts were asked to validate/complete the database of ISS providers for their countries. This is because the consortium partners have prepared an initial collection for non-partner countries based on the following administrative data sources. Thus, for almost all non-partner countries, some ISS providers were identified. The non-partner countries were allocated for partners (based on the table below), but this was an indicative list, as each partner tried to identify additional non-partner ISS providers based on its own international network.

	Partner	Acronym	Country of Partner	Country 2 of Partner
1	Wirtschaftsagentur Burgenland AT	WAB	Austria	Slovenia
2	Consiglio Per La Ricerca In Agricoltura E L'analisi Dell'economia Agraria IT	CREA	Italy	Croatia
3	Nerosubianco Srl Italy	NSB	Italy	Malta
4	Innovatiesteunpunt Voor Landbouw Enplatteland BE	ISP	Belgium	Ireland
5	Prasidentenkonferenz Der Landwirtschaftskammern Osterreichs AT	LKO	Austria	Slovakia
6	Centrum Doradztwa Rolniczego W Brwinowie PL	CDR	Poland	Lithuania
7	Zuidelijke Land- En Tuinbouworganisatie Vereniging NL	ZLTO	Netherlands	Denmark
8	Geoponiko Panepistimion Athinon El	AUA	Greece	Republic of Cyprus
9	Landwirtschaftskammer Schleswig-Holstein DE	LKSH	Germany	Czech Republic
10	Agrathaer Gmbh Germany	AGR	Germany	
11	Campus De Excelencia Internacional En Agroalimentacion Spain	ceiA3	Spain	Bulgaria
12	Consulai, Consultoria Agroindustrial Lda PT	CONSULAI	Portugal	Latvia
13	Aki Agrarkozgazdasagi Intezet Nonprofit Kft HU	AKI	Hungary	Romania, Bulgaria
14	Chambre Regionale D'agriculture Occitanie FR	CRAO	France	
15	Chambre D'agriculture France	CDAF	France	Luxembourg
16	Proagria Keskusten Liitto RY FI	ProAgria	Finland	Estonia
17	The Soil Association Limited UK	SA	UK	Sweden

Table 2 Countries distribution among the partners



Funded by the European Union





Gathering existing information from the EIP-Agri database

The EIP-Agri database already includes 1073 registered innovation supporters whose names, email addresses and project(s) are available. This is a map that, in agreement with the EIP Agri Support Facility, could be implemented with additional information to be collected through a survey for a better overview and deeper interpretation. The EIP AGRI database contains a list of EIP Operational Groups approved and funded by member countries, based on the completed practice abstract. In addition, the database also includes the practice abstracts of several Horizon 2020, Thematic network projects. The filtering criteria allow searching by country and EIP operational group. The EIP AGRI database allowed the manual search of the coordinators of the EIP operational groups in a given member country. Once the coordinators/organisations had been selected, it was possible to carry out a concrete assessment on the coordinators'/organisations' websites to verify whether the EIP OG coordinator is actually carrying out ISS activities. This type of work could be done by partners for their own country, knowing the context of the entity, and interpreting its website. However, this method proved to be uncertain when filling in the form for non-partner countries, due to a lack of knowledge of the national context.

Source: Projects | EIP-AGRI (europa.eu)

Gathering existing information from the i2connect database

The i2connect database includes registered advisors. Those performing innovation support functions should be extrapolated and surveyed to gain additional information and provide a comprehensive overview of the national AKIS as well as the national AKIS stakeholders including the innovation support providers.

Source: AKIS country reports - i2connect (i2connect-h2020.eu)

Gathering existing information from the National CAP SPs

The National CAP SPs provide an overview of the dedicated national innovation support services providers as indicated in chapter 8.4. of the CAP SP. Source: Source: <u>CAP Strategic Plans by country (europa.eu)</u>

Gathering inspiring good projects examples and best practices from the AgriSpin project

Source: AGRISPIN - STORIES FROM ALL CORNERS: TO CONTINUE WITH

3. Engagement process

3.1. Consortium Partners

As all partners have PM allocations for Task 1.2, all consortium partners were actively involved in the identification of ISS providers in their member countries and even identified ISS providers in non-partner countries based on the administrative databases and their knowledge as presented in the previous chapter.



21





3.2. Non-partner Countries

In addition to the member country contacts collected at the modernAKIS kick-off meeting, partners provided additional member country contacts where it was necessary. In particular, to build synergies with non-partner countries and to involve them in the mapping, a webinar was organised for them. The webinar was held on 2nd February 2023 between 14:00-15:30.

For the webinar, we had 34 participants registered and participated from 18 countries, although some countries that were missing such as Denmark. The majority of the participant's profile was tight between the researcher and/or educational sector and the advisory services with (35.3%) and (32.4%) respectively. Besides a third of public authority or part of the National/ European network.

The webinar was opened by Tina Pawlakowitsch, followed by three presentations. Marleen Gysen introduced the project and the potential synergies for non-partner countries. She drew attention to the capacity-building programme of ATTRACTISS, which was opened to representatives from non-partner countries. Patrizia Proietti provided information on ISS functions and their possible activities. Finally, Lívia Kránitz presented the objectives, structure and first results of the ISS provider's mapping.

During the webinar, AKI colleagues asked non-partner contacts to check the ISS providers identified by us for their country by the 10th of February and possibly add additional ISS providers based on their best knowledge. As a result of the webinar, further, more than 40 ISS providers were uploaded into the database, enhancing the mapping of non-partner countries. With a bit of an absence of ISS providers in 3 countries (Denmark, Ireland, and Luxembourg).

The webinar was prepared jointly by AKI and ISP, while the communication material, the flyer, was produced by Consulai.

4. Case studies

Due to time constraints, the deliverable can only describe in more detail the innovation support services of a few ISS providers. Two of the examples below are consortium partners of ATTRACTISS, while the Discovery Center was discussed with AKI colleagues on 21st February 2023 to learn more about their innovation support activities.

4.1. Case 1: a case in the Netherlands

Innovation Support in a competing environment.

Table 3 descriptive card of innovation support services ZLTO

Name The Southern Agriculture and Horticulture Organization (ZLTO) represents the interests of entrepreneurs working in green areas. Around 16,000 farmers and growers in the South Netherlands are members of our association.



Funded by the European Union







Contact

www.zlto.nl

Type of entity

Farmer cooperatives/association/chamber

Working level

Regional in South Netherlands

Innovation support activities

ZLTO is an association that supports green entrepreneurs/members in their daily operational business and is also their connection to other sectors and organizations for creating new opportunities for sustainable economic growth and social welfare.

ZLTO is involved in all 7 ISS functions. ZLTO runs awareness-raising projects (1); provides advice (2) about challenges that farmers face, on soil health; provides demand articulation (3); on precision technology; is networking between farmers and many stakeholders (4); builds capacity (5), in its own "LTO academy'; coordinates the access to resources, as project leader (6); and in addition, ZLTO participates and invests in developing niche or scaling activities (7) with innovations in the food and agriculture sector that are of added value for the (future) market position of its members.

Connection with CAP

Involvement of ZLTO with CAP starts in the design of the new European CAP regulation: as a member of Copa-Cogeca, they report on farmers' needs, so that bottlenecks can be solved. In the stage where national and regional plans are designed and decisions are taken on calls for CAP projects, ZLTO is asked to assess the value of regulations for farmers. When calls are open, ZLTO supports farmers/members to run Operational Groups (OGs) in CAP, or innovation projects with other subsidies, like Interreg or Regional Economic Support. The CAP support unit often contacts ZLTO, to make connections between OGs, between OGs and science and between OGs and international projects. This innovation support in projects is in a competing environment

ZLTO plays all ISS roles for farmers/members. Those roles are played in the Dutch environment, where all support for farmers is organised by private organisations, that cooperate and compete. Here we describe these dynamics in the 7 functions.

Awareness-raising and knowledge dissemination: Activities that support 1st step to an innovative action are organised in project calls. For this funding, farmers' organisations compete with institutes. The direct link with farmers in these kinds of projects is a positive feature of associations.

Advisory, consultancy &backstopping: farm level /organisation level: In general, individual advice should be paid for by the farmers. Food/feed chain input actors can include this payment in the product price, therefore they are by far the biggest advice providers, though not independent. For specific services, farmers rely on specialists, like land brokers, notaries and accountants.

A new development: vouchers provided by the ministry, gives independent advisors a bit better position so that they can play a role in transition and innovation.

Demand articulation: The main role of farmers' organisations in demand articulation, is articulate societal needs to the farmers. This is not always a rewarding role: members want that their organisation fights for their position.







This tension works in 2 directions: governments often prefer (=pay) other organisations to organise this demand articulation.

Networking facilitation and brokerage: The quality of farmers' organisations in networking is easy to reach out to members and other farmers, but this cannot be done without external payment. In innovations for societal reasons, governments prefer to involve the regional development offices, which often have a direct link to regional governments.

Capacity building: Capacity building, also outside the setting of schools, is the domain of educational institutes, which is not affected by the privatization wave in other sectors. For specific trainings, farmers' organisations see a need and they started a national collaboration: LTO academy.

Enhancing/ supporting access to resources: Application and management of projects under Rural Development Programme innovation calls and other subsidies are too complex for most farmers. ZLTO supports farmers to make use of these calls, but this should be paid from the subsidy. Many organisations compete for this project support, quality of the work differs.

Institutional support for niche innovation and scaling mechanisms stimulation: ZLTO can invest in innovations that have a chance to survive in the market. This is an activity that differs much from the other work, hard to integrate. Most support for innovation projects comes from government, in the projects.

Туре	ISS1	ISS2	ISS3	ISS4	ISS5	ISS6	ISS7
National							
Ministry of Agriculture, Nature and Food Quality						е	
Min. Economic Affairs; Agency Entrepreneurship						е	
NGOs			1	1			
Research Councils						1	
Topsector Horticulture/Agro&Food						е	
TNO	1		1	1			
NIZO, Louis Bolk Institute	1	1		1			
Research for applied agriculture science	1		1	1			
Universities; 14 Universities, 3x tech, WUR					1		
Regional							
Universities of Applied Sciences	1	1	1	1	1	1	1
Agricultural Vocational Education				1	1		
Regional governments						е	е
Regional development offices		1	1	1		1	1
Farmer Unions; LLTB / LTO-Noord, ZLTO; LTO-NL	1	1	1	1	1	1	1
Branche and Sector organisations	1		1	1		е	
Independent accountants		1					
indepenent consultants		1					
land brokers and notaries		1					
Banks		1				е	
Food Chain Input industry Actors		1					
Food Processing / Coops				1		е	1

Table 4 Activities dynamic within ISS functions in ZLTO





4.2. Case 2: a case of Belgium

Innovation Support Centre, a case of Boerenbond, BE

 Table 5 descriptive card of innovation support services Boerenbond

Name Innovatiesteunpunt (Innovation Support Centre for Agricultural and Rural Development) is an

innovation support service, embedded in the farmer's organisation "Boerenbond" ["Farmers organisation"]
Contact
https://www.boerenbond.be/homepagina
Type of entity
Consultants/advisors and their organisation
Working level
Flanders and East Belgium (German-speaking part)
Innovation support activities

The Innovation Support Centre informs and inspires farmers about new challenges and opportunities and supports them with the development and implementation of concrete projects. They are specialised in starting up multi-actor approaches & participatory processes and is therefore well known by farmers as a one-stop shop for innovation. Launching an Innovation Prize, using creative approaches from other organisations/sectors, and organising study visits to learn about innovations in other sectors, are just some of the tools used to trigger farmers to think out of the box.

Connection with CAP

Designated innovation broker/facilitator, they coordinated EIP Operational Groups

4.3. Case 3: a case of Hungary

Innovation Support Centre, a case of Discovery Center, HU

Table 6 descriptive card of innovation support services Discovery Center

Name
Discovery Center is a group of agri-head scientists and advisors with useful research and applications to solve real-world problems.
Contact
https://discoverycenter.eu/
Type of entity
Consultancy
Working level
national level (Hungary), specified for the precision agricultural
Innovation support activities
Precision agriculture is a management technology based on the observation, measurement, and response of crop variability between and within crops. The goal of precision agricultural research is to develop a Decision Support System (DSS) to manage the entire economy with the goal of effectively conserving resources by optimizing the return on inputs. Discovery provides advisory services to support innovation in the field of precision agriculture. Through its extensive network of farmers, Discovery is able to identify practical problems in crop production and active ingredient management and generate solutions for practitioners. Thanks to this consultancy service, it provides its partners with the identification of innovation

ideas, the formulation of projects and the management of innovation projects.

Connection with CAP

In total, 13 EIP national operational groups have been set up in the last budget period with the assistance of the DC.





Table 7 ISS entities across countries

5. Results of ISS database analysis

5.1. ISS entities across countries

With the contribution of the project partners, altogether 265 ISS providers from 24 countries have been collected, while information from Sweden, Lithuania, Denmark, and Luxembourg were not gathered in this first mapping. The majority of ISS providers were gathered from Belgium, Spain, Austria, Italy, Greece, Finland, and Germany. On the other hand, only a few ISS providers from the Netherlands, Latvia, Cyprus, Czech Republic, Slovakia, and Poland have been identified. Each EU macro-region has at least one country from which we have collected a significant number of ISS providers, but we have a particularly large number of entities from the Mediterranean region, and the North-Baltic region has the lowest representation.

Country		noroont	Country	from	noroont	
Country	freq.	percent		freq.	percent	
NORDIC-BALTIC			DANUBE			
Sweden	0	0.00%	Czech Republic	3	1.13%	
Finland	18	6.79%	Slovakia	3	1.13%	
Estonia	4	1.51%	Hungary	6	2.26%	
Latvia	1	0.38%	Austria	27	10.19%	
Lithuania	0	0.00%	Slovenia	5	1.89%	
Denmark	0	0.00%	Romania	8	3.02%	
Poland	3	1.13%	Bulgaria	4	1.51%	
total	26	9.81%	total	56	21.13%	
ATLANTIC/	NORTH SE	A	MEDITERRANEAN			
Ireland	6	2.26%	Portugal	10	3.77%	
United Kingdom	9	3.40%	Spain	30	11.32%	
France	6	2.26%	Italy	24	9.06%	
Belgium	31	11.70%	Greece	22	8.30%	
Luxembourg	0	0.00%	Croatia	10	3.77%	
Netherlands	1	0.38%	Malta	14	5.28%	
Germany	18	6.79%	Cyprus	2	0.75%	
total	71	26.79%	total	112	42.26%	
	Total					

Source: based on own calculations

5.2. Status of the provider

The question on the status of the provider proved to be irrelevant, as 98% of the listed providers are institutionalised and there are only a few individuals.

5.3. Types of ISS provider

The service providers in our list are representing several types of entities, most often they are Consultants/advisors, whose organisations represent 19.1%, and Farmer cooperatives/associations/chambers, representing 17.6% of the total. At

Funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the European Commission can be held responsible for them.



the same time, Government institutions (14.5%) and Agri-research institutions (9.8%) are also very frequent among ISS providers. On the other hand, the ISS providers identified as Banks, Insurance and financing institutions, NGOs, or consumer organisations are very few. There are also fewer educational organisations in the database than expected, but together with Academic and Training centres their share among ISS providers is approximately 13%. Finally, the input providers and the Suppliers of agricultural products are nearly the7% of the ISS providers shown in table 9 in Annexe 3.

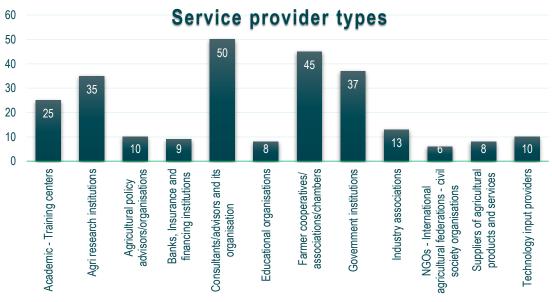


Figure 5 Types of ISS provider Source: own edition based on own calculation

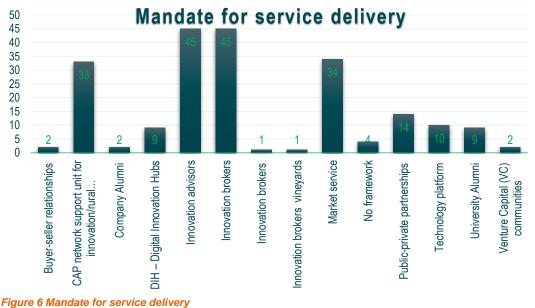
5.4. Mandate of service delivery

It was examined whether providers are delivering the service under what framework or mandate. According to the results, the service delivery mandate is dominated by innovation advisors and innovation brokers, which represent 42.6% of the ISS providers. The CAP network support unit and the market service are also frequent, with one-third of the providers belonging to both categories. Much less represented but still relevant are the Digital Innovation Hub, the Public-private partnership, the Technology platform, and University Alumni. The relatively high rate of missing values here leads us to assume that this question is difficult to answer, or that there is much uncertainty around it, as shown in table 10 in Annexe 3.



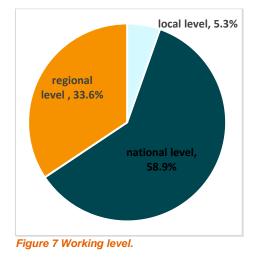






Source: own edition based on own calculation

5.5. ISS providers' working level.



Source: own edition based on own calculation

Approximately 60% of the listed providers operate on a national level, while one-third of them operate regionally, and only a few operate them locally. Demand of articulation (ISS3) is more frequently provided on a regional level. Networks, facilitation, and brokerage (ISS4) are also more common at the regional level. In the case of Capacity building (ISS5), the local level is more significant than at other functions, as shown in table 11 in Annexe 3.

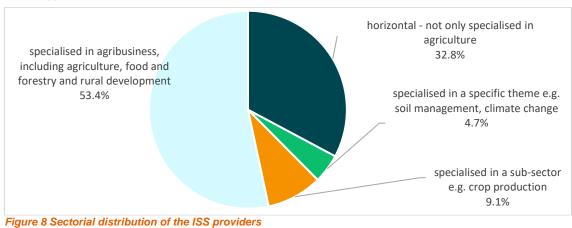
5.6. ISS providers' sectoral distribution

In addition to territorial coverage, the mapping also covered sectoral distribution. A slight majority of the listed providers are specialized in agribusiness and onethird of them carry out their activities horizontally without sectoral specialization. In the case of Advisory, consultancy and backstopping (ISS2), we found the highest rate of specialization, whereas, for Capacity building (ISS5), nonspecialized providers are more frequent, as shown in table 12 in Annexe 3.









Source: own edition based on own calculation

5.7. Dedicated role in the national regional CAP SP

More than half of the providers listed do not have a dedicated role in the CAP SP, most of them are Academic or educational organisations. A significant proportion of the ISS providers (21.6%) is a support unit of the CAP network, most often Government institutions and Farmer cooperatives/associations/chambers. 15,8% are designated innovation brokers, and 11,1% are contracted partners (e.g., Austrian regional Chambers). In several cases, the information is missing, which means that we need to apply different methods to gather this kind of information, such as direct contact with the listed providers, interviews, and surveys, for more see table 13 in Annexe 3.

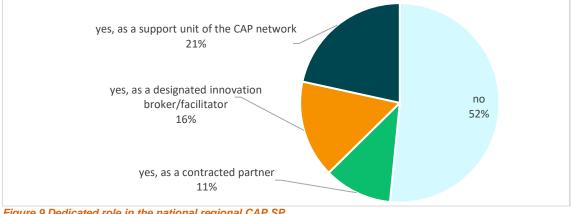


Figure 9 Dedicated role in the national regional CAP SP Source: own edition based on own calculation

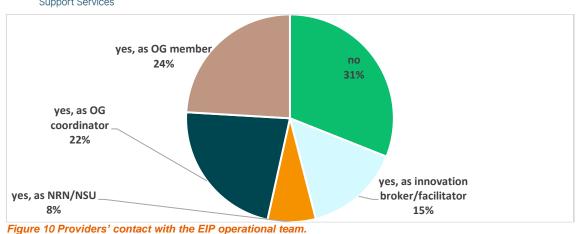
5.8. Providers' contact with the EIP operational team.

One-third of the listed ISS providers have no connection with the EIP operational groups. OG coordinators 22.,5% of them, and 24,1% are OG members. 15% of the listed entities are EIP innovation brokers (for the statistics frequency see Table 14 in Annexe 3).

Funded by the European Union







Source: own edition based on own calculation

5.9. Service delivery frequency

We have expected that Innovation support services are provided often as a complementary activity and not as the main field of operation, but according to our results 78.9% of the listed ISS providers do related activities on a daily basis, and some of them do this activity occasionally (§ table 15 in Annexe 3).

5.10. Functions of the ISS providers

Since it was possible to select only the three most important functions performed by a given entity, each function can be provided more frequently in practice.

		1st option	2nd option	3rd option	Total	Valid percent	TOTAL/number of providers
	ISS1	44	45	26	115	20.18%	43.4%
	ISS2	86	27	11	124	21.75%	46.8%
	ISS3	4	8	7	19	3.33%	7.2%
<u>.</u>	ISS4	45	39	38	122	21.40%	46.0%
Valid	ISS5	34	38	16	88	15.44%	33.2%
-	ISS6	24	15	22	61	10.70%	23.0%
	ISS7	7	16	18	41	7.19%	15.5%
	Total	244	188	138	570	100.00%	
Miss	sing	21	77	127			
Gra	nd total	265	265	265			

Table 8 Functions of the ISS providers distribution

Source: based on own calculations

In general, it can be stated that ISS providers most often carry out more than one ISS function. Advisory, consultancy, and backstopping (ISS2), Networks, facilitation, and brokerage (ISS4), and Awareness and knowledge dissemination (ISS1) are similarly frequent and strongly related functions: 43,47% of the providers are active in these. One-third of the listed providers carry out Capacity building activities (ISS5), one-quarter of them enhance/support (ISS6) access to resources (ISS6), and 15,5% of them are engaged in providing Institutional support for niche innovation and scaling mechanisms stimulation (ISS7). Demand articulation has been chosen less frequently (ISS3): its share is only 3,8% among all the activities.

Funded by the European Union





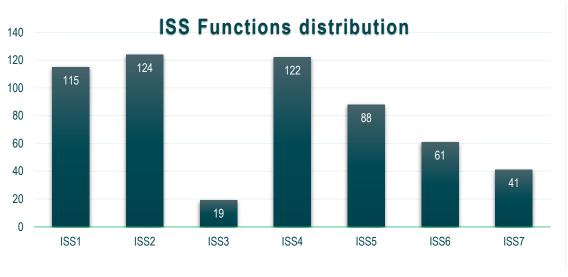


Figure 11 ISS function distribution Source: own edition based on own calculation

In the analysis of what type of entities provide which functions, it can be found that some players are much more specialized for some functions, and some of them provide a wide range of ISS functions. Furthermore, Academic, and educational organisations most often carry out (ISS5) Capacity building and (ISS1) Awareness and knowledge dissemination activities. Agri Research institutions provide all kinds of functions, but they are more active in (ISS2) Advisory, consultancy, and backstopping, (ISS4) Networks, facilitation, and brokerage, and (ISS1) Awareness and knowledge dissemination. Banks, insurance, and financing institutions take part only in a few functions, mainly in (ISS6) Enhancing/supporting access to resources. Consultants/advisors, Farmer cooperatives/associations/chambers and also Governmental institutions and Industry associations provide all ISS functions.



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the European Commission can be held responsible for them.



Deliverable 1.2 ISSs inventory

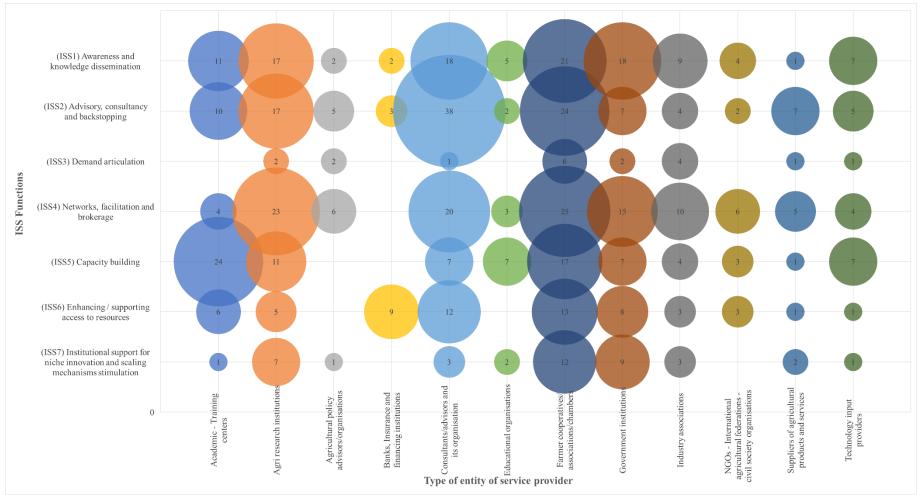


Figure 12 Type of ISS providers and function correlation Source: own edition based on own calculation



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the European Commission can be held responsible for them.





6. Next steps

The mapping was closed on the 10th of February 2023, while the collected information can be quickly out of date, and new players can emerge, therefore the mapping will be updated and completed during the lifetime of the project. So, the database will work after the submission of this deliverable as a "living document", one of the partners discovers a new ISS provider that can be included in the document.

The work of the T1.2. will continue to deepen the functions through other methods (e.g. surveys and interviews) and project activities even together with other Tasks (such T1.3 and T1.4.), which could potentially lead to the development of inventory.

However, once the deliverable has been submitted, we need to find a way to get more detailed and accurate information about ISS providers. Moreover, it is also needed to contact and start working with them.

7. Conclusions

The information explored in the mapping inventory is fundamentally useful for obtaining an overall picture of ISS providers, but it does not give an accurate picture of their organisational model, and to what extent and how they reach their farmers/practitioners. Furthermore, the mapping does not provide information on the exact activities of ISS providers.

A lot of the information in the mapping inventory is not comprehensive because it is based on the knowledge/assumptions of the consortium partners. This shows that even the project partners have limited knowledge of the ISS providers in their country. That is a limit that defines the fields of further research.

Most of the ISS providers, their activities do more than one ISS function. Some functions are provided by all types of entities (ISS1, ISS2, ISS4), some of them are very specific, and only a few types of entities provide them regularly (ISS3, ISS5). This can draw attention to the fact that certain ISS functions are not very widespread in agriculture, while others are highly typical of the sector.

Some functions are strongly related and are not easily separated (e.g., awareness and knowledge dissemination related to capacity building, but also advisory/consultancy and networking/facilitation). Overall, therefore, provider functions can only be properly categorised according to the functions if their precise activities are visible, which support the innovation processes of practitioners in the agricultural sector.

In general, it can be stated, that the western and southern European countries (Atlantic-North Sea region and the Mediterranean) are much more represented than eastern and northern Europe (Danube-Balkan and Nordic-Balkan region).



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the European Commission can be held responsible for them.



As this is a relatively new type of service in agriculture, a culture of using it needs to be evolved even in eastern European countries.







8. References

Allebone-Webb, S. B., Douthwaite, E., Hoffecker, S., Mathé, & B. Triomphe., (2016). *What is capacity to innovate and how can it be assessed?* A review of the literature. IFSA Conference. New Port, GB, 25.

Andrea Knierim, Maria Gerster-Bentaya, Fanos Mekonnen Birke, Sangeun Bae, Tom Kelly. (2020). Innovation advisors for interactive innovation process: Conceptual grounds and common understandings. Deliverable WP.1.1 of the i2connect project.

Barbier, M., & Elzen, B., (eds), (2012). System Innovations, Knowledge Regimes, and Design

Beers P. J, A.J. Sol, & E. J. Wals. (2010). *"Social learning in a multi-actor innovation context"*. Paper presented at 9th European IFSA Symposium, 4-7 July 2010, Vienna (Austria)

Cristóvão, A., A. Koutsouris, & M. Kügler. (2012). *Extension systems and change facilitation for agricultural and rural development*. In Darnhofer, I., D. Gibbon, B. Dedieu, Farming Systems Research into the 21st Century: The New Dynamic. Springer Editors

Elzen B., Geels F.W. & Green K. (Eds.), (2004). System Innovation and the Transition

Elzen, B., B. van Mierlo, & C. Leeuwis. (2012). *"Anchoring of innovations: assessing Dutch efforts to harvest energy from glasshouses"*. Environment Innovation and Social Transitions 5, 1–18.

EU SCAR. (2012). Agricultural knowledge and innovation systems in transition – A reflection paper. Brussels: European Commission.

Faure G., A. Knierim, A. Koutsouris, T. Ndah, S. Audouin, E. Zarokosta, E. Wielinga, B. Triomphe, S. Mathé, L. Temple, & K. Heanue. (2019). *"How to Strengthen Innovation Support Services in Agriculture with Regard to Multi-Stakeholder Approaches"*, Journal of Innovation Economics & Management, 2019/1 (n° 28), p. 145-169. DOI: 10.3917/jie.028.0145. URL: https://www.cairn.info/revue-journal-of-innovation-economics-2019-1-page-145.htm

Faure G., Davis K., Ragasa C., Franzel S., & Babu S. C., (2016). *Framework to assess performance and impacts of pluralistic agricultural extension systems*. The best-fit framework revisited Washington DC: IFPRI-CIRAD

Fieldsend, A., E. Cronin., E. Varga, S. Biró, & E. Rogge. (2021). "Sharing the space in the agricultural knowledge and innovation system: multi-actor innovation partnerships with farmers and foresters in Europe". The Journal of Agricultural Education and Extension 27 (4): 423-442 https://doi.org/10.1080/1389224X.2021.1873156



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the European Commission can be held responsible for them.



Gadrey J., (1994). *Les relations de service dans le secteur marchand, in Bandt* J., Gadrey J. (eds), Relations de service, marchés de services, Paris, CNRS Editions.

Geels F.W., (2005). Technological transitions and system innovations: A coevolutionary and socio-technical analysis, Cheltenham: Edward Elgar.

Heemskerk W., L. Klerkx, & J. Sitima, (2011). *Brokering Innovation,* in Nederlof, S., M. Wongtschowksi, F. van der Lee (eds), Putting Heads Together: Agricultural Innovation Platforms in Practice, Amsterdam, KIT Publishers, 43-54.

Hermans, F., L. Klerkx, & D. Roep, (2012). *Structural conditions for dynamic innovation networks: a review of eight. Proceedings* IFSA 2012: Producing and reproducing farming systems, The 10th European IFSA Symposium, Aarhus, Denmark, 1-4 July 2012. - Aarhus, Denmark: IFSA, 2012, 1 - 11.

Howells, J. (2006). "Intermediation and the role of intermediaries in innovation". Research Policy 35: 715-728

Ingram, J., P. Gaskell, J. Mills, & J. Dwyer. (2020). "How Do We Enact Coinnovation with Stakeholders in Agricultural Research Projects? Managing the Complex Interplay Between Contextual and Facilitation Processes." Journal of Rural Studies 78: 65–77. doi:10.1016/j. jrurstud.2020.06.003.

Kilelu, C. W., L. Klerkx, & C. Leeuwis, (2013). How Dynamics of Learning are Linked to Innovation Support Services: Insights from a Smallholder Commercialization Project in Kenya, Agricultural Education and Extension, 20(2), 213-232.

Kivimaa, P., W. Boon, S. Hyysalo, & L. Klerkx. (2018). *"Towards a typology of intermediaries in sustainability transitions: A systematic review and a research agenda"*. Research Policy, https://doi.org/10.1016/j.respol.2018.10.006

Klerkx, L., C. & Leeuwis. (2009a). "Establishment and embedding of innovation brokers at different innovation system levels: Insights from the Dutch agricultural sector". Technological Forecasting & Social Change 76 (2009) 849–860

Klerkx L., & Leeuwis C. (2009b) *Shaping collective functions in privatized agricultural knowledge and information systems*: the positioning and embedding of a network broker in the dutch dairy sector, in «The Journal of Agricultural Education and Extension», 15(1), pp. 81-105.

Knierim, A., P. Labarthe, C. Laurent, K. Prager, J. Kania, L. Madureira, & H.T. Ndah. (2017) *"Pluralism of agricultural advisory service providers – Facts and insights from Europe"*. Journal of Rural Studies 55:45-58. doi: https://doi.org/10.1016/j.jrurstud.2017.07.018.

Koutsouris, A. (2014). "Exploring the emerging intermediation roles (facilitation and brokerage) in agricultural extension education." International Journal of Agricultural Extension, Special Issue: International Conference – Emerging Horizons of Agricultural Extension for Sustainable Rural Development,







February: 21-37. Koutsouris, A. 2014. "Exploring the emerging intermediation roles (facilitation and brokerage) in agricultural extension education." International Journal of Agricultural Extension, Special Issue: International Conference – Emerging Horizons of Agricultural Extension for Sustainable Rural Development, February: 21-37.

Labarthe, P., M. Caggiano, C. Laurent, G. Faure, & M. Cerf. (2013). *Concepts and Theories to Describe the Functioning and Dynamics of Agricultural Advisory Services.* Deliverable WP.2.1 of the PRO AKIS project, INRA, Paris.

Leeuwis, C., & A. Van den Ban, (2004). *Communication for innovation: rethinking agricultural extension,* Third edition. Oxford, Blackwell Publishing.

Leeuwis, C., & N. Arts. (2011). "*Rethinking Communication in Innovation Processes: Creating Space for Change in Complex Systems.*" The Journal of Agricultural Education and Extension 17 (1):21-36.

Mathé S., G. Faure, A. Knierim, A. Koutsouris, H.T. Ndah, L. Temple, B. Triomphe, E. Wielinga, & E. Zarokosta. (2016). *Typology of innovation support services*, WP1 AgriSpin, deliverable 1.4. CIRAD, Montpellier, France.

Moschitz, H., D. Roep, G. Brunori, & T. Tisenkopfs. (2015). *"Learning and Innovation Networks for Sustainable Agriculture: Processes of Co-evolution, Joint Reflection and Facilitation"*. The Journal of Agricultural Education and Extension 21 (1), pp. 1–11. DOI: 10.1080/1389224X.2014.991111.

Perez, S.A., L. Klerkx, & C. Leeuwis. (2010). Innovation brokers and their roles in value chain-network innovation: preliminary findings and a research agenda. ISDA 2010, Montpellier, France

Smits R. & S. Kuhlmann. (2004). *The rise of systemic instruments in innovation policy.* International Journal of Foresight and Innovation Policy 1: 4-30

Steyaert, P., M. Barbier, M. Cerf, A. Levain, A., & A. Loconto. (2017). "Role of *intermediation in the management of complex socio-technical transitions*". In Elzen, B., A. Augustyn, M. Barbier and B. van Mierlo. 2017. AgroEcological Transitions: Changes and Breakthroughs in the Making. DOI: http://dx.doi.org/10.18174/407609

Tisenkopfs, T., I. Kunda, S. Šūmane, G. Brunori, L. Klerkx, & H. Moschitz. (2015). *"Learning and innovation in agriculture and rural development: the use of the concepts of boundary work and boundary objects".* Journal of Agricultural Education and Extension 21, 13–33.

Vilas-Boas J., Klerkx L., & Lie R., (2022). *Connecting science, policy, and practice in agri-food system transformation:* The role of boundary infrastructures in the evolution of Brazilian pig production, Journal of Rural Studies, Volume 89, p. 171-185, https://doi.org/10.1016/j.jrurstud.2021.11.025.

Wielinga, H.E., B.W. Zaalmink, R.H.M. Bergevoet, F.A. Geerling-Eiff, H. Holster, L. Hoogerwerf, & M. Vrolijk. (2008). Networks with free actors: encouraging



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the European Commission can be held responsible for them.



sustainable innovations in animal husbandry by using the FAN approach. Wageningen University and Research.







Annex

Annexe 1: Type of service provider

Consultants/advisors and their organisation: are (i) those individuals who either as independent entrepreneurs or have an advisory position in different types of advisory organisations and are formally responsible for multiple and changing roles and tasks in stimulating and facilitating innovation and (ii) those actors who provide similar services out of a non-formal advisor position but consider themselves as an advisor.

Agricultural policy advisors/organisations: a facilitator who Aims at the development of shared meaning, language and objectives between dialogue partners in order to stimulate change and develop innovative solutions, Generates innovations (policy or technological), and Supports problem-solving.

Academic/Training centres: academic or educational bodies which target specific groups and provide specific services due to their public good orientation, societal influences and long-term continuity.

Agri-research institutions: a research body which facilitates their interaction with partners in research, education, agri-business, and other relevant institutions

Farmer cooperatives/ associations/chambers: Farmer-based groups, cooperatives Chambers of agriculture, and professional sector associations, with Users/farmers' interests, and professional representation, can be of a holistic nature (i.e., with a broad range of activities) or of a specific nature (focus on limited specialised activities).

Banks, Insurance, and financing institutions: Institutions providing financial sources for agricultural innovations.

NGOs/International agricultural federations/civil society organisations: non-profit entities independent of governmental influence.

Educational organisations: organized not for pecuniary profit, whose primary purpose is educational in nature and designed to develop the capabilities of individuals by instruction in any public or private elementary or secondary school, or any private or public college or university that is organized not for pecuniary profit and that is approved by the state board of education.

Government institutions: means any ministry, department, division, office or agency of State and includes all state-owned enterprises as defined by the State-owned.

Industry associations: an organization that supports companies and employers of a particular type of industry and protects their rights.

Consumer Organizations are advocacy groups that seek to protect people from corporate abuse like unsafe products, predatory lending, false advertising,







astroturfing, and pollution. Consumer Organizations may operate via protests, litigation, campaigning, or lobbying.

Suppliers of agricultural products and services: Profit-oriented companies offering products and services (e.g., consultancy, bookkeeping, transportation, contractual work, lending equipment, etc.) for agricultural producers.

Technology input providers: Profit-oriented companies selling machinery and similar products and related services for agricultural producers.







Annexe 2: Framework for service delivery

Technology platform: is the foundation for building and running business applications. The platform allows users to run their applications smoothly without worrying about the technology that supports them. At the same time, it allows technical staff to rapidly extend, enhance, or upgrade application software, increasing the speed of business.

Public-private partnerships: Public-private partnerships involve collaboration between a government agency and a private-sector company that can be used to finance, build, and operate projects, such as public transportation networks, parks, and convention centres. Financing a project through a public-private partnership can allow a project to be completed sooner or make it a possibility in the first place.

Venture Capital (VC) communities are a form of private equity and a type of financing that investors provide to startup companies and small businesses that are believed to have long-term growth potential.

Innovation brokers: an agent or broker in any aspect of the innovation process between two or more parties",

Innovation advisors: an advisor with a diverse role multi-faceted, multipurpose, multi-scaled and multi-disciplinary field, who is able to a) experience interactive innovation creation methods, b) reflect upon their effects and impacts and c) provide a safe space for practising to get enough self-confidence before applying the methods in collaborative learning and daily work situation

CAP network support unit for innovation/rural development/other: The Network is a forum through which National CAP Networks, organisations, administrations, researchers, entrepreneurs, and practitioners can share knowledge and information (e.g., via peer-to-peer learning and good practices) about agriculture and rural policy.

DIH /Digital Innovation Hubs: are one-stop shops supporting companies to respond to digital challenges and become more competitive.

Market services are those services produced for sale on the market at a price intended to cover production costs and to provide a profit for the producer.

Buyer-seller relationships: The buyer is the person or organization that purchases products from suppliers. A buyer could be a manufacturer purchasing raw materials or a customer buying a finished product from a retailer. The relationship between the buyer and seller can be either short-term (one-off or low-commitment purchases) or long-term, involving regular purchases based on established agreements.

Company Alumni: an organization is a former employee of the organization.

University Alumni: a former student and most often a graduate of an educational institution (school, college, university).



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the European Commission can be held responsible for them.



No framework: as a free actor who acts freely because s/he thinks it is important for the network, regardless of if s/he has the mandate to do it.







Annexe 3: Framework for service delivery

Tal	ble 9 Types of ISS provider			
ISS	S provider Types	Freq.	Percent	Valid Percent
	Academic - Training centers	25	9.4%	9.8%
	Agri research institutions	35	13.2%	13.7%
	Agricultural policy advisors/organisations	10	3.8%	3.9%
	Banks, Insurance, and financing institutions	9	3.4%	3.5%
	Consultants/advisors and their organisation	50	18.9%	19.5%
	Educational organisations	8	3.0%	3.1%
<u>ס</u>	Farmer cooperatives/ associations/chambers	45	17.0%	17.6%
Valid	Government institutions	37	14.0%	14.5%
	Industry associations	13	4.9%	5.1%
	NGOs - International agricultural federations - civil society organisations	6	2.3%	2.3%
	Suppliers of agricultural products and services	8	3.0%	3.1%
	Technology input providers	10	3.8%	3.9%
	Total	256	96.6%	100.0%
Mis	ssing	9	3.4%	
То	tal	265	100.0%	

Source: based on own calculations Table 10 Mandate of service delivery

		Freq.	Per cent	Valid Percent
	Buyer-seller relationships	2	0.8%	0.9%
	CAP network support unit for innovation/rural			
	development/other	33	12.5%	15.6%
	Company Alumni	2	0.8%	0.9%
	DIH – Digital Innovation Hubs	9	3.4%	4.3%
	Innovation advisors	45	17.0%	21.3%
	Innovation brokers	46	17.4%	21.8%
alid	Innovation brokers vineyards	1	0.4%	0.5%
>	Market service	34	12.8%	16.1%
	No framework	4	1.5%	1.9%
	Public-private partnerships	14	5.3%	6.6%
	Technology platform	10	3.8%	4.7%
	University Alumni	9	3.4%	4.3%
	Venture Capital (VC) communities	2	0.8%	0.9%
	Total	211	79.6%	100.0%
	Missing		20.4%	
	Total	265	100.0%	

Source: based on own calculations Table 11 ISS providers working level.

		Freq.	Percent	Valid Percent
	Local level	14	5.3%	5.4%
<u>q</u> .	National level	156	58.9%	60.2%
Valid	Regional level	89	33.6%	34.4%
_	Total	259	97.7%	100.0%
Missing		6	2.3%	
	Total		100.0%	

Source: based on own calculations Table 12 Sectoral distribution of ISS providers

Freq. Percent Valid Percent









	horizontal - not only specialised in agriculture	83	31.3%	32.8%
	specialised in a specific theme e.g., soil			
-	management, climate change	12	4.5%	4.7%
Valid	specialised in a sub-sector e.g., crop production	23	8.7%	9.1%
	specialised in agribusiness, including agriculture,			
	food and forestry and rural development	135	50.9%	53.4%
	Total	253	95.5%	100.0%
	Missing	12	4.5%	
	Total	265	100.0%	

Source: based on own calculations

Table 13Dedicated role in the national regional CAP SP

I	Dedicated role in the national regional CAP SP	Freq.	Percent	Valid Percent
σ	no	98	37.0%	51.6%
	yes, as a contracted partner	21	7.9%	11.1%
	yes, as a designated innovation broker/facilitator	30	11.3%	15.8%
	yes, as a support unit of the CAP network	41	15.5%	21.6%
	total	190	71.7%	100.0%
missing		75	28.3%	
	total	265	100.0%	

Source: based on own calculations

Table 14 Providers' contact with the EIP operational team.

		Freq.	Percent	Valid Percent
	no	58	21.9%	31.0%
	yes, as an innovation broker/facilitator	28	10.6%	15.0%
lid	yes, as NRN/NSU	14	5.3%	7.5%
Valid	yes, as the OG coordinator	42	15.8%	22.5%
	Yes, as the OG member	45	17.0%	24.1%
	Total	187	70.6%	100.0%
Missin	g	78	29.4%	
Total		265	100.0%	

Source: based on own calculations
Table 15 Services delivery frequency

		Freq.	Percent	Valid Percent
	Daily basis	191	72.1%	78.9%
Valid	Occasionally	51	19.2%	21.1%
	Total	242	91.3%	100.0
Missing		23	8.7%	
Total		265	100.0	

Source: based on own calculations



