D5.5 DEVELOPMENT OF MATERIALS FOR TRAININGS AND INTER-REGIONAL DEMONSTRATIONS OF CCS

WP 5

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LIST OF ABBREVIATIONS

Abbreviation	Explanation
WP	Work package
RC	Regional Cluster
CC	Competence centre
DIH	Digital Innovation Hub
DSS	Decision Support System
IE	Innovation Experiment
FIE	Flagship Innovation Experiment
ICT	Information and communication technology
QDDT	Quick Demo Decision Tool
SFT	Smart Farming Technology
EIP-AGRI	Agricultural European Innovation Partnership

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PROJECT SUMMARY

Digital technologies enable a transformation into data-driven, intelligent, agile and autonomous farm operations, and are generally considered as a key to address the grand challenges for agriculture. Recent initiatives showed the eagerness of the sector to seize the opportunities offered by ICT and in particular data-oriented technologies. However, current available applications are still fragmented and mainly used by a small group of early adopters. Against this background, SmartAgriHubs (SAH) has the potential to be a real game changer in the adoption of digital solutions by the farming sector.

SAH will leverage, strengthen and connect local Digital Innovation Hubs (DIHs) and numerous Competence Centres (CCs) throughout Europe. The project already put together a large initial network of 140 DIHs by building on its existing projects and ecosystems such as Internet of Food and Farm (IoF2020). All DIHs are aligned with 9 regional clusters, which are led by organizations that are closely related to national or regional digitization initiatives and funds. DIHs will be empowered and supported in their development, to be able to carry out high-performance Innovation Experiments (IEs). SAH already identified 28 Flagship Innovation Experiments (FIEs), which are examples of outstanding, innovative and successful IEs, where ideas, concepts and prototypes are further developed and introduced into the market.

SAH uses a multi-actor approach based on a vast network of start-ups, SMEs, business and service providers, technology experts and end-users. End-users from the agri-food sector are at the heart of the project and the driving force of the digital transformation.

Led by the Wageningen University and Research (WUR), SAH consists of a pan-European consortium of over 160 Partners representing all EU Member States. SAH is part of Horizon2020 and is supported by the European Commission with a budget of €20 million.

EXECUTIVE SUMMARY

Competence Centres (CCs) form the backbone of the Digital Innovation Hubs (DIHs) in the SmartAgriHubs (SAH) network. The main objective of this deliverable is to develop training and demonstration materials in order to help CCs to become an active, visible and receptive part of a digital ecosystem. To achieve this goal, this deliverable provides guidelines for the creation of online and offline demonstrations. Our assumption is that CCs have very diverse potential to carry out such demonstration activities, so any supporting materials must be able to address the CCs' diverse demands and needs. Therefore, this deliverable has taken the first steps towards the establishment of a common ground for the development of training materials. This includes reviews of relevant literature and former EU projects, empirical assessments of CCs' needs and testing of tools before releasing them. This deliverable will be updated and further developed throughout the project.

The first version of the Deliverable presented the Demonstration Toolkit for CCs. The Toolkit includes five tools:

- Evaluation Tools,
- Quick Demo Decision Tool (QDDT),
- Demonstration Guideline,
- 'Prepare for Success!' Tool,
- Repository of 'How to?' videos.

This second iteration of the Deliverable has been completed with the followings:

- updated findings from CCs' website screening (**See page 24**!)
- description of the ideal user journey for the use of the Toolkit **(See page 40!)**
- detailed descriptions of each tool **(See from page 29!)**
- template to capture and document Success Stories **(See page 57!)**

INTRODUCTION

Competence Centres (CCs) form the backbone of the Digital Innovation Hubs (DIHs) in the SmartAgriHubs (SAH) network. CCs provide the digital technological infrastructure of the DIH by offering advanced technical expertise, access to the latest knowledge and information on digital technologies, as well as test facilities such as labs, pilot and experimental facilities, and other technological and scientific infrastructure.

DIHs and CCs have different roles, although the CCs often form parts of DIHs. Digital Innovation Hubs provide innovation ecosystem support services which include community building lobbying, brokerage, knowledge sharing and advocacy as well as business services which include activities such as business support, and access to finance and skills development provided by its members such as financial institutions, government agencies and education and training institutions (see https://www.smartagrihubs.eu/hubs, and the activities of WP4 who are leading the DIHs).

Within their respective Digital Innovation Hubs, Competence Centres cooperate with all relevant partners in the agri-food innovation value chain to support farmers, businesses and other agri-food entities in their digital transformation journey. This entails establishing connections with a wide range of technology companies, research institutions, and digital solutions providers as well as potential users and customers.

Based on experience with existing Competence Centres in general, the following offerings by CCs are useful to help companies with their digital transformation[1]:

- Supporting experimentation and testing with new technologies to transform products, processes or business models.
- Supporting development and manufacturing of new products and processes.
- Showcasing technologies in pilot facilities.
- Offering introductory courses to understand new technology based on recognised training needs and the training of enough trainers for further upscaling.
- Brokering between users and suppliers of technologies, e.g. on tools, data, and intellectual property around technologies.
- Keeping track of global developments, proposing technology options and providing flexible support.

No single Competence Centre can be excellent in all fields. Hence, it is necessary to build strong linkage between CCs. WP5 is establishing a pan-European network of CCs associated with DIHs within SmartAgriHubs to provide R&D, technical expertise, laboratory and demonstration facilities, testing and validation, and Information and Communication Technologies (ICT) skills to users. The task 5.5 focuses on the importance of CCs building networks and creating synergies in order to allow networking with regional actors and throughout the DIH network, and specifically to i) create solutions for farmers and SMEs, and ii) to increase uptake of solutions offered by CCs.

The main objectives of Task 5.5 are:

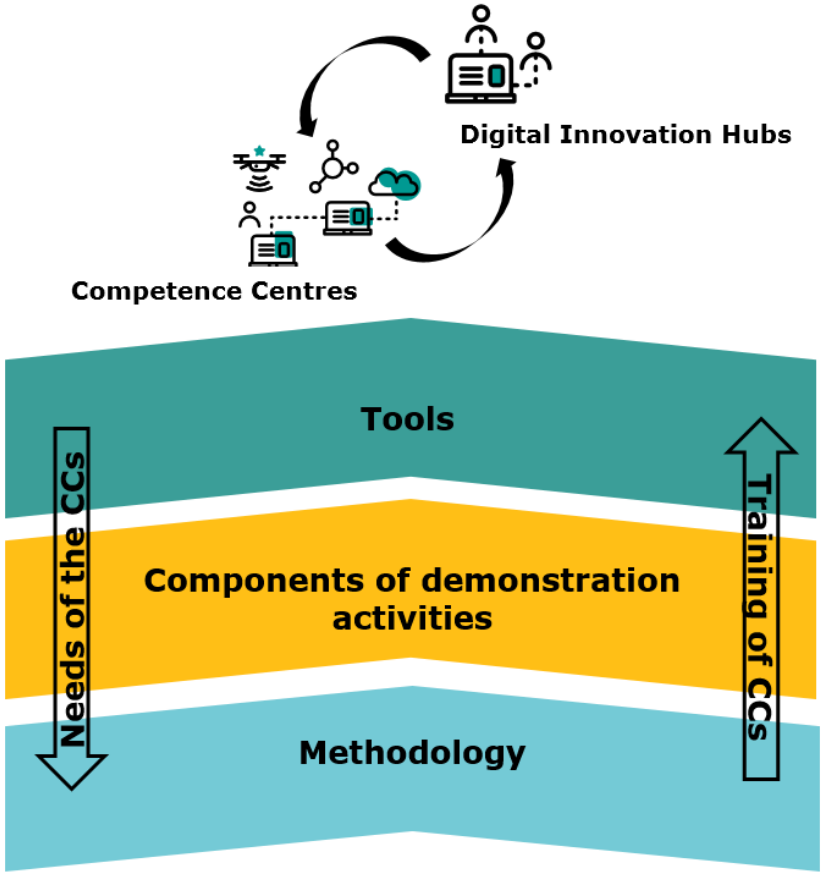
[1] *NEM DEI Working Group (2017): Digitalising European Industry. https://nem-initiative.org/wp-content/uploads/2018/03/nem-dei_dih-wg-december-2017.pdf*

- Develop materials and protocols for organizing trainings and inter-regional demonstrations of CCs and their digital technical and skills capacity. Face-to-face and virtual demonstration activities are important to allow relationship building with regional actors and also throughout the DIH network. This task will provide the tools for CCs to carry out quality demonstrations.
- Create networks of CC users to seek efficiencies, synergies, collaboration and learning, in collaboration with the DIHs WP4 and WP1 using the digital platform.

The aim of this deliverable is to help CCs to become an active, visible and receptive part of a digital ecosystem by providing them a toolkit to help them to demonstrate digital innovations. Digital innovations, according to Kohli and Melville's definitions (2019), include four types of activities (initiating, developing, implementing, exploiting) and culminate in a product, service or process. The materials provided by this deliverable will guide CCs to find the best way of demonstrating their digital innovations (products, services or processes).

Our starting point is an assumption that CCs have very diverse potential to carry out both online and offline demonstration activities. This assumption implies that the tools and training materials must be able to address CCs' diverse demands and needs. Therefore, CCs' needs assessment plays a key role in the development of this deliverable. CCs needs assessment has been conducting throughout the first half of the project and deliver inputs to the development of the tools and training materials. Carefully selected methods have been applied to carry out both CCs needs assessment and the development of the tools and training materials. This structure with the underlying logic is presented in a concept chart (Figure 1) that will serve as a guide in each section of the deliverable.

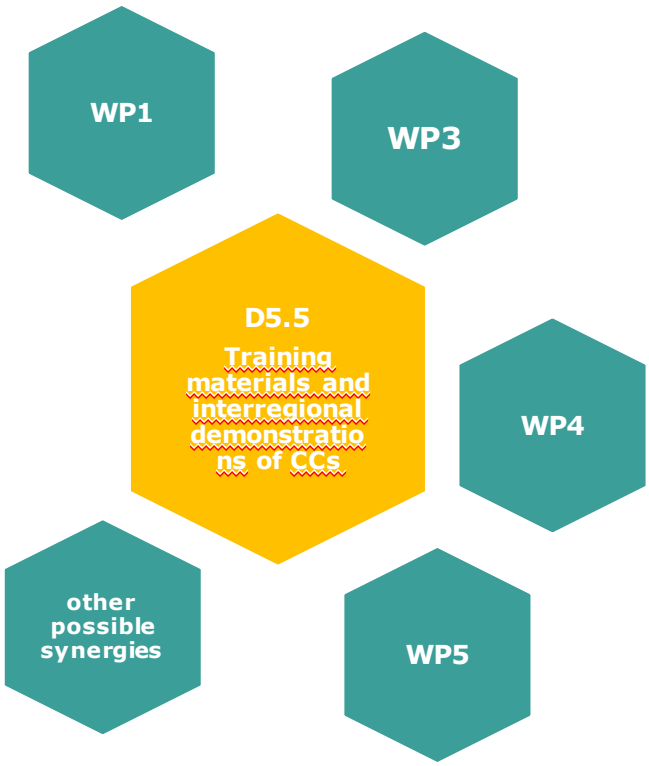
Figure 1. Concept chart of the structure of the deliverable



SYNERGIES WITH WPS

During the development and implementation of the training materials and tools in D5.5, knowledge sharing (and joint planning - if necessary) is important with other WPs (Figure 2).

Figure 2. Illustration of synergies of Deliverable 5.5



WP1
D1.4 *Innovation portal (M4, M9)*

WP3
D3.5 *IE technology requirements identification (M11, M36)*
D3.6 *IE Common challenges analysis and technology reusability exploitation (M24)*

WP4
D4.1 *Needs assessment report (M6)*
D4.2 *DIH Capacity maturity model (M8)*

WP5
D5.1 *Categorization of digital technologies related to agriculture sector (M36)*
D5.2 *Identification on existing CCs for DIH and IE (M6, M18)*
D5.3 *Competence profiling with white-spot analysis (M12, M36)*
D5.4 *Procedures for governance and management of CC network and criteria for new CCs (M18, M48)*
D5.6 *Report on CC Good Practices (M18, M48)*

WP1 is responsible for developing the web-based interactive Innovation Portal (digital platform) where these training materials and tools will be provided for the CCs. As well, it is anticipated that demonstration videos will be uploaded in an area associated to CCs description of technology and technology solutions. Cooperation with WP1 started in M23 and expected to go on in the following months.

In **WP3**, where Innovation Experiments are monitored and evaluated, one deliverable (D3.5) will identify the technology requirements, best practices and the reusable components; and another deliverable (D3.6) will present possible challenges during an Innovation Experiment (IE). Since IEs are conducted through DIHs with the help of CCs, it is important to be aware of these results and challenges. Both deliverables can provide valuable input when developing training materials and tools for CCs and help them to be more prepared for playing their role and to be able to demonstrate it in an innovation experiment.

In **WP4** a Needs assessment report (D4.1) has identified the main services that DIHs will need to improve while D4.2 (*DIH Capacity maturity model)* will introduce a model for reaching maturity. As important actors within the DIHs, CCs need to be able to position themselves correctly. Both mentioned WP4 deliverables will clarify the roles and activities of the DIHs and help D5.5 to prepare relevant and up-to-date training materials and tools for CCs.

WORKFLOW OF THE TASK

According to the SmartAgriHubs workplan, Deliverable 5.5 has three completion dates throughout the project (M12, M24 and M36). Based on this timeline the following milestones have been scheduled (Table 1):

Table 1. Updated workflow of Task 5.5

MILESTONES→	M12: Public version of first tool												M24: Public version of further tools												M36: Implementation of tested tools on SAH Innovation Portal													
↓ACTIVITIES	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M1	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31	M32	M33	M34	M5	M36	…	M48
Kick-off and development of first tool																																						
Empirical research on CCs																																						
Development of further tools																																						
Testing and Portal integration																																						

THEORETICAL AND PRACTICAL FRAMEWORK

This section is structured as follows. Firstly, the definition of the output of this Deliverable is elaborated based on the review of academic and grey literature. This is followed by a review of relevant EU projects to broaden the scope of this Deliverable. Lastly, the section ends with presenting the findings from a primary research on CCs.

CONCEPTS AND DEFINITIONS RELATED TO DEMONSTRATION

This section aims to define the output of this Deliverable by establishing a common understanding of concepts, definitions and terms related to demonstration activities. Establishing such a common understanding is a challenging task as the nature of this deliverable is broad. The focus of this work lies at the intersection of various fields including knowledge transfer, digital competence, online and offline demonstration, training design and networking.

Transferring knowledge through web-based technology requires a good understanding of digital competence both from knowledge providers and seekers. The EU context has been involved for a comprehensive review of EU-funded projects from the agricultural digitalisation domain. The most basic features of training material design have also been examined to clarify the common terminology in use. A crucial pillar of the methodology is a detailed assessment of CCs within FIEs. This has been commenced to broaden our knowledge of existing CCs' needs and demonstration activities.

Knowledge transfer in digital environment

Due to the rapidly developing information and communication technologies, e-learning and e-training have emerged as a major form of knowledge transfer in the last decade. Nothing shows the scale of progress of this field better than the fact, that the term e-learning is nowadays usually replaced or used as a synonym by the terms d-learning (digital learning) or m-learning (mobile learning) (Basak *et al.,* 2018). In his highly cited work, Garrison (2011) uses the following definitions: *"E-learning is formally defined as electronically mediated asynchronous and synchronous communication for the purpose of constructing and confirming knowledge. The technological foundation of e-learning is the Internet and associated communication technologies"*. Garrison's definition is considered as a focal point of this deliverable and the related task: our aim is to create widely available materials in order to construct and confirm knowledge for CCs in an online environment (Innovation Portal) to carry out demonstration activities and thus to become an active, visible and receptive player/actor of a digital ecosystem.

Some of the most important basic features of this 'face-to-screen' learning are:

- More flexible timing
- Participants have more responsibility for their own acquisition of knowledge
- Higher cost-effectiveness (no location costs) is common
- Careful planning is needed (design, technology, management).
- Participants' confidence should be increased
- Good management of information to be learned is required

The rapid and constant development of web-based educational and training opportunities has been followed by a constant increase of research interest in e-learning. Academic discussions

in educational literature are mostly centered on formal educational environments such as colleges and universities; while corporate and occupational trainings have been rather the subject of applied research. In a 2017 report, Molas-Castells and Fuertes-Alpiste observed that the most frequent category in research topics educational literature concerned the design and evaluation of learning resources, tools and spaces (Molas-Castells and Fuertes-Alpiste, 2018). These works could provide a satisfactory groundwork to rely on when establishing the terminology for this deliverable. However, there is a very limited number of such web-based self-trainings that aims to help improve and develop demonstration activities for such a diverse audience like CCs. Due to the lack of a common terminology, the authors have defined the key term adjusted to the expected output of this Deliverable.

Training material: means digital or printed content aiming to increase someone's capacities. Materials may include guidelines, presentations, drawings, videotaped or web-based materials, knowledge repositories, interactive decision support tools designed in a way enabling self-learning

Conceptualising demonstrations

This Deliverable provides a broad description of what demonstration stands for in general[2]: the act or process of providing evidence , competencies, services, technologies mostly by illustrating (e.g. modelling, simulation, visualisation) and drawing the attention to their advantages and (potential) achievements. These demonstration activities can be online or offline (on-site), local or regional and be based on observation and/or participation as well. Demonstrations follow a wide range of approaches, are planned with different objectives in mind, and are initiated and organised by a wide range of actors. Given this variety, there is no 'one-fits-all' approach for a successful demonstration activity.

As it was stated above, the goal of this deliverable is to provide inputs for CCs to facilitate effective demonstration activities in which they can introduce their digital innovations, especially their digital technologies. This seems to be a complex task considering that this deliverable is expected to support CCs' development regarding both their online and offline demonstrations. Although online and offline demonstrations are very different in nature, the general aim of a demonstration activity is to *explain, display, illustrate or experiment something that works*[3]. The wide body of literature on farm demonstration can be used as a reference point to find a common ground for online and offline demonstrations. On-farm demonstration is based on the philosophy "*seeing is believing*" which sensibly refers to what happens during an on-farm demonstration: farmers see and try new service, technology or practice presented by experts aiming to facilitate knowledge transfer process (Pappa *et al*., 2018). This philosophy can be easily adopted for CCs' activities by placing them into the role of the presenter, regardless of whether it occurs in an online or offline environment. However, the

[2] Defined by the authors based on Salas et al (2009); Cambridge Dictionary's definiton of demonstration (https://dictionary.cambridge.org/dictionary/english/demonstration) and FarmDemo: Design guide for on-farm demonstrations (https://trainingkit.farmdemo.eu/wp-content/uploads/2019/06/Design-guide-for-on-farm-demonstrations.pdf);

[3] Based on Collins Dictionary [https://www.collinsdictionary.com/dictionary/english/demonstration]

general assumption of this deliverable is that CCs have very diverse experience in the organisation of demonstrations, either online or offline.

Online demonstration is the essence of communication, digital content making and marketing in digital environment. Possibilities for online demonstrations have tremendously increased in the last decade as online demonstration activities can be carried out using various platforms and channels of digital marketing. According to Chaffey and Ellis-Chadwick (2016) digital marketing is "*achieving marketing objectives through applying digital technologies and media",* which covers the management of online presence through digital technologies. Online presence is understood as managing websites, social media, creating video or audio formats and making visualizations to desktop, laptop, mobile and tablet platforms. In the context of CCs, this means that online demonstration activities aim to display competences, that might be demanded by other CCs, to trigger cooperation within SAH.

On the contrary to online demonstrations, **offline demonstrations** are typically on-site events where demonstrators and target audience are meant to meet in person. Offline demonstration is conceptualised based on the theoretical insights of on-farm demonstrations. Offline (on-site) demonstration is assumed to be particularly important for CCs since their agricultural related products or services may need properly implemented on-site demonstrations. Offline demonstration conceptualisation is assisted by two recent in-depth literature reviews in which the authors describe how the well-chosen structures and functions can facilitate learning through demonstrations (Pappa *et al.,* 2018; Ingram *et al.,* 2018).

Structural characteristics represent wide range of components and CCs need to consider them as important aspects of their demonstrations. Actors and their corresponding roles form a large group of potential parties, such as demonstrator, initiator, funder, organiser, adviser, specialist, facilitator, attendees. Depending on the set of the demonstration, CCs may need to play multiple roles from those listed above. Except attendees as they make up the target audience of demonstration event which makes them one of the most important components of an on-farm demonstration. The number of criteria to describe target audience is high. After considering the required age group, gender, innovativeness, awareness level, farm type, socio-economic background, demonstrations may host farmers, agribusiness personnel, advisors, industry professionals, researchers, consumers, general public, tech developers to name a few. The involvement of local farmers may support stimulating bottom-up process locally and help CCs respond to the local needs. Location is another important determinant. An actual working farm as a host of the demonstration increases the possibility of convincing the attendees. It is important to know for CCs that understanding and respecting attendees' values may also contribute to the generate impact of the demonstration activity on the audience, which means that the facilitator of demonstration event should have good social and communication skills (Pappa *et al.,* 2018).

After all, offline demonstration is a meeting place for learning and this point lead us to the functional characteristics of demonstration activities. These mostly cover the development of learning practices, interaction approaches and mediation techniques. The following key functions are suggested to include (Ingram *et al.*, 2018):

- Space for interactive learning which means an inclusive environment for attendees' questions and engagement.
- Offering opportunity for active learning including practical or hands-on activities.

- Ensuring mediation and facilitation is needed for the creation of a trusted and fluent implementation.
- CCs organising demonstrations should keep in mind that their target audience may vary in their prior knowledge and learning capacities.

Conclusion

As a synthetization of the theoretical and practical concepts, this section concludes and describe the main output of this Deliverable. This Deliverable provides online training materials in the form of a toolkit that can help CCs to manage their online and offline demonstration activities. Such activities can be defined as the **management process responsible for explaining, displaying, illustrating and experimenting something that CCs' potential partners may want to work on collaboratively or CCs' potential clients may want to use.**

REVIEW OF RELEVANT EU PROJECTS

Several relevant EU projects have been selected by the task leader and WP5 partners and reviewed for their potential contributions to SmartAgriHubs D5.5.

Some of these projects serve the creation and development of DIHs, while others provide training materials for farmers and advisors. Only one project was found to focus on the build-up of new CCs, providing specific training material for them. Short summaries of the relevant projects studied are set out below and followed by main conclusions contributing to the development of D5.5.

Smart-AKIS

This project[4] (2016-2018) aimed at setting up a self-sustainable Thematic Network on Smart Farming Technologies (SFT) among the European farmer community. Through its different activities, the project had gathered insights on the barriers and incentives for the adoption of SFT as well as on the needs from end-users and other stakeholders in the value chain, such as researchers, industry and advisors.

The project has developed a searchable database of smart farming technologies available on the market and coming from research projects, getting useful information on how they work, their economic and environmental benefits and demonstration materials.

The project itself has not developed training materials, but among their recommendations[5] are:

- Encourage the integration of **training activities** in terms of 'facilitation' and 'soft skills' in Thematic Networks and multi-actor projects and make the material available on the EIP-AGRI platform.
- **Improve** the existing **training and tutorial tools and platforms** allowing training users in the set up and running of new equipment and solutions. A better combination of interactive and digital tools should be made available training podcasts, infographics, the use of digital screens, short video clips.

[4] *https://www.smart-akis.com*
[5] *https://www.smart-akis.com/wp-content/uploads/2018/07/D3.6.SmartAKIS_Recommendations.pdf*

- Facilitate the participation of farmers in **hands-on demonstrations**: field visits, cross-visits, demonstration farms and small networks of end-user.
- Set up '**train the trainers'** approaches.
- The **translation** of the relevant dissemination materials (targeting, farmers) contained in such joint platform(s) **in the different** EU **languages** (e.g. through the intermediation of advisory services, or through a service offered by the EIP-AGRI service point, etc.).

Smart-AKIS found that networking, partnership and collaborations, as well as demonstration activities are needed to improve adoption of new technologies and services. CCs will disseminate and report on new technologies and innovations, therefore, they also need to have adequate demonstration and networking skills.

AgriSpin

What makes an innovation process move forward? And what stops it? How does the European farmer seek information and support? What competencies does he/she expect from his adviser? What kind of support system is in place today? The '**AgriSpin – Space for innovations in Agriculture**' (2015-2017)[6] project was looking for the answers to those questions by identifying best practices for innovation and support systems in European agriculture.

AgriSpin has established that non-technical issues, such as the relationship between key persons, creativity and energy in the team, networks, planning skills, space and resources for trial and error, communication skills etc., often matter more during the innovation process than the technical issues.

Key activities in the AgriSpin project are the Cross Visits, when partner organisations are visiting each other. The Cross Visit aims at collecting information about innovations that have taken place or that are in progress. During a Cross Visit there is an intensive exchange of information between the visiting team and the actors involved in the innovation process, i.e. farmers, advisors, scientists, managing authorities, technology suppliers, etc. They have developed a **manual for the Cross Visit Method**, i.e. a step-by step guideline for how to conduct a successful Cross Visit.

During the project, several helpful concepts and tools have been developed and tested:

- Network Analysis (overview over the actors)
- Spiral of Innovation (innovation phases and its characteristics)
- Triangle of Co-Creation (visualise the roles)
- Circle of coherence (visualise patterns of interaction)
- Evaluation form

The Training Toolkit **addresses trainers and advisors** in the first place. The guidelines include infographic templates, tips for the planning, questions and sample solutions.

[6] *https://agrispin.eu/*

Though the project had different target group, the AgriSpin deliverables (Asensio *et al.*, 2017) provided many inspiring ideas for D5.5 on how to develop training materials for CCs, especially for the process of the on-site demonstrations and networking.

SmartFactories

The '**Smart Factories in new EU member states**'[7] project was designed to support the growth of potential DIHs in new Member States of the European Union (Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, and Slovenia). The project aimed at building a DIHs network in Europe, where companies - especially SMEs - could have access to expertise, development and testing facilities of digital technologies, as well as access to finance and innovation services. In December 2017, **34 successful DIH applicants** have been selected by the Steering Committee and the EC to take part in the Training & Mentoring programme. The desired outcome of the training programme was a **market-validated business plan** for the establishment of a DIH.

Three elements of the training and mentoring programme were combined to offer the best practices in developing a DIH through a suite of digital tools designed to engage learners:

- The first element was a mandatory Kick-off workshop.
- The second element was a suite of training materials prepared and deployed through digital channels and webinars.
- The third element was a Peer Learning Programme aiming to promote the exchange and sharing of knowledge, experiences and practices among the selected DIHs.

The monthly training programme contained 1.5 hours webinars, Q&A, exercises, and evaluation parts. The topics covered were:

TR1: Programme introduction – program overview and process

TR2: Ecosystem landscaping – understand your market and network

TR3: Market engagement – develop initial model and test it

TR4: Service design and capability assessment – design DIH services and assess capability

TR5: Business model development – develop a clear business model

TR6: Funding and financials – identify financing and application skills

TR7: Business development – design sales and marketing approach

TR8: Business plan – capture plan in formal document

Most of the training materials – presentations, templates, manuals – can be downloaded from the project website. The available materials can be useful for the DIHs in the SmartAgriHubs project, and some parts (e.g. customer segments and communication channels) for the CCs as well. However, WP4 is also developing training materials for DIHs (D4.4 Capacity building package of materials for the establishment of a Hub).

[7] *https://smartfactories.eu/*

NEFERTITI

The overall objective of the project '**Networking European Farms to Enhance Cross Fertilisation and Innovation Uptake Through demonstration'**[8] is to establish an EU-wide highly connected network of well-specified demonstration and pilot farms designed to enhance knowledge exchanges, cross fertilisation among actors and efficient innovation uptake in the farming sector through peer-to-peer demonstration of techniques to be organised by themes.

NEFERTITI aimed to establish 45 regional clusters (hubs) of demo-farmers and innovation actors (advisors, NGOs, industry, education, researchers and policy makers). These clusters (hubs) are organised in 10 thematic networks, representing key concerns within the main agricultural sectors in Europe. The project supports different kind of events with a good balance between their size: from little groups of farmers with a high degree of peer to peer learning to bigger events with a lots of innovations presentation. In 2019, they have organized and/or connected to Nefertiti project, 267 demonstration events, where farmers have represented 50% of the total number of participants.

The project also supports a wide range of virtual demo events. Therefore, a '**Guidelines for virtual demonstrations'**[9]**,** as well as a '**FAQ on virtual demonstrations**' (Triste, 2020) have been published.

The two main projects related with project NEFERTITI are the Plaid and AgriDemo-F2F projects. The **FarmDemo platform** is the result of a close collaboration of these three projects. In addition, there is partnership between NEFERTITI and SmartAgriHubs projects because the efficient presentation of relevant digital knowledge is important to actors in both communities.

Many farmers from the EU member states do not speak English, therefore it must be highlighted that most of the NEFERTITI project webpages and deliverables are available in several languages. The SmartAgriHubs Portal is planned to deliver information only in English, but we suggest preparing at least some material in various languages.

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PLAID

The project **'Peer-to-peer Learning: Accessing Innovation through Demonstration'**[10] (2017-2019) has been designed to encourage farmers and farm employees to embrace innovations in agriculture, leading to a greater sustainability of European Agriculture, by accessing **high quality demonstration activities** on commercial farms. One of the reports 'Good Practices for Successful Demonstrations' (Elzen *et al.*, 2019), is based on 24 case studies representing a wide variety of **on-farm** demonstrations across Europe. This report describes lessons learned on how to prepare for a demonstration, carry it out on the day, and how to ensure impact once the demonstration has been concluded. Training and support

[8] *https://nefertiti-h2020.eu/*
[9] *https://nefertiti-h2020.eu/downloads/nefertiti-h2020.eu/?wpdmpro=guidelines_for_virtual_demonstrations&wpdmdl=6483&masterkey=5f7ad410906bc*
[10] *https://plaid-h2020.hutton.ac.uk/*

required for filming and editing videos was also provided to farmers to produce innovation videos and **virtual demonstrations**. Areas covered included: knowing your target audience; state of the art technology; ethical considerations; how to disseminate videos produced; potential barriers to effective virtual demonstration; recommendations.

A detailed manual has also been developed on video production (Alföldi *et al.*, 2019), which can be very useful for CCs in SmartAgriHubs as well. In connection with this, a webinar 'How to produce your own farm video to enhance knowledge exchange' have been organized under NEFERTITI project on July 09, 2020, which is available in the project website[11].

AgriDemo-F2F

Farmers operate in a complex Agricultural Knowledge and Innovation System (AKIS), drawing in information simultaneously from many different channels (e.g. social media, advisors, regulators, and supply chains). Demonstration farms are also one element of this system, which have a significant role in the application of scientific findings and the spread of best practices. The overall aim of **'AgriDemo – Farmer to Farmer'**[12] project was to enhance **peer-to-peer learning** within the commercial farming community. The project (2017-2019) has utilised the experience of different actors and involved practitioner partners throughout the project to deepen understanding of effective on farm demonstration activities (multi-actor approach). The report of Koutsouris *et al.* (2017) provides a good summary about the roles of demonstration farms and about demonstration processes.

AgriDemo-F2F and PLAID had strong collaboration, focusing on understanding the role of European commercial demonstration farms and the connectivity between actors involved in on-farm demonstrations. These projects together have developed a **FarmDemo Hub**[13] platform, which host a geo-referenced online **inventory of demonstration farms**. Some of these demonstration farms (depending on their activities) could also act as CCs.

The **FarmDemo training toolkit**[14] is the outcome of a strong collaboration between the projects AgriDemo-F2F, PLAID and NEFERTITI. The website collects tools and guidelines that can help in organizing farm demonstrations:

- Demo design guide for on-farm demonstrations
- Demo design guide for virtual demonstrations
- Tools for evaluation and follow-upTools for preparing a demo event
- Tools for delivering a demo eventInspiration from practice.

The tools are structured according to the prepare- deliver- evaluate logic, that is applied in practice in the hubs of the NEFERTITI project.

For each step the guides offer questions to be answered, concrete tips and hints in text format, available online and downloadable pdf. The tools also include some templates (e.g.

[11] *https://nefertiti-h2020.eu/webinar/*
[12] *https://agridemo-h2020.eu/*
[13] *https://farmdemo.eu/hub/app/inventory*
[14] *https://trainingkit.farmdemo.eu/*

invitation for a demo event), however, some topics are still under development. They have an additional video channel with inspiring videos.

This training toolkit is very similar to the idea proposed in this deliverable and provided inspiration to the development regarding the structure and topics of the tools. However, the focus of this toolkit is on farm demonstration, CCs need different approach.

I4MS

'**ICT Innovation for Manufacturing SMEs'**[15] is a European initiative supporting manufacturing SMEs and mid-caps in the widespread use of information and communication technologies (ICT) in their business operations. Under I4MS, SMEs can apply for technological and financial support to conduct small experiments allowing them to test digital innovations in their business via open calls. The I4MS project was launched in 2013 focusing on creating Digital Innovation Hubs, and the aim of the second phase was the further growth of the community. The project is now in its third phase, focusing on four technology areas important to the digital transformation of companies in the manufacturing sector: additive manufacturing, Cyber-Physical Systems (CPS) and Internet of Things (IoT), robotics and, High Performance Computing (HPC).

The project supported 29 projects through its **Mentoring Programme** focusing on six topics:

- Ecosystem assessment
- Business models for DIHs
- Building a Business Plan
- Brokerage for innovation
- Use cases
- Access to finance

As part of the mentoring, they provided webinars, extensive background information and templates. These materials were made available online and still can be found for all interested parties.

I4MS has been actively collecting data on training services provided by EU projects and Digital Innovation Hubs. The online **Training Catalogue**[16] on Industry 4.0 topics and technologies that can be filtered by several aspects like technology, channel, target group, duration, language, level, etc. Currently it contains 87 trainings, but new non-commercial trainings can be included in the catalogue filling a simple google form.

Since many EU projects have already developed training materials on digital tools in agriculture, this could be an example to follow and include in the SmartAgriHubs project.

HORSE

'HORSE – Smart integrated Robotics system for SMEs'[17] is an implementation of the second phase of I4MS, focusing on advanced robotics for manufacturing. HORSE's model of

[15] *https://i4ms.eu/projects*
[16] *https://trainings.i4ms.eu/*
[17] *http://horse-project.eu*

Competence Centres (CCs) will be established in four locations across Europe (the Netherlands, Germany, France, and Slovenia), in order to simplify usage and facilitate access to robotics by European industry and especially first-time users from SMEs. This is the only project found in which a **Guidebook for the constitution of new Competence Centres** (Semolic *et al.*, 2018) has been elaborated. The document provides the guidebook with descriptions of developing steps and requirements with suggestions where to start and how build-up a new regional HORSE Competence Centre. The proposed steps towards the development of a new CC are:

- CC initiation
- CC charter development
- Start-up of a new networked CC
- CC business plan development
- Formal start of a new CC

In each step they give a summary about the purpose, the starting points, what to do, and deliverables, as well as the responsibilities of involved organisations.

The guideline is an example of a schematic training material, based on flowcharts, questions, short statements and explications. This is the only training material found specifically developed for CCs, however, some of the topics will fit better to the Deliverable 5.4, governance and management of CCs.

Fertinnowa

In European countries, the cultivation of fertigated crops frequently suffers from a scarcity of water, and the intensity of cultivation has significant potential risks to water quality. Innovative technologies and knowledge are available, but simply not implemented at the farms level. The three-year (2016-2018) research project was evaluating and comparing existing technologies used in various horticulture sectors, including vegetables, fruit and ornamentals in different climate zones. The main objective of the FERTINNOWA[18] **'Transfer of INNOvative techniques for sustainable WAter use in FERtigated crops'** thematic network was to create a meta-knowledge database of innovative technologies and practices for the fertigation of horticultural crops. FERTINNOWA was also build a knowledge exchange platform to evaluate existing and novel technologies (innovation potential, synergies, gaps, barriers) for fertigated crops and ensure wide dissemination to all stakeholders involved of the most promising technologies and best practices. One of the main outcomes of the project is the Fertigation Bible, which provides useful practical information to the horticultural sector of the diverse technologies available for all aspects of fertigation within the EU. A total of 125 such technology descriptions are provided.

The project has also built a public **technology database** on its website. Through this database, visitors can reach all processed data, and the website also provides an interactive section, through which visitors can score the technology and post their comments. The interactive datasheets consist of the following parts:

- Main information (abstract) and pictures

[18] *https://www.fertinnowa.com*

- About technology – summary table (theme, technology type, development stage, further information)
- Related documents (in pdf)
- Contact
- Voting possibility and voting results (including your given rate)
- Short feedback survey (is the technology relevant for you, is the information useful, are you grower/researcher/technology provider/other, e-mail, comment)
- Survey results (if any).

All members were asked to upload their relevant information (scientific articles, articles, documentation, experiences etc.), therefore a short **guideline on how to use the system** was prepared. This system and the structure of the demonstration pages (Valentar *et al.*, 2017) can be good example for the SmartAgriHubs technology database. Additionally, it can be an example for CCs on how to create online demonstration with feedback options.

The following examples from the reviewed projects demonstrate the great variety of training materials developed primarily for producers and advisors.

OK-Net Arable

The **'Organic Knowledge Network Arable'** project[19] was coordinated by IFOAM EU and involved 17 partners from 12 countries all over Europe (2015-2018). The project had three objectives:

- The project has synthesised the scientific and practical knowledge available about organic arable farming and identified the best methodologies for exchanging this knowledge.
- It has created a European network of farmers to exchange experiences and discuss the advisory material selected by the project.
- Finally, the project created an online platform offering evidence-based advisory material as well as facilitating farmer-to-farmer learning.

The complexity of organic farming requires farmers to have a very high level of knowledge and skills. The **online knowledge platform**[20] has integrated social media tools to facilitate discussion and learning among **farmers, farm advisers and researchers** all over Europe. The extensible toolbox contains different kind of tools, like web tool, video, online courses, leaflets and guidelines, calculator, books and reports, and audio, which have been described with metadata in a database. Users can search the database on a specific topic, of a specific type, in a specific language, etc., and get relevant links to the adequate tools. Users are encouraged to give their ratings to the tools in terms of 1 to 5 stars. The website is made in English, but translation is provided with help from Google Translate into 10 languages (which is often not precise and can be incorrect), and cross-language keyword search was developed, too (Rasmussen and Jensen, 2016). Despite the occasionally inaccurate

[19] *https://cordis.europa.eu/project/id/652654*

[20] *https://organic-farmknowledge.org/*

translations, the Google Translate can be an option also for the SmartAgriHubs portal to provide training materials in several languages.

The project also offered two **online training courses** developed by the Mediterranean Agronomic Institute of Bari (IAMB). Facilitated courses were developed using Learning Management System (LMS). Course material were basically based on a PowerPoint presentation containing a theoretical background and supported by related specific tools (practice abstracts, leaflets, guidelines, data calculation tools, videos, books, reports, web pages etc.) taken from the OK-Net knowledge platform.

Materials used in both facilitated courses were re-organised and uploaded on the OK-Net knowledge platform in a space devoted to the self-learning course. The course is now open and free for all users.

Based on the feedback from farmers and advisors it was found that the use of visual information, inclusion of case studies, short summaries and practical recommendations are preferred. Depending on the topic, some types of tools are more appropriate than others and different users have different preferences. Therefore, it is clear, that a range of tools are necessary to support farmers to take new knowledge into action, and CCs must be prepared for that. On the other hand, it calls the attention to test the planned tools by CCs and modify them, if needed.

Hennovation

Hennovation[21] is a thematic network about animal welfare and practice-driven innovation in the laying hen sector, implemented in 2015-2017. The project produced a variety of technical resources based on the latest scientific knowledge related to feather pecking and End-of Lay (EoL) as well as the newly co-produced knowledge by the innovation networks. All materials can be found on the webpages under the Technical Resources tab:

- The HenHub is designed as an **interactive wiki**, not only providing information, but also enabling to share knowledge with others.
- **Extension guidelines** on feather pecking and End-of-Lay were developed by the project to provide veterinarians and advisors with up-to-date technical knowledge.
- An **online e-learning course** was developed for veterinary and agricultural students and the Continuous Professional Development of advisors working in the poultry sector. The freely available training material includes presentations, technical notes, fact sheets, case studies and other learning resources such as videos and web sites.
- 38 **Practice Abstracts** and an additional five **technical notes** were developed to share the results with other farmers and the processing industry. These are also available on the EIP-AGRI website.
- A **cost-benefit model** developed for egg producers helps to take the guesswork out of decision-making and can be used to improve business performance.

This project also demonstrates a great variety of materials based on the latest scientific knowledge. Guidelines, practice abstracts and technical notes are written materials for end-users. Unfortunately, in the so-called 'interactive wiki' we could not find the possibility for

[21] *http://hennovation.eu*

interaction. Even so, a website or blog, where farmers, CCs and DIHs can interact with each other would facilitate the networking and demonstration activities, and knowledge share.

Conclusion

From the projects reviewed the following **conclusions** can be drawn and contribute to the development of D 5.5:

- Several projects aimed to develop **technology catalogues** and **knowledge platforms** to facilitate the dissemination of new technologies.
- In terms of demonstration activities most of the projects are focusing on DIHs and farmers, CCs are only mentioned usually **as part of the DIHs**.
- DIHs and CCs have different roles, but **demonstration and networking skills are equally important** for them. In this aspect they need similar skills, therefore, some of the training **materials developed in former projects can be adapted** for CCs.
- **On-farm demonstrations** facilitate an effective learning situation for farmers to see the new technologies and interact with the scientists/providers. This is especially important for those technologies that are **complex, costly,** or require specific skills in application.
- **Virtual (online) demonstration** is a great possibility to share innovative technologies, increasing access and **reducing the time and location constraints** associated with traditional on-farm demonstration.
- The training materials and tools can have very **different types**, like guidelines (pdf), presentations (ppt), videos, infographic or spreadsheet templates, short tips, questions and sample solutions.
- **Language can be a barrier** to farmers; therefore, information ideally should be in their native language. While the SmartAgriHubs Innovation Portal is in English, CCs may consider working with DIHs to provide information in various languages. Google Translate is far from perfect but can also be an option for a multilingual solution.

ASSESSMENT OF DEMONSTRATION CAPACITIES OF EXISTING CCS

The assessment of demonstration skills and capacities of the aims to explore and understand CCs' objectives, problems and needs in relation to their demonstration competences, tools, and activities through empirical research. Taking the main objectives of SmartAgriHubs into consideration, the primary focus is on the online demonstration capacities of CCs. These are screened after CCs joined SmartAgriHubs in order to define their initial level of demonstration capacities. Results will be considered when designing the content of the training tools for CCs.

As an initial CC database, CCs within Flagship Innovation Experiments (indicated in D5.2) were taken into consideration. 45 CCs out of the originally listed 59 FIE members were easily accessible (provided a link to their websites) and thus were included in the screening process (Please find the list of questions in the Annex 2). Later in the project (based on an updated version of D5.2), another group of new entrants were identified and screened with the same set of questions. Out of 45 new CCs, 32 are recognised by WP5 as real CCs and therefore included in the screening. In the first round, the countries represented by the highest number

of CCs were: France (6), Ireland (5), Poland (5) and Sweden (5). In the second round, the highest number of new entrants were from Austria (7).

Results of the two screening processes are introduced according to the topics of the questionnaire.

Website availability in English:

More than half of the observed CCs (56%) in the first screening had a website in English. Further 20% had already started developing one, but they were at a preliminary stage. In the second screening 75% of the CCs have already provided access to its website in English.

Easily identifiable profile:

Provided services, products and their profile could be easily identified at majority of the websites. In the first screening 82% while in the second screening 90% of the CCs owned a website where visitors can easily understand what exactly they provide.

Easily identifiable agricultural relevance:

In the first screening agricultural aspects were easily identifiable by visitors (without spending too much time with it) in almost two-thirds of the cases (64%). In the second screening process, this proportion was a little higher, 69%.

Availability of protected content:

Although the screening process did not include the review of the protected contents themselves, their existence and availability are relevant. It conveys the message that the CC potentially has private content for certain visitors only. In the first round, one-third (33%) of the screened CC websites had protected contents, accessible after registration only. In the second round, this proportion was almost the same (34%).

References to offline demonstration activities:

A little more than one-quarter (27%) of the examined CCs shared easily noticeable information about their offline demonstration at their website, while in some further cases (18%) the message was not clear enough. The second screening process confirmed these results with 28% and 16% respectively.

Online demonstration activities:

Regarding online demonstration, large majority (89%) of the CCs screened in the first round used text description and images or figures on their website, while 82% of them provided access to their social media profiles as well. 76% of the screened CC websites offered video contents of any type to their visitors. In the second round only 75% of the CC websites contained visual aids. Social media reference could be found in 81% of the cases (very similar to the first screening). However, regarding video content, only 44% of the CCs (remarkably less than in the first round) provided videos on their webpages.

Shared training materials:

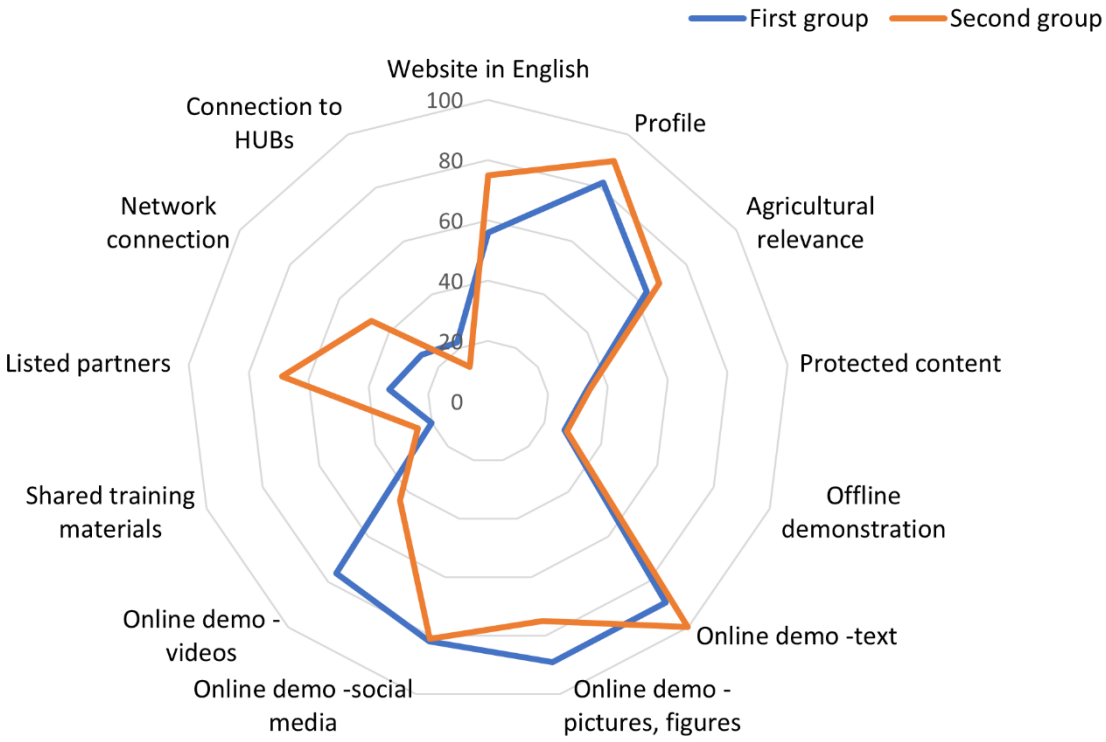
During the first screening process, only 20% of the CCs shared easily accessible training materials on their websites. Within the second group of screened CCs this proportion was higher, 25%. (Please note that protected contents were not subject to the screening processes, so further training materials could have been provided privately).

Listed partners and connection to networks and HUBs:

At the time of the first screening process, only one-third (33%) of the CCs provided a list of their partners on their website. Later, within the second group of CCs, this proportion was

considerably higher (69%). As far as network involvement is concerned, 27% of the screened websites contained easily identifiable connection to a network in the first screening round. In the second round, this was higher again, 47%. Regarding HUBs, 22% of the websites mentioned connection to a HUB or DIH in a recognisable way during the first screening. In the second screening only 13% of the CCs indicated their relationships with HUBs or DIHs clearly.

Figure 3. Demonstration capacities of selected CCs based on website screening



Based on the two screening processes, the main areas to be developed and communicated more effectively on a CC website are:

- the outside connections of the CCs (partners, networks, HUBs),
- offline demonstrations,
- information on unseen (protected) content,
- training materials,
- video content.

The materials WP5 develops for CCs will take all these results into consideration.

SYNTHESIS

This section is based on the synthesised findings of the previous sections and presents the key elements this deliverable is built on. Reviewing several relevant EU projects has drew our attention to the following insights. Providing knowledge is a common practice in projects like SmartAgriHubs and in most of the cases it is done with the help of online available tools. The reviewed projects gave good insights into what expectations are needed to be met by online training materials. These requirements are: free availability, clear and understandable language, attractive design and layout and inspiring visualisation and illustration. SmartAgriHubs project relies on and get inspired by the various forms of training materials and tools developed by the reviewed projects. Training materials and tools can have different types, such as guidelines (pdf), presentations (ppt), videos, infographics and spreadsheet templates.

Language barriers can generate difficulties in communication and collaboration, not to mention that reducing the digital divide is hardly achievable without an inclusive linguistic environment. It would be recommended to follow the example of the project FarmDemo and provide website or at least some deliverables in multiple languages. While the SmartAgriHubs Innovation Portal is in English, CCs may consider working with DIHs or RCs to provide information in various languages.

Regardless of the environment, demonstration activities provide a meeting place for learning. Based on the conceptualisation of demonstration, the following points need to be considered for the development of this deliverable:

- The target audience and the forms of demonstration activities need to be selected simultaneously, so larger impact can be achieved if the combination is carefully planned. This is true whether we are talking about online or offline demonstration.
- Effective online demonstration depends on how digital competences are developed and mobilised. In this deliverable, online demonstration includes activities from basic online communication through collaboration to sharing. This deliverable must provide a pool of solutions for CCs to become competent and responsible actors. Considering responsibility, online demonstrators need to consider the diverse digital competences of the target audience.
- Offline demonstrations, in the first place, serve as an interactive environment for facilitating knowledge transfer. In the context of CCs, the location, the way of learning and the target audience are essential when organising an offline demonstration. The location might be a working local farm, an exhibition, or a CC's own lab or workshop. Larger impact can be made if learning takes place in an inclusive facilitated environment allowing hands-on activities. Regarding target audience, offline, on-farm demonstrations are good ways of making digital innovations available for stakeholders with limited digital competence by facilitated hands-on learning activities that may contribute to reduce digital divide.

Regarding CCs' needs assessment, it was found that online and offline demonstration activities vary among CCs. Scanning of CCs' websites is just the first phase of empirical research on CCs, but it has already delivered enough information to assume/estimate that CCs have diverse demonstration potential.

Based on this synthetisation, four key elements of demonstration activities have been identified:

- **Identifying target groups,**
- **Developing effective messages (content and form),**
- **Utilising the right channels (online or offline),**
- **Networking.**

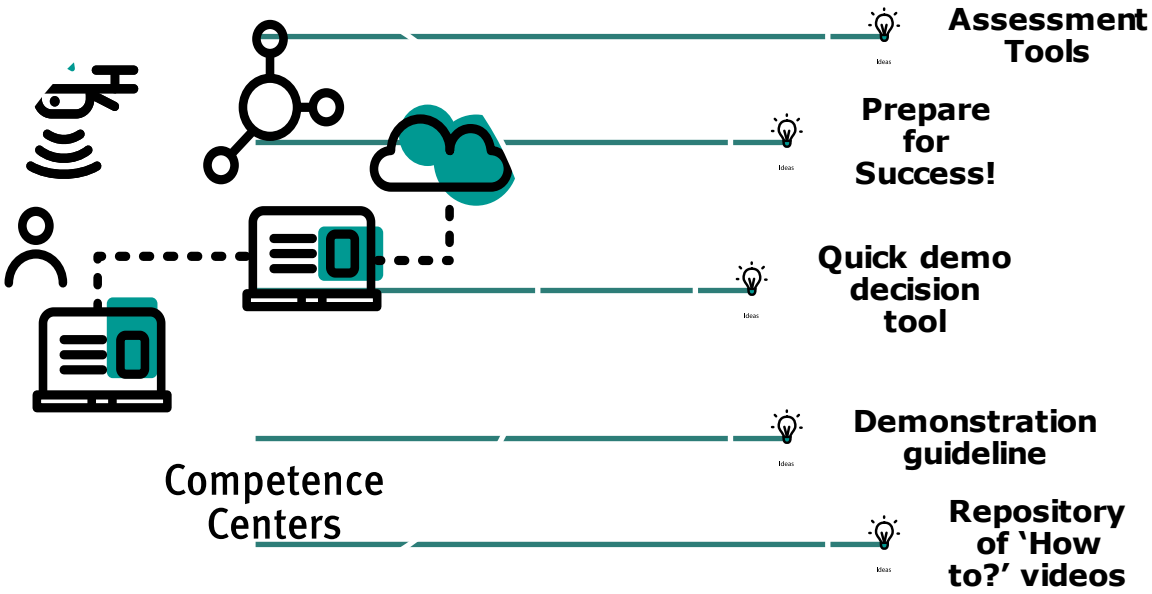
When a CC starts conducting demonstration activities, these four key elements are needed to be managed for successful and effective demonstrations. Therefore, these four key elements served as guidelines when training materials for CCs were developed and designed.

DEMONSTRATION TOOLKIT FOR CCS

As mentioned above, the four key elements of demonstration have served as a guideline for the development of training materials. These materials are distinct regarding the nature of help they can provide. There are materials that serve as knowledge repositories, while others can assist CCs in their decision making in relation to demonstration activities. For the ease of understanding and also bearing in mind the future display of these materials on the Innovation Portal, they are named demonstration tools presented in a demonstration toolkit. Each tool reflects on key findings of the theoretical and practical reviews. With the use of these tools, CCs can self-train themselves adequate knowledge to improve their demonstration skills, activities and networks. Five tools have been developed and designed (See Figure 4!).

- Evaluation Tools,
- Quick Demo Decision Tool (QDDT),
- Demonstration Guideline,
- 'Prepare for Success!' Tool,
- Repository of 'How to?' videos.

Figure 4. Toolkit for training and demonstrations



The following parts of this section provide detailed descriptions of the reasoning, functionality and operational procedures for each tool. For **this second iteration of the deliverable**, one of the **Evaluation tools** and the **Prepare for Success!** tool have been developed in detail. Conceptual development of the rest of the tools is also completed and provided in this Deliverable. Final designs and descriptions of operational procedures will be completed by M30 (April, 2021). The last point of this section presents the ideal user journey for the use of the toolkit.

EVALUATION TOOLS

Evaluation tools assist CCs in measuring performance or satisfaction. The main evaluation tool developed within this task is an interactive self-assessment tool designed to measure the CC's own performance. Further tools, such as evaluation sheets measuring the performance or satisfaction of stakeholders (e. g. partners, customers) will be delivered in later phases of the project.

Self-Assessment Tool

When CCs join SmartAgriHubs, they might not have a clear picture of the quality and effectiveness of their demonstration activities. With the introduction of the self-assessment tool, the goal is to invite CCs for a short self-exploration by answering deliberately designed questions on topics that heavily influence their demonstration performance. As a result, CCs will know exactly in which areas they might need to consider further improvements in order to become a visible and receptive actor within the digital ecosystem.

The questions raised in the Self-Assessment Tool are grouped around five topics derived from the main components of demonstration activities (already introduced earlier):

1. Knowledge of the target group:
    - Do you regularly research your market?
    - Do you differentiate your potential clients?
    - How important is it for you to know your clients?
    - How important is it for you to track consumer satisfaction?
    - Do you have long-term vison regarding your target groups?

2. Message formulation:
    - How important is it for you to have the best content in your marketing communication?
    - How important is it for you to have a marketing strategy?
    - How often do you update your marketing communication?
    - How important is it for you to adjust your messages to different client groups?
    - How important is it for you to differentiate yourself from your competitors?
    - Do you have any products/services applicable in the agrifood sector?

3. Networking performance:
    - How broad is your (most important) network?
    - How important is cross-sectoral cooperation to you?
    - How important is it for you to intensify your networking activities?
    - Have you created social media profiles for your business?
    - Do you keep yourself updated regarding your (potential) partners?

4. Online demonstration performance:
    - How important is the design of your online demonstration for you?
    - Is your site mobile friendly?
    - Which tools do you use for online demonstration (infographics, blog, journal articles, e-book, social media post, video, webinar, live stream, webcast, podcast)?
    - Do you provide opportunities for customer feedback?

5. Offline (on site) demonstration performance
    - How important is it for you to do on-site (e.g. on-farm or on your facilities) demonstration?
    - How often do you provide on-site demonstration?
    - Do you have a planned procedure to follow in your on-site demonstration?
    - Do you have skilful human resource to provide on-site demonstration?
    - What kind of demonstration do you provide usually?
    - Do you provide opportunities for feedback?

For the detailed questionnaire with the possible answers please visit the Annex section (Annex 3). When applying the Tool, users can select their answers from a drop-down list. Results will then be automatically visualised in an interactive radar (spider web) chart. Upon completion, a written evaluation and further suggestions are provided covering the five topics.

Based on the results, additional tools and training materials will be recommended. Hence, this tool can be considered as an entry point to other tools.

The Self-Assessment Tool has been developed in Excel 2016 spreadsheet (see Annex 4) and planned to be implemented in the Innovation Portal as a web tool at a later stage of the project in cooperation with WP1 (the planned publishing date of the tool is M30, April, 2021).

QUICK DEMO DECISION TOOL

This section describes the purpose and architecture of the Quick Demo Decision Tool. This tool is a model–driven and web-based decision support system. The tool supports CCs in their decision-making process in relation to their demonstration activities. By assessing their needs, goals and current situation, the tool provides guidance regarding what steps to take for successful demonstration activities. It also offers suggestions on which further tools to choose. By using this tool, CCs can decide easily what kind of demonstration activities fit best to their needs.

Review on decision support systems

Decision support systems (DSS) or tools transform user input data into information in the form of suggestion or recommendation. Decision support systems are supposed to assist users by asking relevant questions in a problem domain and based on the provided answers (user inputs), they deliver recommendations for optimum strategies. Such a tool provides help to narrow down the number of decision choices within a predefined operational area.

Studies on decision support systems have a long history. In the early years of operational studies, Alter (1980) identified three major characteristics of a decision support tools: 1) they facilitate decision processes, 2) they support decision process by avoiding automatisation, and 3) they have the ability to react quickly to new needs. Power (2002)'s key work on decision support systems offers a general and frequently-cited definition:

"DSS are defined broadly as interactive computer-based systems that help people use computer communications, data, documents, knowledge, and models to solve problems and make decisions. DSS are ancillary or auxiliary systems; they are not intended to replace skilled decision makers".

Although early decision support systems were designed to help making business and managerial decisions, nowadays the use of these tools cover various domains. Results from projects funded by the EU's framework programmes for research and innovation proves that point:

NOESIS - Novel Decision Support tool for Evaluating Strategic Big Data investments in Transport and Intelligent Mobility Services[22]

4D4F - Data Driven Dairy Decisions For Farmers[23]

SMART-Plant[24] - Scale-up of low-carbon footprint material recovery techniques in existing wastewater treatment plants

TAPAS[25] - Tools for Assessment and Planning of Aquaculture Sustainability

Landmark[26] - LAND Management: Assessment, Research, Knowledge base

Functionality of Quick Demo Decision Tool

QDDT does not require data-intensive inputs and does not use mathematical or statistical functions. However, its concept is in line with the general aim of decision support systems as it will lead CCs through clear steps and suggest an optimal decision at the end. Each step will be a question assessing users' intentions, needs and limitations. Answers will be considered when the optimal decision or recommendation is made. Therefore, steps/questions follow in a linear way, meaning that users need to answer all questions to be provided with a recommendation.

Behind the web-based, interactive user interface, there will be a predefined, static model to calculate users' responses, similar to a decision tree (a model-driven DSS). In a decision tree, the model is basically the algorithm of conditional control statements. This algorithm leads the user through a chain of multiple options while calculating an outcome. Power (2002) claims that decision the tree has two advantages: a decision tree can illustrate relationships among decision elements, and it has the potential to address complex situations.

The best way to illustrate the use of decision tree in practice is a flowchart. By the definition of the ISO Information Technology Vocabulary, a flowchart is "*a diagram that depicts data sources, data sinks, data storage, and processes performed on data as nodes, and logical flow of data as links between the nodes*"[27]. In this version of the Deliverable SAH Quick Demo Decision Tool is also presented in the form of a flowchart that serves two purposes. It helps understand the concept of this tool, and it is considered as blueprint for the Innovation Portal developers in WP1 (See Annex 5).

Organisational set-up

The Tool is composed of two major components:

[22] Source: https://cordis.europa.eu/project/id/769980
[23] Source: https://cordis.europa.eu/project/id/696367
[24] Source: https://cordis.europa.eu/project/id/690323
[25] Source: https://cordis.europa.eu/project/id/678396
[26] Source: https://cordis.europa.eu/project/id/635201
[27] Source: https://www.iso.org/obp/ui/#iso:std:iso-iec:2382:ed-1:v1:en

Frontend environment will be an online interactive surface where users can interact with the tool. Development and design of frontend environment will require strong cooperation with WP1.

Backend environment will be where the tool applies the predefined, static model for calculations. Development of backend environment will require strong cooperation with WP1.

Major elements of Backend environment

Questions and answers

Questions will channel users' input into the model. For that, questions will assess CCs' intentions, needs and limitations and other attributes that may be a factor in the CCs' optimal demonstration activities. All questions will be close-ended multiple-choice questions with a predefined list of answer options. This means that users cannot express their opinions in their own words. The list of questions is not complete as more CC attributes are expected to be detected as the result of the ongoing work on the Tool (The planned publishing date of the tool is M30, April, 2021).

Current Questions:

What was the percentage you received from the Self-Evaluation Tool?

- 0 to 100 in 10 percent break downs

What kind of demonstration are you planning to do?

- online
- offline

What will be the target group of your demonstration?

- partners for cooperation, such as DIHs
- end-users for testing
- investors

What will be the goal of your demonstration?

- attract
- inform
- convince
- all of the above

What is the time frame given for the preparation of your demonstration?

- short / immediate
- medium
- long

Outcomes

The main added-value of this tool is the specific outcomes. Each outcome will be a recommendation for CCs to get engaged in a certain demonstration activity. This version of the Deliverable provides a list of eight demonstration activities. The list is the outcome of an ongoing exploratory work of possible demonstration activities that involved literature on online marketing and interviews with CCs on their demonstration competences. The list is expected to grow as more activities will be identified.

- social media / social posting
- website

- video
- infographics
- blogging
- site visit / open gates
- farm demo
- virtual meeting

Model / mechanism of the tool

The model of this tool works similarly to a quiz in which each answer is assigned to a different outcome. The outcome of the process is determined by the number of answers lined up to a specific outcome. The specification of this model is being detailed at the time of writing this deliverable and expected to be completed by M30, April, 2021.

'PREPARE FOR SUCCESS!' TOOL

This tool aims at collecting and introducing already existing successful demonstration activities based on jointly developed criteria, which can provide inspiration and support for CCs in planning, designing and implementing their own demonstrations. We recommend collecting these materials with the Regional Clusters within SAH by using a jointly designed template and upload them to the Innovation Portal. With the help of this tool, CCs can obtain creative ideas, inspiration and motivation on how to be successful in their demonstration activities.

Why CCs need to learn from success stories?

The success stories may come from good practices. A good practice is not only a practice that is good, but a practice that has been proven to work well and produce good results and is therefore recommended as a model. It is a successful experience, which has been tested and validated, in the broad sense, which has been repeated and deserves to be shared so that a greater number of people can adopt it (FAO, 2013).

Stories are very powerful forms of communication. Success stories or good practices come in different forms and formats based on the purpose they serve. The advent of digital technologies and the 'internet-of-things' have increased their availability and accessibility. Many organisations use success stories of their competitors or close associates to benchmark their annual work design or layout. Success stories can be a powerful evaluation tool that communicates results of successful demonstration activities to key stakeholders (Kibel and Cullotta, 1999).

Successful good practices from demonstration farms and field days help transfer research to application by allowing innovations to be observed by participants and making it easier for Extension educators to communicate about the innovation (Boleman and Dromgoole 2007). Successful demonstration stories and field days have the potential to facilitate the adoption of desired practices by agricultural producers, and most of this successful information are published to help farmers plan and conduct demonstrations (Maddy *et al.*, 2015). Good practice demonstration sites and field days are commonly utilised as a method for engaging agricultural producers and remain an effective way of influencing the adoption of innovations (McGowan *et al.*, 2018).

Four potential sources have been identified to capture success stories in SAH:

1. **Selection of relevant rewarded projects from the winners of the largest communication and marketing award programs**[28]
2. **Recommendations for excellence from Regional Clusters and Hubs**
3. **Findings from CCs web scanning (part of Task 5.4)**
4. **Further interviews with CCs (part of Task 5.6)**

Table 2 summarises each potential source by describing the judging criteria, capturing process and Portal presentation.

[28] *Programs such as Digital Communication Awards, The Communicator Awards, The Internet Advertising Competition, AVA Digital Awards*

Table 2. Potential sources of success stories

	Selection of relevant rewarded projects from the winners of communication and marketing award programs	**Recommendations for excellence from Regional Clusters and Hubs**	**Findings from CCs web scanning (part of WP5 Task 5.4)**	**Further interviews with CCs (part of WP5 Task 5.6)**
Judging criteria	For this source, there will be no specific judging criteria to use as each program has its own judging criteria	A guideline will be provided to help judging potential practices. The following factors have been identified so far based on xxx: innovation, creativity, impact, design, technical feasibility and memorability. Judging process aims to identify practices that are "outstanding" considering these factors. The judging process is also supposed to consider that captured practices should present inspirational examples for CCs on how to be an active, visible and receptive part of SmartAgriHubs. Judges (those who recommend or interviewed CCs) will base their decisions on their own perceptions of the given factors. The risk of subjective bias will be mitigated by multiple judges.		
Capturing process	AKI will review the rewarded projects and select the ones that fall into the profile of CCs in SAH. The proposed timeframe is 2015–2020	Potential good practices from these four sources will be captured using one shared template. The template will serve the function of identifying and documenting potential good practices (See the Template in Annex 6). Elements of the template will be: - the type of demonstration activity (e.g. website, social media, field demonstration, etc.), - owner of good practice, explaining the context (if relevant), - access (URL links), - release date, - what factor played a role in capturing this practice and why. The template will be circulated among RCs and HUBs by asking their contributions to capturing good practices.		
Displaying on the Portal	List of winners will be presented with detailed background information (name of the program that gave the award; type of demonstration activity; what can be learnt from that good practice based on program judges' reasoning)	To be further developed in cooperation with WP1 and Fraunhofer IPA!		

DEMONSTRATION GUIDELINE

Well-presented demonstrations can play a critical role in enabling adoption of new technologies. Demonstration activities of CCs can range from offline to online demonstrations, based on different channels and technical solutions. Given this variety, there is no 'one-fits-all' approach for a successful demonstration, therefore, CCs may need guidance to select the appropriate methods. Based on the assessment of demonstration capacities of existing CCs, majority of CCs has the technical background for the online demonstration (website, social media), however, there is few information about their offline demonstration activities. The non-technical issues (e.g. relationship between key persons, creativity in content formulation, communication skills etc.) can be also crucial.

Among the relevant EU projects, three inspiring publications can be highlighted in this context. The 'Design guide for on-farm demonstrations' is a result of a strong collaboration between the PLAID, Agridemo-F2F and NEFERTITI projects. It focuses on only one possible type of demonstration (offline) but provided inspiration to the development regarding the structure of the tool. The 'Good practice guidelines for virtual demonstration' of the PLAID project (Hardy *et al.*, 2019) was inspiring regarding disseminating audio-visual materials. The 'FAQ on virtual demonstrations' (Triste, 2020) was considered developing the questions and answers part of the guideline. Additionally, the European Commission has also published a 'Social media guide for EU funded R&I projects' (EC, 2020).

Social media platforms, like Facebook for Business[29] and Twitter Business[30] also have guidelines on their websites to help users how they can use it to grow their business. However, these instructions are usually located in several pages, therefore sometimes it is difficult to find the adequate parts.

In addition, there are several online marketing materials dealing with successful product demonstrations, e.g. the free business advice and guidance offered by Invest Northern Ireland[31], and marketing statistics are also available on the effectiveness of the different demonstration methods and tools. These materials were also used in the guideline.

Functionality of the demonstration guideline

The demonstration guideline tool will serve as the key information hub to guide CCs' demonstration activities. It offers an overview of the most important elements that should be considered preparing, carrying out and evaluating demonstration activities. Every demonstration consists of steps and a set of rules that need to be followed. Without those steps, it will be difficult for learners to grab its full concept and replicate it. It is, therefore, necessary that these steps are visible to users for easy access when they are needed. The demonstration guideline will be designed specifically to contain this important information to make it easier for CCs to identify and use them without wasting time searching other tools for a demonstration guide. This will contribute to time management by speeding up their learning process.

[29] *Source: https://en-gb.facebook.com/business/learn/*
[30] *Source: https://business.twitter.com/*
[31] *Source: https://www.nibusinessinfo.co.uk/content/sales-and-marketing*

This tool will be a knowledge repository, a thematic collection of questions, answers and hints, covering previously mentioned topics, which are important for successful demonstration activities (target groups, message, offline and online channels, networking, evaluation). With the help of this tool, CCs can find answers to their questions and further inspiration on how to be successful in their demonstration activities.

The guideline can be used as a standalone manual, but the other tools (e.g. QDDT) will have references for its corresponding parts. However, the guideline will include also references to the other tools, e.g. 'How to?' videos and best practices. It contains also references to other useful training materials.

The following criteria were considered during the selection of the materials included:

- to provide materials that will stimulate CCs' demonstration activities
- quality resources, e.g. scientific publications, EU project deliverables, official homepages
- tips and advices should be confirmed in several publications
- statistics from market research companies or service providers
- supplementary materials should be in electronic format
- materials should be available free of charge.

To ensure relevant supplementary media collection, their links should be revised regularly.

In the future, the guideline is planned to be placed on the Innovation Portal (the planned publishing date of the tool is M30, April, 2021. A good example to create this guideline can be the online guide 'From use case to showcase'[32] of the IoF2020 project, which presents 20 golden rules for a successful promotion on social media.

REPOSITORY OF "HOW TO?" VIDEOS

The Repository of 'How to?' videos is a thematic collection of tutorial videos (or other recorded materials, such as podcasts), gathered for informational, demonstrational or educational purposes from different sources. Based on the success of the YouTube[35] search engine, it is clear that people often choose 'how to' videos when looking for more help (usually practical information) related to a certain topic. With the Repository, CCs can quickly access relevant 'how to' videos, organised around different components of demonstration activities (introduced earlier).

'How to' videos offer a great opportunity for learners to increase and support learning by contributing to efficient on-site work performance technique. The use of video tutorials contributes to online learning as a powerful tool for education and the acquisition of occupational competencies, bridging the gap between theoretical and practical learning (Sue et al., 2003). Watching practical videos on how to do a task is not passive but an empirical process to build technical skills (Bates, 1985). A research conducted by Larcom (2018) observed that people usually turn to tutorial videos to satisfy their learning needs at workplaces. He further noted that 55% of his research respondents reported watching two or more tutorial videos. This percentage is increasing year by year as more and more people

[32] *Source: https://iof2020.h5mag.com/usecase_showcase/cover*

are getting attached to this form of learning. Furthermore, videos are so engaging, they are ideal media for teaching concepts, skills and visual literacy (Kay, 2020).

Even in the event of a language barrier, videos and visual images could assist people in learning new methods and procedures by observing and following the demonstrations in the presentation. Many people sometimes find it difficult to comprehend the text instructions that guide a particular concept or procedure, some of the words used are too technical for a nonprofessional to understand. Others also use jargons that can only be understood by few people. This sometimes becomes an obstacle to effective learning and understanding of procedures and concepts. Videos eliminate all these obstacles because of their "see it, do it" concept. Learners listen carefully and follow the processes given to them, even if technical words are used, the visual demonstration compensates them. Therefore, it is easier for people to watch video tutorials and repeat the instruction afterwards rather than reading written words and repeat the procedure.

What makes a good tutorial video?

Good instructional videos have qualities that distinguish them from sub-standard instructional videos.

- Introductory framing and conclusions: Swarts (2012) analysed that good instructional videos commit more time to introduce an instructional agent, forecasting goals to be achieved at the end of the tutorials and the different steps involved in performing the instruction. However, it was noted that poor instructional videos allocate more time to steps in performing the instruction and less time to introductory framing and conclusion.
- Clear instructional messages: in terms of task performing, good instructional videos are noted to explain and demonstrate more procedures and to provide clearer explanations When demonstrating, the narrators of good videos were explaining what they were doing and why" (Swarts, 2012). High-quality instructional videos are designed to make their instructional messages easily identified and accessed, understood and applied by the users (P. ten Hove and van der Meij, 2015).
- Directing attention: videos that are rated high on the internet adopt specific deictic language ("click on the timeline" or "drag in your clip from the media bin") to direct attention. Low rated instructional videos, on the other hand, use ambiguous language such as "click here" or "get this thingy" (Swarts, 2012). A review of instructional video by Morian and Swarts stated that higher-ranking tutorial videos often used specialised screen-casting software, making good use of zooms and edits to draw viewer attention to specific areas on the screen.
- High quality audio-visual display: high-quality instructional videos have higher resolution quality and the more frequent presence of static pictures in both iconic and analytic. Good instructional videos are devoid of background noise (P.ten Hove and van der Meij, 2015; Gil and Williams, 2017
- On-screen texts. Short on-screen texts are often added to engage learners' attention. In multicultural societies, subtitles are usually written in different languages to make it more increase inclusion and easy-to-use by everyone. (P.ten Hove and van der Meij, 2015).
- Additional details: an interface that supports reading to do, specific details, as well as user feedback, are what make a good instructional video standout (Morian and Swarts, 2012).

- Time saving length: short but quality videos have higher ratings than long and boring ones (Kim *et al.*, 2014).
- Well-presented content: contrary to the earlier review by Swarts (2012), Chong (2018) found that a video may follow all the good practice procedures, such as including an introduction, beginning with a clear objective, incorporating verbal instruction, being strategically redundant, and using a combination of text or still images to complement the video, yet, if the creators did not rehearse their scripts, nor did they use the recording and editing tools effectively, their videos may not get a higher rating. An instructional video can be a good base on its design, but if it is not well presented, it may not be rated high by viewers. It is, therefore, important for presenters of instructional videos to be abreast with the content to enable free flow during the presentation.

Selection of 'How to' videos

In the Repository, different components of demonstration activities mentioned earlier (identifying target groups, developing effective messages, utilizing the right channels, networking) will be covered. The goal is to provide a collection of good videos on each important subtopic, especially on those identified as very important, problematic or challenging for CCs.

When selecting videos for inclusion, topic, view counts and ratings will be among the pre-selection criteria. Credibility (identification of owner/ maker of videos) and the intended target group of a video are also crucial elements to evaluate during selection.

- Based on the requirements of a good tutorial video introduced previously, further criteria will be considered in the selection process:
- time saving length,
- clear structure (clear introduction, objective setting and conclusion),
- clear instructional messages,
- high quality audio-visual display,
- well-presented content and
- provision of further details.

The complete list of criteria is under finalisation and validation. The process of capturing and publishing videos is still preparing and it is expected to be completed by M30, April, 2021.

USER JOURNEY DESCRIPTION FOR THE DEMONSTRATION TOOLKIT

In this section, the Demonstration Toolkit is presented from a user perspective. The development of the Toolkit defines an ideal order in which the tools are supposed to be applied by users. This ideal order is called user journey and it describes CCs' engagement with the Toolkit from the very first use, until the complete exploitation of their potential. Although the ideal user journey describes a linear series of steps where the use of one tool leads to the next one, the Tools are designed to give the ability to CCs to use them independently as well. The ideal user journey is described with the following steps and links:

First Step

The entry point for the Toolkit is the Self-Assessment tool. After filling out the self-assessment survey, users receive their scores and short text-based recommendations regarding the possible ways of improving their demonstration skills. Among these recommendations, the use of Quick Demo Decision Tool will be highlighted as the expected next step in the use journey.

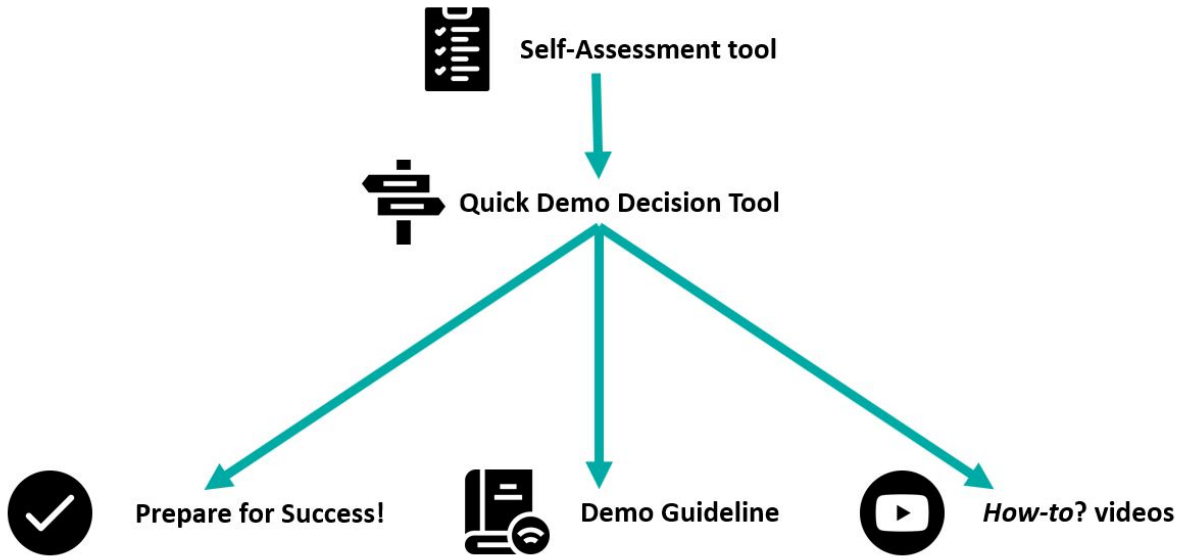
Second Step

Quick Demo Decision Tool is designed to help the decision-making process of CCs regarding demonstration activities. This interactive decision support tool assesses CCs' needs, targets and limitations and recommends activities that CCs are advised to do. Each activity has its related supporting material presented in the rest of the tools, so users will need to choose which tool they want to proceed with.

Third, Fourth and Fifth Steps

The three knowledge reservoirs, (Demonstration Guideline, Prepare for Success! and How-to Videos) offer information preliminary selected for Competence Centres. These tools present knowledge items (videos, success stories, tips and hints) in a free-to-search and browse design that makes them well-functioning sources of inspiration for CCs. Figure 5 illustrates the ideal user journey of the Demonstration Toolkit.

Figure 5. Ideal user journey of the Demonstration Toolkit



IMPLEMENTATION

This section will summarize the details of implementation that covers tasks related to integrating and placing the Toolkit on the Innovation Portal. These tasks require joint efforts from WP1 and AKI. Collaboration has already started and expected to progress throughout the project. Details of the integration of the Self-Assessment tool have already been started discussed. With respect to piloting and testing the tools, AKI will follow the protocol that WP1 suggest; however, involvement of CCs selected or recommended by WP5 partners or Regional Clusters seems one feasible option.

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ANNEXES

ANNEX 1: REPOSITORY OF PROJECTS CONSIDERED[33]

Project title	Website
SmartAKIS	https://www.smart-akis.com
AgriSpin	https://www.agrispin.eu
Smart Factories in new EU countries	https://smartfactories.eu
NEFERTITI	https://nefertiti-h2020.eu
PLAID	https://www.plaid-h2020.eu
AgriDemo-F2F	https://agridemo-h2020.eu
I4MS	https://i4ms.eu/projects
HORSE	http://horse-project.eu
FERTINNOWA	https://www.fertinnowa.com
OK-Net Arable	http://www.ok-net-arable.eu
Hennovation	http://www.hennovation.eu
FoodSmart	https://microsites.bournemouth.ac.uk/foodsmart/
4D4F	https://www.4d4f.eu
AGRIFORVALOR	http://www.agriforvalor.eu
EURODAIRY	https://www.eurodairy.eu
HNV-LINK	http://www.hnvlink.eu
WINETWORK	http://www.winetwork.eu
[others to be considered]	

[33] *Collection still in progress.*

ANNEX 2: LIST OF SCREENING QUESTIONS

1. Is the CC website available in English?
2. Is the profile/service of the CC easily identifiable?
3. Is there any agricultural aspect easily identifiable at the CC website?
4. Is there any content available only through registration (after login) at the CC website?
5. Is there any easily identifiable reference to offline demonstration activities?
6. In which way does any online demonstration at the CC website appear?
    a. using text
    b. using pictures/figures
    c. using video
    d. using social media
7. Does the CC website provide shared training materials?
8. Are there any partners listed at the CC website?
9. At the CC website is there any easily identifiable connection to a network?
10. At the CC website is there any easily identifiable connection to a HUB?

ANNEX 3: QUESTIONS OF THE SELF-ASSESSMENT TOOL

TARGET GROUP		
Nr	**Questions**	**Scores**
1	**Do you regularly research your market (clients)?**	
	Never	1
	Rarely	2
	Occasionally	3
	Frequently	4
	Always	5
2	**Do you differentiate your potential clients?**	
	No, I don't identify different client groups.	1
	Yes, I identify different client groups based on their main characteristics.	3
	Yes, and I provide personalised products/services.	5
3	**How important is it for you to know your clients?**	
	Not at all important	1
	Slightly important	2
	Important	3
	Fairly important	4
	Very important	5
4	**How important is it for you to track consumer satisfaction?**	
	Not at all important	1
	Slightly important	2
	Important	3
	Fairly important	4
	Very important	5
5	**Do you have long-term vison regarding your target groups?**	
	No	1
	Yes	5

MESSAGE		
Nr	**Questions**	**Scores**
1	**How important is it for you to have the best content in your marketing communication?**	
	Not at all important	1
	Slightly important	2
	Important	3
	Fairly important	4
	Very important	5
2	**How important is it for you to have a marketing strategy?**	
	Not at all important	1
	Slightly important	2
	Important	3
	Fairly important	4
	Very important	5
3	**How often do you update your marketing communication?**	
	Never	1
	Rarely	2
	Occasionally	3
	Frequently	4
	Always	5
4	**How important is it for you to adjust your messages to different client groups?**	
	Not at all important	1
	Slightly important	2
	Important	3
	Fairly important	4
	Very important	5
5	**How important is it for you to differentiate yourself from your competitors?**	
	Not at all important	1
	Slightly important	2
	Important	3
	Fairly important	4

	Very important	5
6	**Do you have any products/services applicable in the agrifood sector?**	
	No	1
	Yes	5

NETWORKING

Nr	Questions	Scores
1	**How broad is your (most important) network?**	
	No network, I work alone	1
	No network, only partners	2
	It is a local network (national and below)	3
	It is a regional network (across countries)	4
	It is a global network	5
2	**Which one of the followings describes you the best?**	
	I'm an independent CC	1
	I'm still independent, but would like to join a hub/cluster	3
	I'm belonging to a hub/cluster	5
3	**How important is cross-sectoral cooperation to you?**	
	Not at all important	1
	Slightly important	2
	Important	3
	Fairly important	4
	Very important	5
4	**How important is it for you to intensify your networking activities?**	
	Not at all important	1
	Slightly important	2
	Important	3
	Fairly important	4
	Very important	5
5	**Have you created social media profiles for your business?**	

	No, it is not important for me	1
	No, but I'm planning to do so	2
	Yes, but I don't really use it	3
	Yes, I use it when it is important for me	4
	Yes, I use it continuously	5
6	**Do you keep yourself updated regarding your (potential) partners?**	
	never	1
	rarely	2
	occasionally	3
	frequently	4
	always	5

ONLINE DEMONSTRATION

Nr	Questions	Scores
1	**How important is the design of your online demonstration for you?**	
	Not at all important	1
	Slightly important	2
	Important	3
	Fairly important	4
	Very important	5
2	**Is your site mobile friendly?**	
	I don't have a website	1
	No	2
	yes	5
3	Which tools do you use for online demonstration?	depending on the marked items: 0->1; 1->2; 2->3; 3->4; 4 or more->5
	infographics	0/1

	blog	0/1
	journal articles	0/1
	ebook	0/1
	social media post	0/1
	video	0/1
	webinar	0/1
	live stream	0/1
	webcast	0/1
	podcast	0/1
4	**Do you provide opportunities for customer feedback?**	
	No	1
	Yes	5

OFFLINE- DEMONSTRATION

Nr	**Questions**	Scores
1.	**How important is it for you to do on-site (e.g. on-farm or on your facilities) demonstration?**	
	Not at all important	1
	Slightly important	2
	Important	3
	Fairly important	4
	Very important	5
2.	**How often do you provide on-site demonstration?**	
	Never	1
	Rarely	2
	Occasionally	3
	Frequently	4
	Regularly	5

3. Do you have a planned procedure to follow in your on-site demonstration?

Never	1
Rarely	2
Occasionally	3
Frequently	4
Always	5

4. Do you have skilful human resource to provide on-site demonstration?

Deficient	1
Sufficient	2
Satisfactory	3
Good	4
Excellent	5

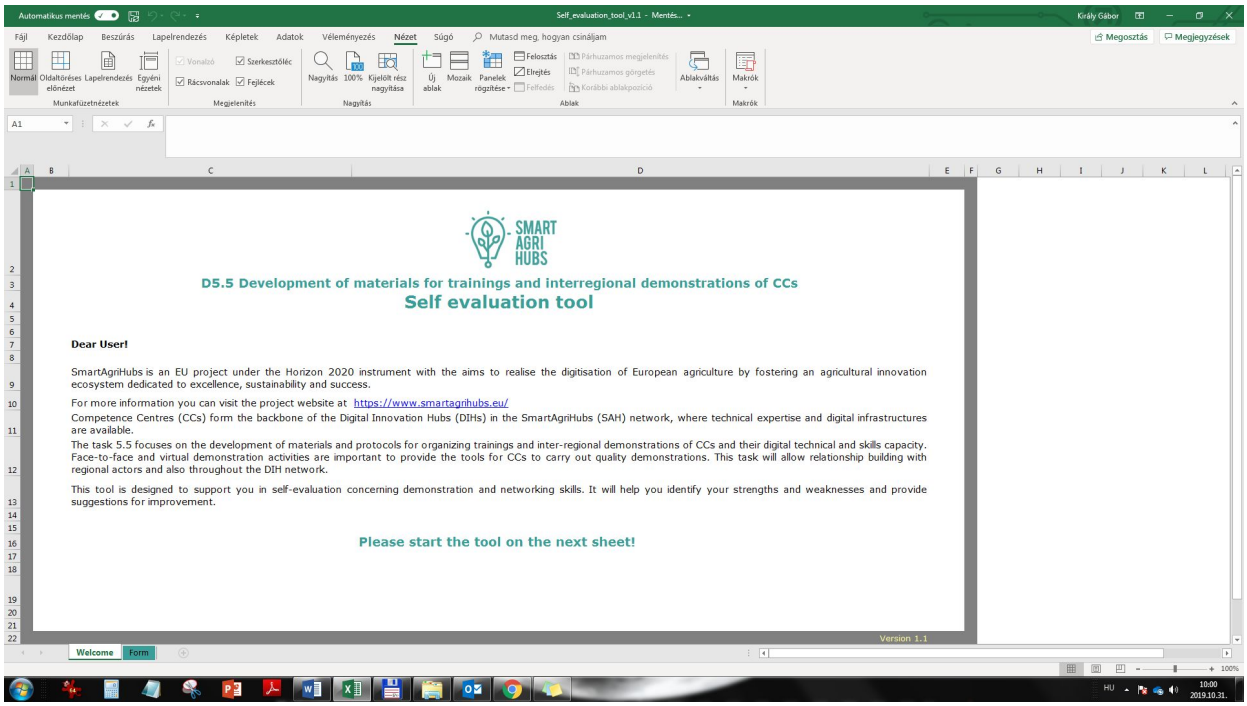
5. What kind of demonstration do you provide usually?

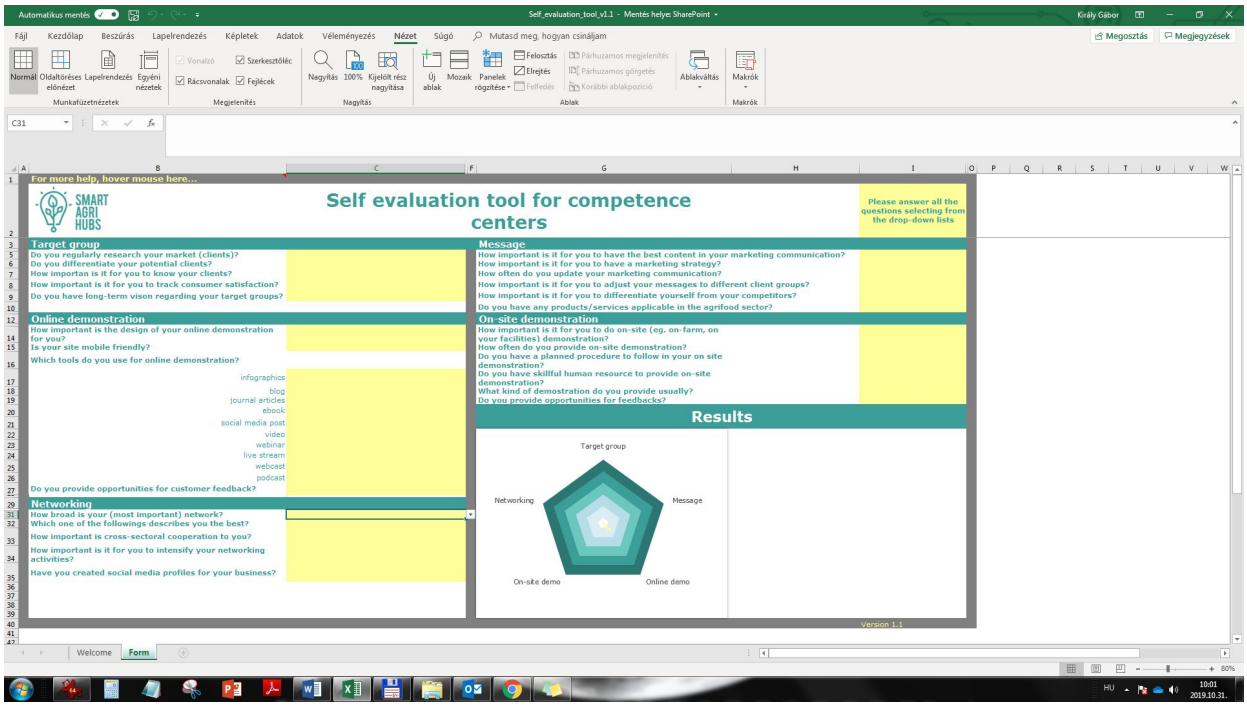
Oral presentation	1
Practical demonstration	3
Interactive demonstration	5

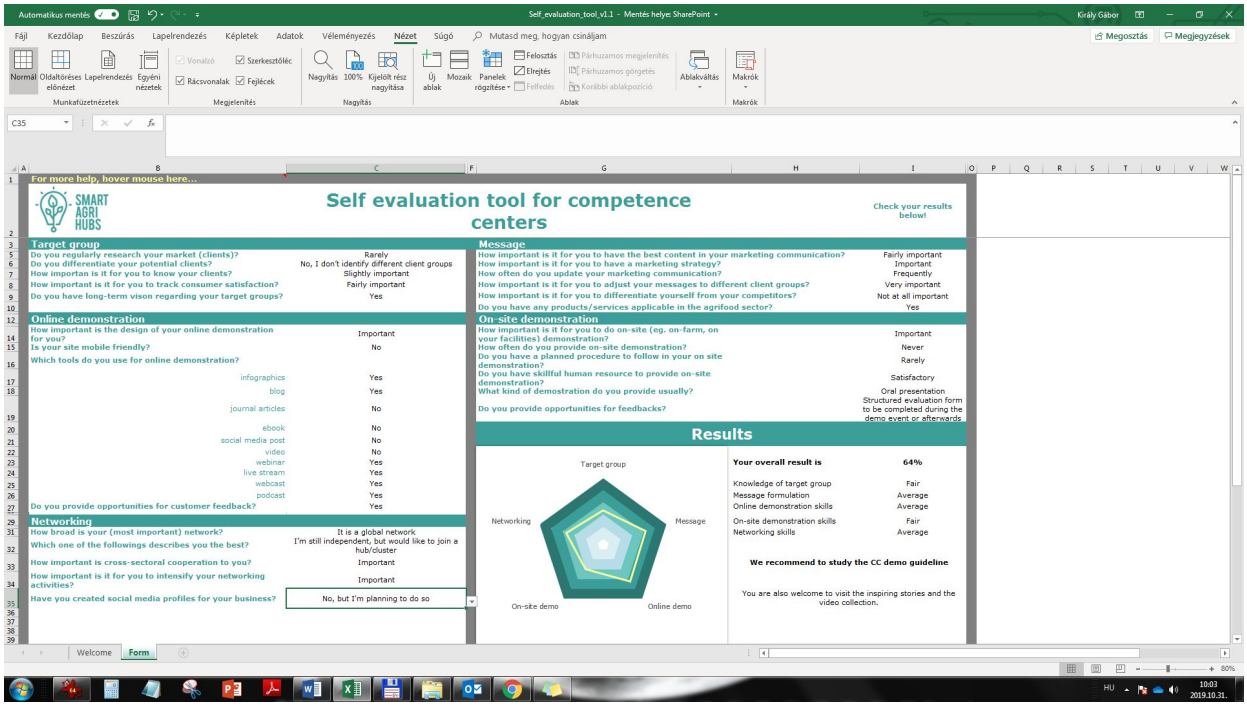
6. Do you provide opportunities for feedbacks?

No feedback options	1
Informal talks during or after the event	3
Structured evaluation form to be completed during the demo event or afterwards	5

ANNEX 4: PRINT-SCREENS OF THE SELF – ASSESSMENT TOOL

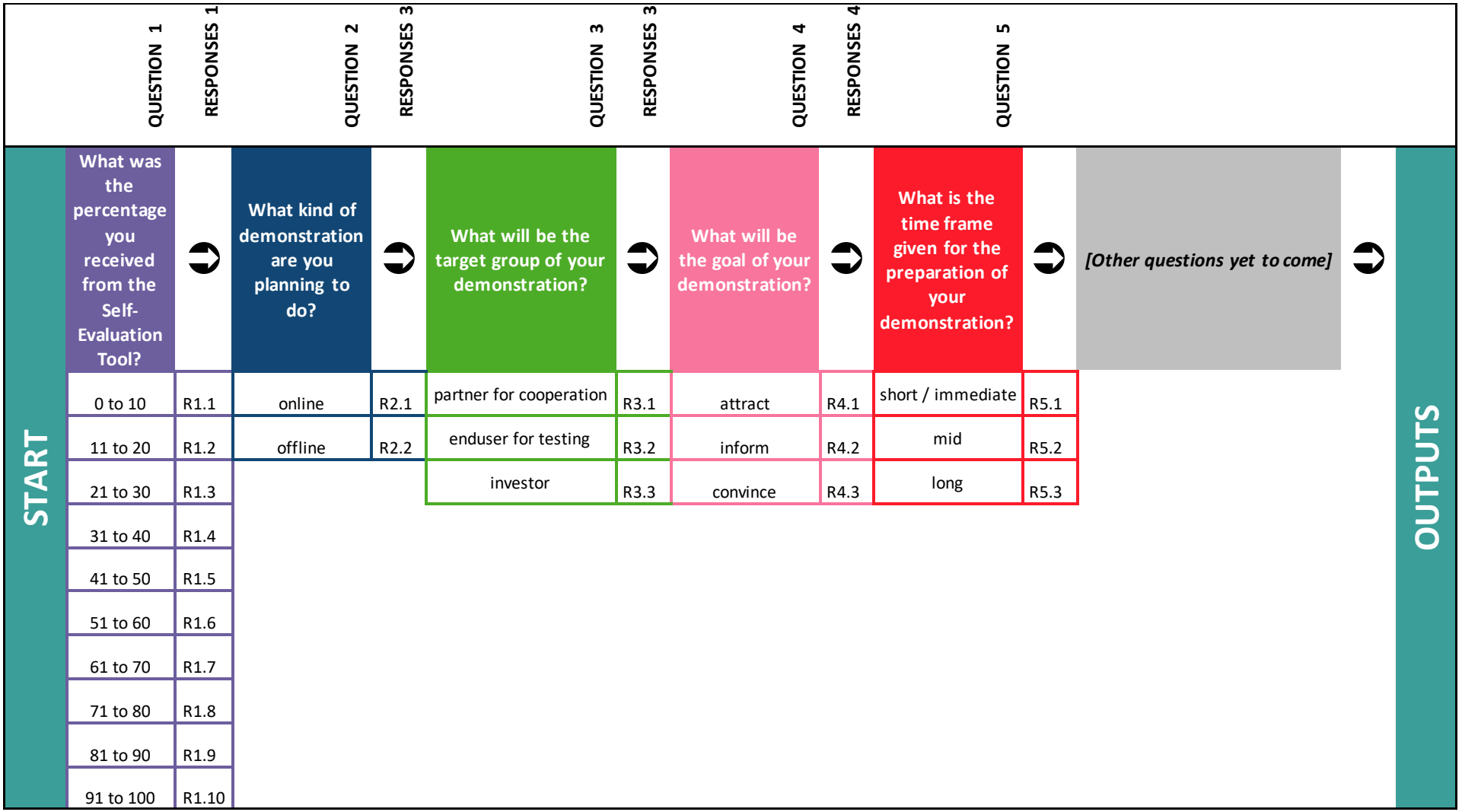





For more help, hover mouse here...
Self evaluation tool for competence centers
Check your results below!
Target group
Do you regularly research your market (clients)? Rarely
Do you differentiate your potential clients? No, I don't identify different client groups
How important is it for you to know your clients? Slightly important
How important is it for you to track consumer satisfaction? Fairly important
Do you have long-term vison regarding your target groups? Yes
Online demonstration
How important is the design of your online demonstration for you? Important
Is your site mobile friendly? No
Which tools do you use for online demonstration?
infographics Yes
blog Yes
journal articles No
ebook No
social media post No
video No
webinar Yes
live stream Yes
webcast Yes
podcast Yes
Do you provide opportunities for customer feedback? Yes
Networking
How broad is your (most important) network? It is a global network
Which one of the followings describes you the best? I'm still independent, but would like to join a hub/cluster
How important is cross-sectoral cooperation to you? Important
How important is it for you to intensify your networking activities? Important
Have you created social media profiles for your business? No, but I'm planning to do so
Message
How important is it for you to have the best content in your marketing communication? Fairly important
How important is it for you to have a marketing strategy? Important
How often do you update your marketing communication? Frequently
How important is it for you to adjust your messages to different client groups? Very important
How important is it for you to differentiate yourself from your competitors? Not at all important
Do you have any products/services applicable in the agrifood sector? Yes
On-site demonstration
How important is it for you to do on-site (eg. on-farm, on your facilities) demonstration? Important
How often do you provide on-site demonstration? Never
Do you have a planned procedure to follow in your on site demonstration? Rarely
Do you have skillful human resource to provide on-site demonstration? Satisfactory
What kind of demostration do you provide usually? Oral presentation
Do you provide opportunities for feedbacks? Structured evaluation form to be completed during the demo event or afterwards
Results
Target group
Networking
Message
On-site demo
Online demo
Your overall result is 64%
Knowledge of target group Fair
Message formulation Average
Online demonstration skills Average
On-site demonstration skills Fair
Networking skills Average
We recommend to study the CC demo guideline
You are also welcome to visit the inspiring stories and the video collection.
Welcome
Form

ANNEX 5: DRAFT FLOWCHART FOR QUICK DEMO DECISION TOOL

Figure 6. Draft flowchart for Quick Demo Decision Tool



ANNEX 6: PLANNED TEMPLATE FOR CAPTURING AND DOCUMENTING GOOD PRACTICES / SUCCESS STORIES

Table 3. Planned template for capturing and documenting good practices / success stories

DEMONSTRATION: demonstration is the management process responsible for explaining, displaying, illustrating and experimenting something that potential partners may want to work on collaboratively			
Question	**Instructions**	**Question type**	**Possible answers**
Type of demonstration activity		Dropdown + other	social media
			website
			video
			infographics
			blogging
			site visit / open gates
			farm demonstration
			webinar
			web optimatisation
			other, please specify
Language		Dropdown	
Information on the owner of good practice / success story	What is the name of the CC who owns the success story	open-ended	
Linked to DIH(s)	Is that CC linked to any DIH in SmartAgriHubs?	radio group	yes / no
Name of DIH(s)	Please name that / these DIHs!	open-ended	
Access to good practice (preferably URL link)	(preferably URL link)	open-ended	
Release date (year)		dropdown	2015-2020

Evaluation of judging criteria		Evaluate the following aspects considering their weight when identifying this demonstration as a success story!	licert scale (1 to 5)	
	innovation		1-2-3-4-5	
	creativity		1-2-3-4-5	
	design		1-2-3-4-5	
	technical feasibility		1-2-3-4-5	
	memorability		1-2-3-4-5	
	reproducibility		1-2-3-4-5	
	clarity		1-2-3-4-5	
	users' feedback		1-2-3-4-5	
Personal opinion on what makes it a success story (descripton of context)		Please share with us your freely formed opinion!	open-ended	