D6.3 SUSTAINABILITY PLAN

WP 6

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ABBREVIATIONS

FIE – Flagship Innovation Experiment

IoF2020 – Internet of Food and Farm 2020

SAH – SmartAgriHubs

WP – Work Package

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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 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

The SmartAgriHubs project created an active ecosystem with several nodes and instruments to support their role and tasks fostering a European-wide network of Digital Innovation Hubs for Agriculture to enhance the Digital Transformation for Sustainable Farming and Food Production. Moving towards the end of the project, the challenge is how to keep this ecosystem alive and active without a similar budget as in the project's period. Literature confirms this is not an easy task and that the main critical factor is to find a suitable business model for the organization that has to continue as a catalyst for the DIH-network.

The objective of the task behind this report was to develop a plan for sustaining SmartAgriHubs as a catalyst after the project's period in order to keep on fostering the DIH ecosystem enhancing the digital transformation in agri-food. First a vision and mission was formulated to guide the further development of the ecosystem. The vision of SmartAgriHubs is derived from the current project objective and is formulated as follows:

Digital Innovation in Agriculture and Food production is driven by local Digital Innovation Hubs that orchestrate stakeholders, initiate & support Innovation Experiments, and are empowered by a Global Network of peer DIHs, Investors and Competence Centers

Following this vision, the mission statement for SmartAgriHubs is:

SmartAgriHubs will foster a global network of DIHs by connecting the dots between organizations that facilitate Digital Innovation in Agriculture and Food production.

For that purpose a design was developed as a first step, which identifies the legacy parts of SAH and a light-weight organization. The legacy parts can be considered as the potential services that SAH as a catalyst could offer in the future. The design was iteratively created and interactively adapted by thorough evaluation with various stakeholder groups.

The design forms the basis for the sustainability plan and the table below indicates the current status of each legacy part:

Legacy part	Not explored	Desirable, unknown yet how	More concrete	Completely arranged
Innovation Portal			X	
Network elements				
RCs			X	
DIHs		X		
CCs		X		
(F)IEs		X		
Investor network	X			
Methodologies and tools				
Maturity assessment model		X		
Training material DIHs		X		
Agricultural Technology Navigator		X		
Other methodologies and tools				
Use Case Approach			X	
Open Call approach			X	
LXP		X		
Task force gender				X
Communication elements				
Corporate identity		X		
Conferences, events, etc.		X		
Magazines, newsletters, etc.		X		

The light-weight organization (working name: 'SAH Lite') stands for a minimum governance structure that will enable the sustainability of the most essential parts to continue fostering the DIH network. It is proposed that each legacy part is stimulated to develop its own independent business model by offering a service or more services to potential customers that can also be outside the primary SAH network. The SAH-Lite organization acts as an umbrella that keeps all the parts together under the SmartAgriHubs brand. Its main objective is to propagate the vision and mission that was defined and set out the strategy to accomplish this. The organization is mainly formed by a steering board that is expected to be a continuation of the members of the current project steering group. These members should also form a 'linking pin' to the various legacy parts.

Together with the more detailed assessments of the various legacy parts – a specific action plan was defined. The actions circle around the following four questions that have to be addressed:

1. Who are the direct and indirect **customers** of SAH Lite as a catalyst and what are their pains (and possibly gains)?
2. What are the **services of** SAH Lite can deliver to ease their pains or address their gains?
3. What should **minimally** be sustained to keep (part of) the SAH network with the Innovation Portal alive and active?
4. What are the appropriate **business/revenue models** for these services?

It is of utmost importance not to wait for implementing these actions until the end of the project but act now in order not to lose momentum when the project is over.

1. INTRODUCTION

The objective of task 6.7 is to develop a plan for sustaining the SmartAgriHubs innovation network with its distinguished activities and elements as developed in the SmartAgriHubs project. The focus of this deliverable will be on outlining how to maintain the critical elements in the network after the project life time, what organizational and governance options there are, as well as financial aspects of sustainability. Funding opportunities and creating support and commitment to SmartAgriHubs mission by the participating organizations will be explored.

A recent joint green paper from RODIN and DIHNET, 'Post-project sustainability of European DIH networks' confirms that sustaining networks after a project such as SmartAgriHubs is a challenging task and until now there are just a very few successful examples[1]. The paper explores main elements of business models for networks and provides a view on how networks could approach sustainability. Figure 1 visualizes a possible business model for DIH networks distinguishing several elements. In our case, the catalyst is the current SmartAgriHubs project team while the members are primarily the DIHs and CCs, but also other organizations.
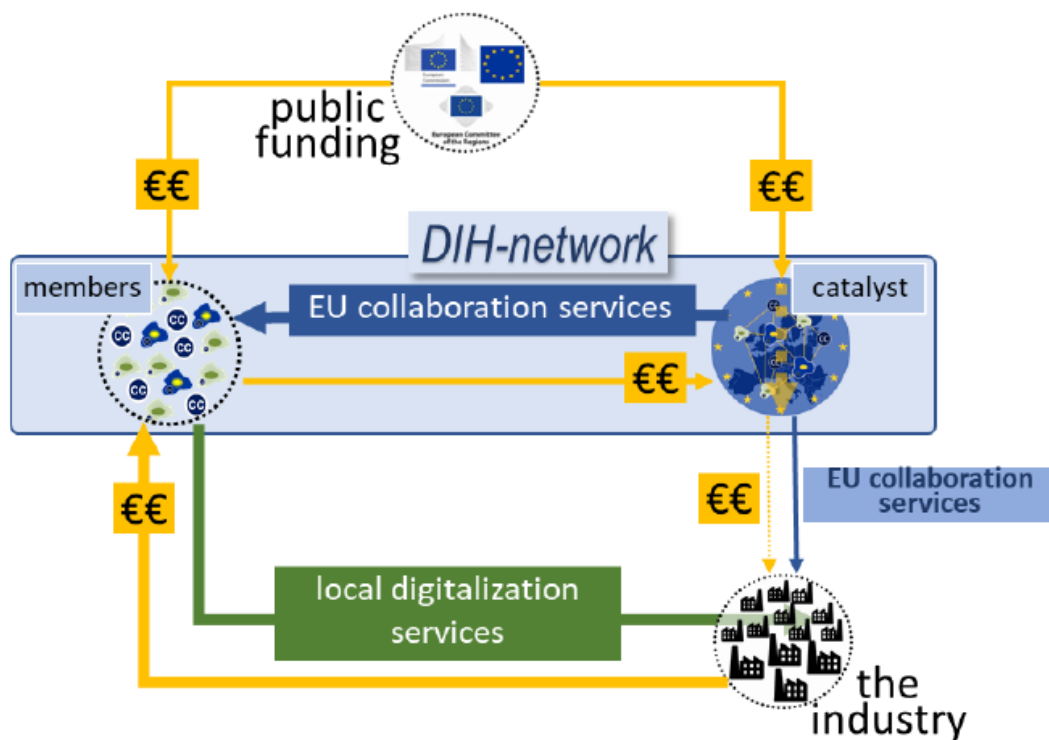
Figure 1 Visualization of a conceptual business model for a EU DIH network (Butter and Karanikolova, 2022)[1]

In this conceptual business model, the following elements can be distinguished:

1. **Services**: value created at network and local level
2. **EU-network organization** (catalyst + members), in our case SmartAgriHubs
3. **Revenues**, (€€ signs) indicating how the network is being financed

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[1] *Butter, Maurits, Karanikolova, Kristina, 2022. DIHNET/RODIN Green Paper: Post-project sustainability of European DIH networks, doi: 10.5281/zenodo.5958672*

4. **Industry**: the final customers and their pain points, often addressed by the services provided by the network members

An important aspect in this model is that the business model of an individual DIH is fundamentally different from the business model of the network, because a DIH is servicing stakeholders (e.g. industry) at a local, regional level, while the network services operate at a European level mainly targeting the network, but in some cases local stakeholders can also directly be involved in the network services (e.g. brokerage events).

This deliverable focuses on the blue rectangle in Figure 1 and in particular the potential business model of the catalyst, i.e. SmartAgriHubs project team. The main question is to find out what are the essential EU collaboration services that can be offered by the Catalyst to its members and how these can be monetized. Therefore it is necessary to define who the customers of these services are and what would be the added value they want to pay for. As indicated in Figure 1, continuation of public funding is also a possibility, but this is only possible if a clear market failure can be defined. A third revenue stream that can be explored is direct support from the end-customers, i.e. the industry, although it should be avoided that this is not competing with the local members.

The ultimate objective of this deliverable is to present an action plan, including a business plan, how the SmartAgriHubs network with its main activities and elements could be sustained in the longer term. To that end, the main part of this deliverable will describe a design of the potential network services and the organization that should sustain them. This design was discussed in several rounds of interaction with relevant stakeholder groups resulting in a final plan.

2. APPROACH & METHODOLOGY

Following the methodology that SmartAgriHubs is applying by itself in the Innovation Experiments, it was also proposed to follow an *agile multi-actor approach* to develop the sustainability plan. Based on experience from previous projects it was decided not to opt for a heavy-weight organization in which we try to continue the project more or less *as-it-is*, which would require a lot of financial resources. Instead, we would like to see if we can hand-over parts of the SmartAgriHubs legacy to suitable, existing organizations that can guarantee continuity. A light-weight organization should still guarantee the coherence between these parts to fulfil SmartAgriHubs mission statement. Starting light, also allows us to see in the future if we can gradually grow in size and weight. At the same time we should keep in mind that also a light-weight organization still needs a viable business model to keep it alive. This direction of development is confirmed by the DIHNET/RODIN green paper that was mentioned in Chapter 1. It emphasizes the importance to start with this activity already during the project in order not to lose the momentum when the project ends. The paper identifies four important elements that must be identified:

1. The (transferable and key) **assets** or legacy parts of the network as developed within the project;
2. The **brand** identity established by the network and its overall objectives and added value;
3. The **established network** and critical mass of results;
4. The **(offered) services**, if needed tweaked to reflect the updated ambitions of the network.

The followed approach is based on these four elements. To develop a plan for sustaining the SmartAgriHubs network, an iterative, stepwise approach was followed (Figure 2).

Step 1:

First, a small working group, consisting of core project members, set a preliminary vision and mission for the future (Chapter 3). From there, a 1st design of the intended future SmartAgriHubs network was defined. This consisted of three parts: (i) define the SAH legacy parts and (ii) identify potential networks that could possibly adopt these parts and (iii) describe the intended organisation.
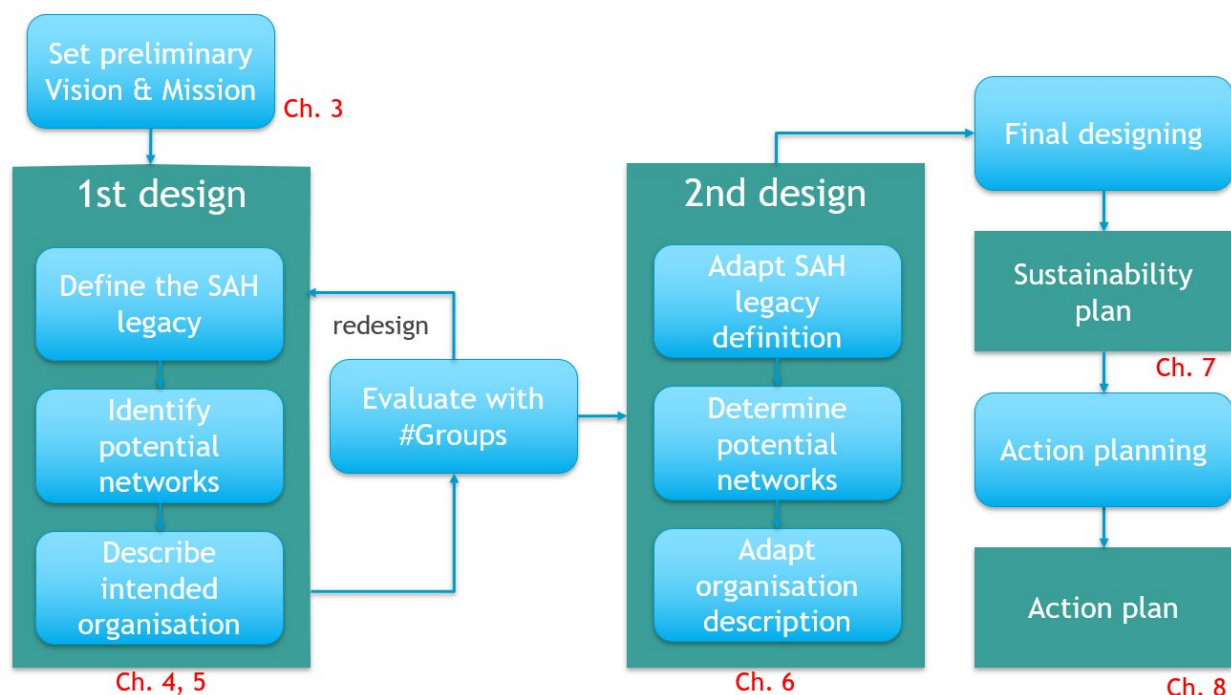
Figure 2 Methodological approach and work flow with corresponding results referring to the chapters of this report.

The first and second activity were executed in parallel by filling in a template with the following questions for each legacy part:

1. Describe the legacy part in more detail: what do we exactly mean, why should it be sustained?
2. Explore the potential match:
   a. Describe the organization in more detail and the reason why it would be a potential match?
   b. What would be the requirements/conditions from *their* side?
   c. What would be the requirements/conditions from *our* side?
   d. In case you already have ideas of what needs to be arranged, please mention them briefly.
   e. What (financial) resources are needed and what could be a possibility to cover them?
   f. Final verdict on the potential success of the match

The results are summarized in Chapter 4.

Based on this initial analysis, it was finally discussed and confirmed in the working group if the list of legacy parts was complete and appropriate. The third activity was describing the intended light-weight organization (Chapter 5). This 1st design was developed within the working group, testing if the approach was a workable one.

Step 2:

The second major step was to evaluate the 1st design in workshops with a number of stakeholder groups within the current SmartAgriHubs project (see Annex 1):

1. Regional Cluster Leaders and the Project Steering Group
2. A selection of mature DIHs and CCcs
3. Strategic Guidance Board

After each round the design was adapted or enriched where necessary and used as input for the next round. This finally resulted in a 2nd design (Chapter 6) that was considered as a basis for designing the final sustainability plan (Chapter 7).

Step 3:

Implementation of the sustainability plan basically consists of two main activities:

1. Transfer the legacy of SmartAgriHubs to the appropriate networks or organizations. This also means that an appropriate business model should be identified and apparently also formal contractual agreements are needed. In a worst case scenario this could also mean that negotiations have a negative outcome so that we have to go back to the drawing table and look for another match.

2. Transform the SAH project into the envisaged 'SAH-lite organization' that continues after the end of the current project and makes agreements with the networks or organizations on the legacy parts how they will function under the SmartAgriHubs umbrella. This organization will embody the mission statement and keep the network alive and vibrant. Depending on the success of this, the organization could grow in size and weight, which also means that probably more (financial) resources will be needed.

A more detailed action plan was elaborated (Chapter 0). Although the actual implementation of the sustainability plan is expected to be done after the project, several actions are put into motion during the current project to keep the momentum and facilitate a smooth transition of the current project to a sustainable organization.

3. SMARTAGRIHUBS' VISION AND MISSION

This Chapter provides a _preliminary_ vision and mission statement for SmartAgriHubs (valid after the project). They should be considered as a 'dot on the horizon' that we are travelling to and that helps us to guide and focus in the process of sustainability planning. This also means that they are moving targets and can be adapted along the way of our journey. Still, we expect that they will not change dramatically.

The _preliminary_ vision of SmartAgriHubs could be described as follows:

Digital Innovation in Agriculture and Food production is driven by local Digital Innovation Hubs that orchestrate stakeholders, initiate & support Innovation Experiments, and are empowered by a Global Network of peer DIHs, Investors and Competence Centers

Preliminary SmartAgriHubs Vision

The background of this vision is that digital innovation in agri-food must be approached from two connected levels: the local level of the DIHs and the network level. They interact and amplify each other. Digital solutions are shaped in a local-specific context, between local players, but transcending challenges and bottlenecks (e.g. on standardization, legislation) should be taken up and solved at the network level and fed back to the local level again.

Following from the vision, the _preliminary_ mission statement of SmartAgriHubs could be formulated as follows:

Preliminary Mission Statement

Connecting the dots...

SmartAgriHubs will foster a (global) network of DIHs by connecting the dots between organizations that facilitate Digital Innovation in Agriculture and Food production.

Thus SmartAgriHubs wants to establish and foster many local DIHs that initiate and support digital innovation at a local level and concurrently form a network that facilitates the DIHs at a higher level.

Facilitation is done by operationalizing the network (e.g. organize network events, an internet portal, etc.), but also providing the state-of-the-art solutions through Competence Centers. When solutions are not available or certain bottlenecks cannot be solved at a local level, the network will take action to address them at a higher level. For instance, standardization problems can be transferred to standardization organizations, legal issues to governments etc. A more 'emergent function' of the network is learning from each other, creating synergies, etc.

4. FIRST DESIGN: THE POTENTIAL MATCH BETWEEN THE SAH LEGACY AND EXISTING ORGANIZATIONS

4.1 INTRODUCTION

Figure 3 shows the five main categories of the legacy elements of SmartAgriHubs:

1. The Innovation Portal
2. The Network elements
3. Methodologies and tools in the Innovation Portal
4. Other methodologies and tools
5. Communication elements

As indicated the Innovation Portal spans the second and third set of elements, which means that they could be considered as vital elements of the Innovation Portal.

The elements will be explored in the next paragraphs and the viability of the match with a network/organisation is described.
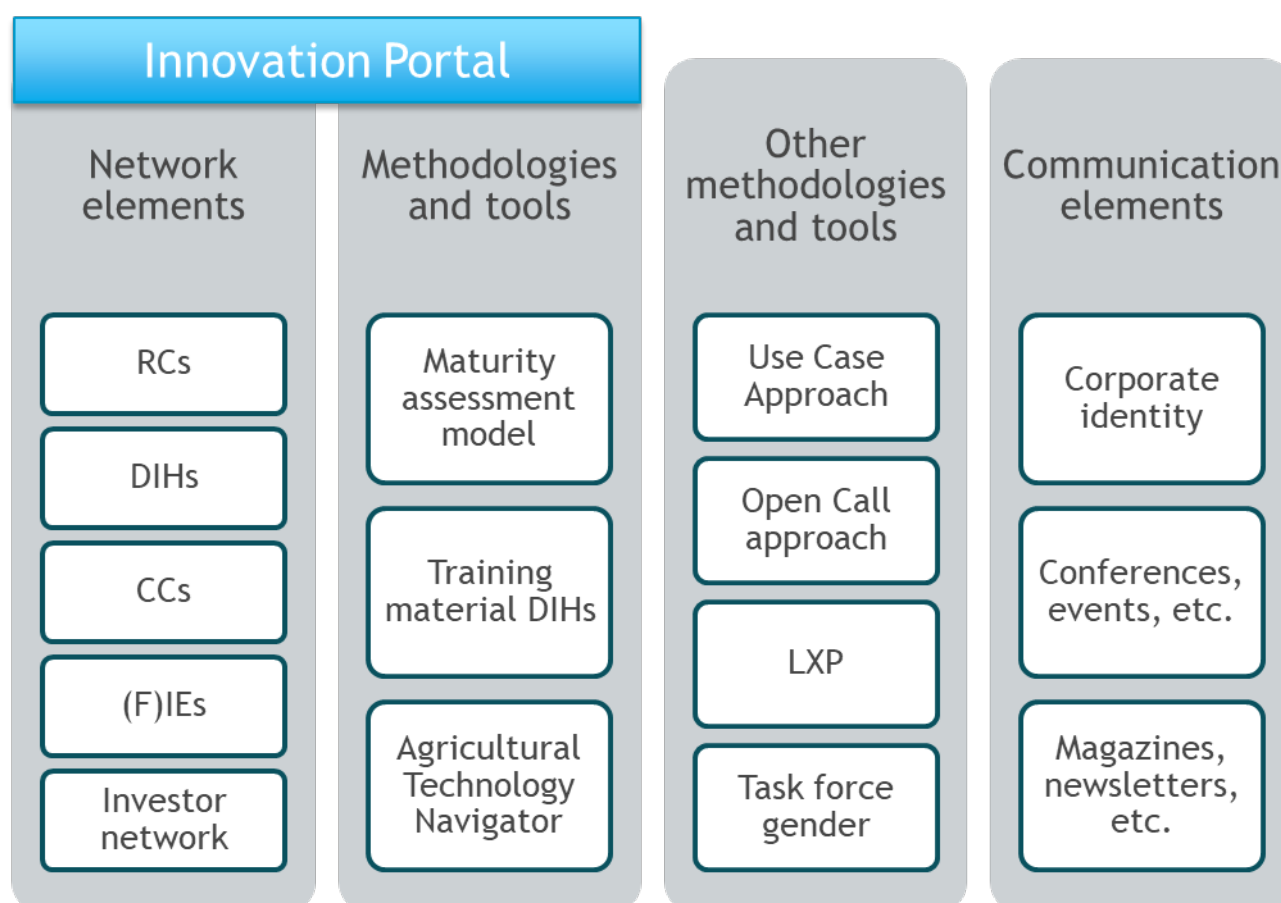

Figure 3 Legacy elements of SAH

4.2 THE INNOVATION PORTAL

SmartAgriHubs' main goal is to expand and better connect the network of Agri Digital Innovation Hubs around Europe. A key tool to attain this goal is the Innovation Portal, which serves as a multifaceted purpose: search engine, one-stop-shop, catalogue, training and a

social platform for agri-food stakeholders. With these features the Innovation Portal is a web-based interactive platform and a key instrument to support the ecosystem building at both DIH, regional and pan-European level. The Innovation Portal is incorporated in the project's website and is accessible by a log-in system with free access.

The Innovation Portal is divided into 8 sections plus an additional platform, the Forum.

- ✓ Latest
- ✓ Open Call Page
- ✓ Network
- ✓ Lessons
- ✓ Library
- ✓ Training
- ✓ Calendar
- ✓ Tools
- ✓ Forum

In general, each section of the Innovation Portal follows a clear structure: it has a header (fixed), a changing main body from one section to another, and a footer (fixed). The main functions of the Innovation Portal are:

- ✓ Support knowledge exchange, in particular for the partners in the DIHs, CCs, RCs and IEs.
- ✓ For the IEs it serves as an interactive marketplace to exchange results, learnings and best practices.
- ✓ Help partners with capacity building. Templates, guidelines, how-to documents and trainings which are found in an easy to search library.
- ✓ Help partners to find each other and in the future to interact directly through a matchmaking service.
- ✓ Inform partners on relevant events with an up-to-date events calendar. Content for this will come from the partners and from the associated networks that SmartAgriHubs connects to in the future.
- ✓ Showcase the project as a whole to a wider audience, with regularly updated information about the progress of the innovation experiments and the Digital Innovation Hubs.

Most of these functions were developed by taking on board the needs of the different Work Packages, Regional Clusters, Digital Innovation Hubs and other SmartAgriHubs stakeholders in a participative approach during the first months of the project.

The legacy of the Innovation Portal is three folded:

1. Content created
2. Community members & network (section 4.3)
3. Technical features and tools (section 4.4)

Data extracted for the period of 1 September 2020 to 1 September 2021

Website SmartAgriHubs

- ✓ 51,055 visits
- ✓ 171,443 pageviews / 12,195 unique pageviews
- ✓ 3 min 17s
- ✓ 6,983 downloads

From EU only

- ✓ 41,090 visits
- ✓ 150,895 pageviews / 110,453 unique pageviews
- ✓ 3 min 34s
- ✓ 6,478 downloads

Portal visits (including open call page)

- ✓ 23,290 visits
- ✓ 53,902 pageviews (in the portal) / 36,447 unique pageviews (in the portal)
- ✓ 5 min 33s
- ✓ 5,619 downloads

Users of the Portal
- ✓ 2,590 (confirmed) users
- ✓ 1,454 users logged in in the past 12 months
- ✓ 916 users logged in in the past 6 months
- ✓ 785 organisations
- ✓ 317 DIH's
- ✓ 163 Competence Centers

Activity in Portal (in total)
- ✓ 306 events
- ✓ 372 library items
- ✓ 101 Trainings
- ✓ 97 Lessons
- ✓ 125 Maturity Self Assessments
- ✓ 45 systems (ATN / CC)
- ✓ 80 competences (ATN / CC)
- ✓ 275 posts in 105 topics in the Forum (last 12 months)

Technical features developed
- ✓ Reporting Template for the Regional Clusters
- ✓ Observatory for WP4
- ✓ ATN for WP5
- ✓ Open Call page updates
- ✓ Lessons page
- ✓ Update of the Library
- ✓ Tools page
- ✓ Updates profile and organisation page
- ✓ I am active in this organisation button
- ✓ Admin accounts for all WPs
- ✓ Self-Assessment Tool for CC's
- ✓ Performance improvements
- ✓ Added the IoF2020 legacy
- ✓ Maturity Self-Assessment comparing data (versions and other DIH's)
- ✓ Notifications in the menu
- ✓ Sector update (removed livestock, introduced animal production and dairy)

The Innovation Portal is a successful online platform for the agri-food sector and the statistics behind prove this. Since its launch (September 2019) the platform has gained 2,590 users and 785 organisations. The popularity of the Portal does not reside only on the number of users but also on the geographical coverage and content created. SAH has also successfully managed to attract and integrate the IoF2020 community and legacy into the Portal. Other Horizon2020 projects are also interested in a similar cooperation and are approaching Schuttelaar and Partners to find ways of integrating their community in the SAH Innovation Portal and make use of the tools and features developed (e.g. concrete requests from AgROBOfood and Demeter).

The Innovation Portal is developed by Schuttelaar and Partners, which is a communication agency with more than 25 years of experience in the field of sustainability. It is managed by a team of diverse experts. The combination between inhouse knowledge on technical IT development, communication services and the agriculture sector is what gives an added

value to the Innovation Portal. The multidisciplinary teams count with professional experts, communication and public affairs consultants, designers, and digital developers who are fully committed to combine their knowledge and skills with the ideal to contribute to a healthier and more sustainable world. Leading the communication activities for EU projects and bringing them to the level of a BRAND is what S&P can offer to customers. The Innovation Portal could be continued and managed by Schuttelaar and Partners to ensure a smooth transition to the next business model.

The maintenance of the Innovation Portal would amount for 15k a year, update of content, set up and coordination of the communication activities a year around 8k, and the budget for development of new features would go up to 10k. For these three categories S&P could foresee a combination of the following solutions:

- ✓ Advertisement in the Portal
- ✓ Premium membership for certain features (e.g. uploading an event is free but if you want to have it promoted or appearing first and in a more visually attractive way a fee could be charged.) The same could go for articles and blogs (promoted content)
- ✓ Flat fee a year from similar Horizon2020 projects or Horizon Europe ones that would like to benefit from an already running and mature online platform for their stakeholders.

S&P identified a number of requirements to sustain and maintain the Innovation Portal:

- ✓ S&P to be part of the strategic team
- ✓ Leading the communication management & development of the technical features of the Innovation Portal
- ✓ The Innovation Portal itself would not become open source

To contribute to the SAH mission, S&P should take care of:

- ✓ Content creation (regular updates) and moderation (checking user submitted updates)
- ✓ Communication activities specific for the promotion of the Innovation Portal
- ✓ Update of the tools developed during the duration of the project
- ✓ Technical updates for (at least) security reasons

4.3 THE NETWORK ELEMENTS

REGIONAL CLUSTERS

SmartAgriHubs uses a Regional Cluster (RC) approach, where each regional cluster represents a group of agricultural Digital Innovation Hubs, Competence Centres and Innovation Experiments, also the customers of the RCs. The RCs are led by organisations that are closely related to national or regional digitisation initiatives and funds. SmartAgriHubs gathers 9 Regional Clusters spread across Europe: Central Europe, France, Iberia, Ireland & UK, Italy & Malta, North-East Europe, North-West Europe, Scandinavia and South-East Europe.

Sustaining this network is important, because the RCs are a bridge between EU wide central network of DIHs, and the regional DIHs' networks of Competence Centers (CCs), farmers, ICT providers, investors, etc. In 1st years of SAH, RCs have developed from units that focus on support of (flagship)Innovation Experiments (IEs), to support units of DIHs (that support IEs and other developments in digitization of agriculture).

We expect that most RCs will reach maturity by the end of SAH, because they:

- ✓ are in close connection with DIHs and CCs, so that events are well visited.
- ✓ take initiative to exchange activities that address needs and challenges of DIHs in the regional context

- ✓ translate opportunities that emerge from macro (world, EU, national) developments to challenges for the DIHs in their networks, they are a bridge between macro and regional level
- ✓ permanently improve their own work by peer-to-peer learning/networking with other RCs.

Creating the network anew would take at least half a year, and to have a joint focus on supporting DIHs would take another one to two years.

There are good opportunities to offer our RCs to existing or emerging formal networks such as EDIH and EIP-agri.

- ✓ EDIH: The EU defined in the Digital Europe Programme to create a network of eDIHs, with a Digital Transformation Accelerator (DTA) for support. The RCs could perform a connecting role in such a structure. eDIH DTA has a budget of € 4 mln in 3 years, this could include proper compensation for RCs. However, the DTA is not yet selected, so this is conditional on future discussions with them.
- ✓ EIP-Agri. The objective of EIP structures are more closely related to SAH legacy: to enhance innovation. Possible connections:
  - o EIP-SP organises meetings/webinars, many of them on digitization, on this level they could invest in SAH legacy instead of developing new features and network (on top of what they already have) and use them.
  - o The website of EIP-SP will be updated, they could link to SAH-IP to create more quality and exposure. We could discuss to which extend they can use their budget to cover SAH-IP costs.
  - o Thematic Networks (TNs) play an important role in EIP, we can support DIHs that want to apply for TNs
  - o EIP has Focus Groups (FGs, 2x2days meeting+ conclusions on specific subject) we could suggest SAH themes or sectors to discuss in FGs.
  - o Local/regional/national support of EIP projects (Operational Groups) is organised in National Contact Points (NCP). There are many existing connections (for meetings, support of projects/operational groups) between RCs and NCPs. We could explore these connections, and if needed make EU wide arrangements for such contacts. Not sure if RCs need such arrangements.

RCs and other SAH structures could shorten the creation of such support with 2 years. But it will require quite some (political) efforts to establish a successful match.

An option that was explored, but from which it was concluded that it does not fit well was the Standing Committees on Agricultural Research (SCAR) as addition to the current: Agroecology, AKIS, Arch (Global Challenges), Bioeconomy, Fish, Food systems, Forest, Sustainable animal production, Animal health and welfare. SCAR organises 3-5 meetings of the network, creating insights and exchange on an agenda. It was concluded that this approach does not fit well to the SAH vision and mission.

DIGITAL INNOVATION HUBS

One of the objectives of SAH is to develop a network of DIHs and CCs to support uptake of advanced technologies in agri-food in Europe. SmartAgriHubs has already managed to connect 365 DIHs across Europe, creating a network with a critical mass. Keeping this network together provides alignment and also expands the outreach of the DIHs to the broader EU community. WP4 in SAH aims to support the capacity to set up and operate DIHs. In relation with the DIHs, three elements could be sustained (see 4.4 check).

1. 'SmartAgriHubs Digital Innovation Hub Innovation Services Maturity Model'
2. The capacity building programme materials (webinars, ppts, interviews, related materials)
3. The learning and exchange methodology and the LXP portal

The discussion on how to maintain the network of DIHs can explore 2 avenues: continuing the network on the Innovation Portal and SAH website or organizing connections via other

projects. Looking at the second option, we have explored connection with DIHNET.eu. A subspace for SAH can be arranged quickly – DIHNET can set up an intro meeting with SAH to explain how to use the community. However, to actually maintain the value of the network, animation from SAH also to get people to start discussing/share information would probably be needed. Therefore, this option should be connected to discussions on the continuation of the SAH portal and above decision on whether and how the SAH innovation portal will be sustained. The DIHNET project itself ends in October 2021, but it is expected that the community will continue to be active (at least for a certain period). Therefore, a connection can already be made (as costs are not high) but activity should be followed to see how it develops.

Another option is to discuss connection with existing projects – e.g. agROBOfood or similar – to explore aligning plans. This can be connected to the community discussions or the SAH coordinator contacts. However, projects always have a limited time horizon.

Finally, the EDIH network is expected to be set up in early 2022. Further exploration on a possible connection is needed once this network is set up.

COMPETENCE CENTERS

Given the change of the focus in the project, at the moment (2021-12-24), the network of CCs is only expanded to 138 CCs registrations on the Innovation Portal. Competence Centres form the digital technology core of DIHs 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. Customers of the CCs are the Innovation Experiments/organizations looking for technologies, systems and competences.

The success of any match is unclear because CCs were not a visible priority in the project. However, this point may be updated in the next reporting, as in the remaining year a push will be made to have CCs register in the IP and also register their solutions in the Agricultural Technology navigator (section 4.4). Further exploration of any matches will not be given a high priority.

(F)IES

The Flagship Innovation Experiments serve as benchmarks for other Innovation Experiments to strive towards. This is where technology solutions are put into practice. Flagship Innovation Experiments are conducted with the help of Digital Innovation Hubs which facilitate access to the latest knowledge and expertise, and technology support provided by Competence Centres. All Innovation Experiments provided learning experiences from which it was also possible to extract best practices, success stories, but also lessons learned within the process. They present valuable material not only for the SAH project but also for other interested parties (e.g. D3.8) allowing them to learn from their experiences, better understand the technological context of each FIE, but also regional perspectives and consequences of global crisis, such as COVID-19.

The network of IEs is very connected to the Innovation Portal. From that perspective it would not take so many efforts to sustain this, assuming that the Innovation Portal is continued. This was also relatively easy for the IoF2020 use case catalogue that now is integrated in the SAH Innovation Portal. Current (Flagship) Innovation Experiments will stop by the end of the SAH project or soon after that. But of course, if the sustainability plan is successful, their number will be further expanded. The content management of the Innovation Portal should take care of inclusion into the network in a proper, standardized manner. DIHs and their connected partners, but also other stakeholders, could be considered as a potential customer, because they can be valuable examples to set-up own experiments or just to learn about how a certain technology was implemented, what lessons were learned, etc. However, we currently don't see a business model in which these 'customers' are going to pay for this information. It should be included in the overall business model of the Innovation Portal.

INVESTOR NETWORK

At the moment the number of investors registered in the Innovation Portal is limited to 9. WP2 on the Open Call has addressed the communication also to potential investors (overview of Cascade Funding opportunities and How to manage cascade funding projects for clusters and SMEs). D2.4 (Stocktake of potential regional and national public/private funds for agri-food DIHs) also provides an overview of potential sources of funding. At the moment, the foundation of this legacy element is limited and will not be further explored.

4.4 METHODOLOGIES & TOOLS IN THE INNOVATION PORTAL

Digital Innovation Hub Innovation Services Maturity Model

WP4 has developed the so-called 'SmartAgriHubs Digital Innovation Hub Innovation Services Maturity Model'. This is referred to in different ways, e.g. 'self-assessment tool', 'maturity model'.

The objective of the maturity assessment is to facilitate a DIH in assessing its maturity on the innovation services and a few other general aspects relevant to setting up and running a DIH. The results aim to enable the DIH to derive development objectives in a structured way[2]. An intellectual property agreement has been arranged between TNO, BIOSENSE and Fraunhofer which describes the roles and rights of the partners.

An implementation of the Maturity Assessment model was first developed in an Excel prototype, in collaboration between BIOSENSE and TNO. This is implemented by project partner Schuttelaar & Partners (S&P), on behalf of WP1 as an integrated component in the SAH Innovation Portal. This implementation design was a co-development of S&P, BIOS and TNO. The coding was done by S&P.

We consider that the model and the tool are key assets that should be sustained since it provides a practical tool to support existing hubs to find ways to improve their operations. The maturity model focuses on the services offered by DIHs and is not domain or application specific (i.e. it does not specifically focus on agri-food sector). From an external stakeholder perspective therefore, the maturity model could be of interest to any hub and different networks of DIHs (irrespective of their sectorial/technology focus). Self-assessment results can be downloaded from the portal and can be used as a token to external stakeholders (e.g. as a requirement in obtaining funding).

The services maturity model as an approach is of interest to a few organizations – for example TNO is running an external and internal orchestrating innovation programme where possible applications of the model could be seen and agROBOfood has used the model as inspiration for their own tool. At the moment however, no particular platform (other than SAH) has agreed to incorporate the online tool itself. Therefore, while the approach (methodology) may still find its applications in various forms in the future, the sustainability of the online tool in its current form is dependent on the sustainability of the Innovation Portal or willingness of another landing page to incorporate it (subject to IPR agreements).

TRAINING PROGRAMME FOR DIHS – SAH ACADEMY

As part of the work in SAH, the consortium has aimed to support DIHs in establishing their DIHs and building their capacity to deliver innovation services as a one-stop-shop. A

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[2] *More details can be found in D4.2 DIH Capability Maturity Model.v2 (smartagrihubs.com).*

capacity building programme has been developed. The capacity building material is placed in a repository on the Innovation Portal, including:

- ✓ webinars on various topics such as setting up a DIH, governance, skills, farmer centric innovation, etc. Recordings and slides from the webinars can be found on the SAH portal and via YouTube videos (YouTube channel is managed by S&P).
- ✓ a number of articles, interviews, templates and exercises developed for the Learning and Exchange Programme (LXP) on topics such as business plan, business models and strategy, financing of DIHs, marketing.
- ✓ Material from IoF2020 and other projects and networks.

The knowledge and trainings developed as part of the capacity building activities provides valuable insight and know-how to support new DIHs on setting up their operation and offering and improving relevant services. Such materials have and can be used to create interest and engagement from the community. From the perspective of external stakeholders, the materials could be of interest as a way to provide access to materials and knowledge on setting up DIHs and added value of DIHs and collaboration.

The current materials that have been developed within the framework of the SAH project are open to the SAH community and to a wider audience (e.g. via the SAH YouTube channel). These materials could also remain published on the SAH portal (provided that it is active after the project). The materials for the webinars are already provided and for the moment are static (webinar recordings and PowerPoint presentations). But this is not to say that the topics themselves will not develop. All of the SAH partners have pre-existing knowledge that they are also further developing in various new projects. Therefore, it is expected that the materials will continue to evolve also in future research and projects (e.g. TNO is continuing its research on ecosystem development and evaluation, governance, business models in other projects). But, this development might be outside the scope of SAH. For instance, TNO runs an orchestrating innovation programme in which some elements addressed in SAH are also explored. This is of course based on pre-existing knowledge (from before SAH project) as well as insights gained as part of different projects like SAH.

Existing SAH materials are already part of the SAH. In case this part of the Innovation Portal will be sustained, main customers would be the DIHs directly, or indirectly by other organisations or projects. It can be expected that after viewing the freely accessible materials in the portal or via YouTube, DIHs have a need for more dedicated, tailored training on site. That could provide opportunities for a viable business model.

SOCIAL LEARNING PLATFORM FOR DIHS (LXP)

Within the activities related to DIH capacity building, SAH has initiated a DIH peer learning and exchange programme, supported by a social learning platform. The objective of the program is to initiate exchange among peer DIHs and start discussion on identified topics. The program consists of:

- ✓ Overall approach/methodology of the peer learning and exchange, including design of a peer exchange day, collection of learning objectives and later on implementation of several modules with accompanying materials to further stimulate the peer exchange (e.g. webinar, online communication)
- ✓ Materials developed for the LXP and the identified topics of interest (currently two courses are under development – Peer learning and exchange and Proposal writing (see section Training Programme for DIHs)
- ✓ Access to the Social Learning Platform.

The social learning platform combines content organized and provided by SAH with online discussion by the participants who can chat, respond to questions and exchange with each other. The online content is structured into courses (currently 2) and each course is structured into 'modules' (chapters, or levels), each consisting of around 2 hrs of content, split up in 5-8 objects (such as an interview, an article, exercise, etc). These courses provide materials for self-study. But the social learning platform also engages participants by initiating discussions with various questions (participation is voluntary). This requires

active moderation. The technical platform supporting the LXP is currently licensed from an external organization LearningPool, via Next Learning Valley.

The peer learning and exchange is often demanded from the DIH community which are usually looking for good practice as inspiration and connections across the community. The materials and the process has so far engaged over 15 DIHs in SAH but the materials and methodology for the LXP could be used in the future.

For the LXP, 2 elements exist:

- The materials of the courses: the materials will remain static and no update is anticipated. TNO, just like other partners, will continue to work on the general topics and further develop them in various different external and internal projects (but this is based on background knowledge and research). Naturally, when conclusions originate from SAH, these need to be referenced. The use of the LXP platform will be stopped after the project due to two reasons: 1) the platform has the biggest impact when continuously used and animated by users, which is challenging without a direct connection to the community and 2) the time pressure of people to review the materials and engage is expected to actually support the use of the LXP. Therefore, the exchange should be focused on a comparatively short period of time.
- The methodology of peer exchange process will be reported in the Deliverables and SAH periodic reports. At TNO we consider the methodology by itself is static and we consider these to not require particular sustainability plans.

Currently the platform itself (technical platform) is provided by Next Learning Valley. If in the future the LXP platform is still to be used – SAH will need to extend the licence paid to Next Learning Valley. Also the IPR and data rules have to be arranged. However, as utilization of the LXP programme depends very much on the activation , we believe that for the time being, the sustainability should focus on the materials (previous section) and not the platform itself.

In case the Innovation Portal will be sustained, and existing materials continued being referenced on the portal or if the licence to Next Learning Valley is extended, the main customers would be the DIHs directly, or indirectly by other organisations or projects.

AGRICULTURAL TECHNOLOGY NAVIGATOR FOR CCS

The Agricultural Technology Navigator (ATN) is an online registration system in the SmartAgriHubs Innovation Portal, which allows Competence Centres to showcase their technologies, systems and competences. As well, it serves as a tool for analysing and classifying the widespread use of actual technologies in the agricultural sector. To sustain the ATN, funds are needed to cover response to users, update/expansion of ATN. Customers could be other projects and digital initiatives, particularly which have users with content to upload, CCs themselves or the Innovation Experiments/organizations looking for technologies, systems and competences. The concept and design of the ATN was conceived of and carried out by UAL. The ATN was made operational on the portal by S&P with the input of the UAL. All data inputs by CCs into the ATN are made through the IP, and thus, such data is in the care and control of S&P, subject to relevant data protection restrictions.

The main features of the ATN are:

1. The design of the ATN is based on the supply chain of agricultural products, focusing on production stage, and the original design anticipated registration by not only CCs, but DIHs, governments, companies and a wider range of actors.
2. Useful both for entering and for searching information in the SAH IP.
3. The system allows registration of CC's services, competences, systems and technologies.
4. Systems are seen as integrators of technologies and the competences as the base of services.

5. Coherency with prior EU efforts: e.g. SmartAKIS categorization for Smart Farming Technologies (and the online platform).

The ATN could serve as an important tool for the Agri DIH community, given the role of CCs which form the digital technologies cornerstone of the DIHs in the SAH network. CCs provide the digital technological infrastructure of the DIHs 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. The Agricultural Technology Navigator (ATN) could be utilised to build and support a more extensive and stronger network of Competence Centres (and other actors such as DIHs, etc.) who can then contribute to a common repository of digital agricultural technologies.

The ATN should be sustained from the SAH perspective since the ATN could be utilised to build and support an extensive and strong network of Competence Centres (and other actors such as DIHs, etc.) who can then contribute to a common repository of digital agricultural technologies. Competence Centres form the digital technology core of DIHs. If adequately utilised by Competence Centres, the ATN could be rolled out globally, as it is an easy to use tool, applicable to all farming sectors and supply chain actors. It could be reutilised by a wide range of projects and public initiatives – rather than re-inventing the wheel on digital agricultural technology data bases. The ATN serves as a "one stop shop" to search for CCs and the systems they offer. If S&P and/or other entities wish to improve the search function, they could do so with the improved classification devised under SAH WP5. Agricultural digital technologies do not currently have an adequate standard classification system. It could, if contributed to and utilised by CCs, prove to be a powerful search tool. The Agricultural Technology Navigator (ATN) could be utilised to build and support a more extensive and stronger network of Competence Centres (and other actors such as DIHs, etc.) who can then contribute to a common repository of digital agricultural technologies.

To date, no entity has been identified to sustain the ATN. If the value of the ATN tool and CC data is to allow matching technological offers with demands, there are several dynamic mapping platforms that allow this type of action, such as Merlin, the online technology matchmaking tool of Enterprise Europe Network[3], SmartAKIS[4], SMART 2013/0035[5], SMART 2015/0012[6], RIS3[7], or the IoT Catalogue[8], to give some examples. The IoT Catalogue team may be interested in integrating the information that CCs are introducing into the IP in their own platform, but integrating the ATN would have to be done from zero, which does not seem particularly feasible. Even if this were the case, S&P would have to solve data issues, as the IoT Catalogue is a third party. Another reason that the IoT Catalogue is not particularly suitable is that it is more business oriented with technologies available on the market. The SmartAKIS platform, if it is continued, may be more suitable for the ATN content, but it would face the same issues to transfer CC data and ongoing funding is an issue for SmartAKIS. Successful utilization depends highly on the continuous activation of CCs to register their technologies.

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[3] https://een.ec.europa.eu/tools/services/Help/OnlineHelp/Merlin_Client_UserGuide.pdf
[4] https://www.smart-akis.com/
[5] https://op.europa.eu/en/publication-detail/-/publication/638333a0-9f42-11e7-b92d-01aa75ed71a1/language-en/format-PDF/source-40842152
[6] https://aioti.eu/mapping-internet-of-things-innovation-clusters-in-europe/
[7] https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/policy-document/regional-strategy-research-and-innovation-smart-specialisation-ris3-0
[8] https://www.iot-catalogue.com/

4.5 OTHER METHODOLOGIES AND TOOLS

USE CASE APPROACH

The use case approach was mainly developed and designed in the IoF2020 project. SmartAgriHubs adopted this approach, and applies it to the Innovation Experiments. This is basically a new name for what was called a Use Case in IoF2020. Since 'use case' is a more widely accepted concept, we will stick to this name in this document.

The use case approach is visualized in Figure 4. It starts by defining a **use case project** in which you are going to develop a certain digital solution. A use case means that you already start to use the solution in the project. It is tested in a real-life environment in which user involvement is a key success factor. Usually, elements of the solution are already 'commercially available of the shelf' (e.g. sensors, software, etc.), but it requires further development and integration to create a useful solution out of it.

Development of digital solutions consists of a cycle of four steps:

1) Design
2) Implementation and Integration
3) Testing and Demonstration
4) Evaluation

Dependent on the outcome you are going to adapt your design and go through these steps again. To guide this cycle, it is important to **set clear objectives** for the use case project. What do you want to achieve? For example, increase yield, reduce pesticide use or better transparency for consumers?
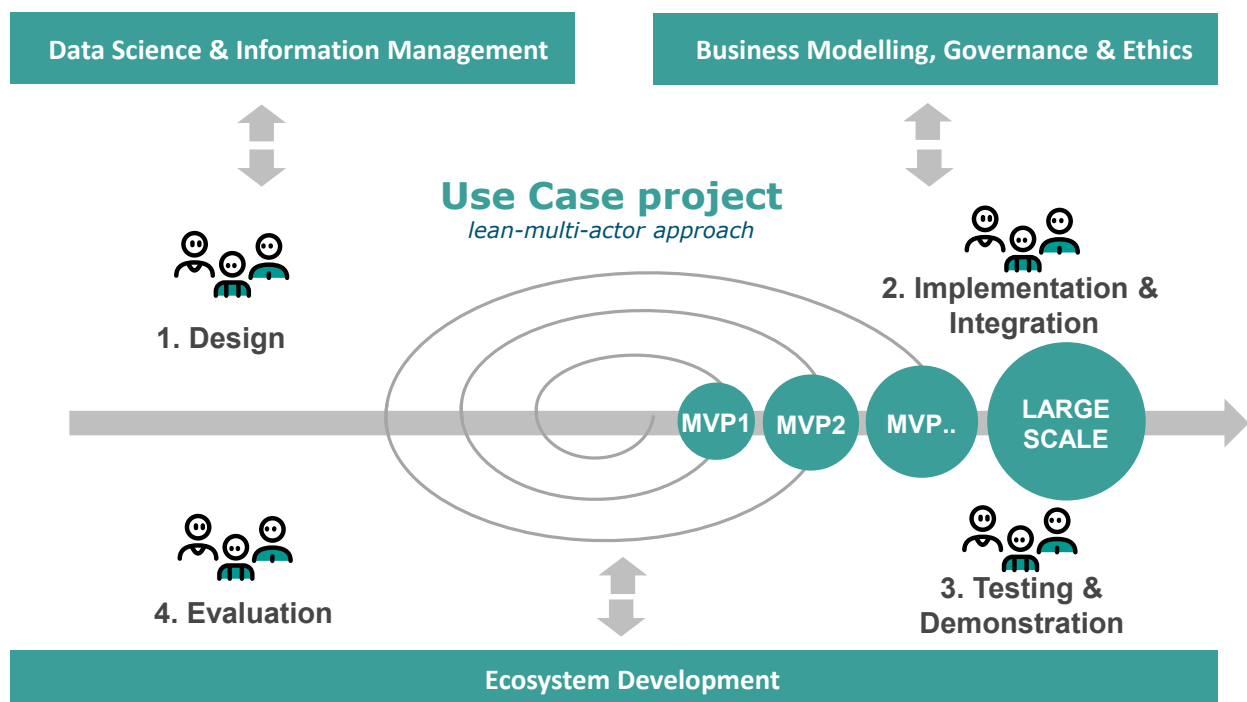
Figure 4 Use case project using the lean multi-actor approach, in interaction with multiple disciplines

It is important that a use case is supported from three different perspectives, which are:

- Data science and Information Management: helps to analyse data according to the latest techniques and scientific insights
- Business Modelling, Governance and Ethics helps to define the added value of the digital solutions at stake and what are the underlying values that determine who

you want to do business with and what kind of agreements do you make about sharing data
- Ecosystem Development defining with whom you are going to work on developing the digital solution and to scale-up the innovation attracting new investors and using the right communication and dissemination channels.

It is important to sustain this element, since when DIHs want to set-up and support new Innovation Experiments it is valuable that they can build on this approach in order to enlarge the success rate of the Innovation Experiment. WUR could provide courses and trainings on a commercial basis. Depending on the agreed license model, WUR can also obtain a certification fee if others want to provide trainings or courses on a commercial basis.

WUR – and its eventual partners – can use the approach to be successful in the application of project proposals. WUR has been leading and coordinating digital innovation projects in agri-food in Europe for more than a decade. Together with other European partners they have developed and continuously improved the use case approach in these projects. WUR researchers are applying this approach in many digital innovation projects and gained a lot of knowledge and expertise through that. Hence, they are experienced users of this approach and eager to learn from other use cases where this approach is applied.

Currently costs are only foreseen for inclusion in the SAH Innovation Portal that will require hosting. But this will not be specific costs for this use case approach. Maintenance of the documentation will be done by WUR (and possible others if we agree on a kind of open source license) for free.

OPEN CALL APPROACH

The realisation of open calls has to consider diverse challenges with respect to the definition of open calls, realisation and management of the evaluation procedure as well as design of the supporting programme that is attracting potential proposers. Especially the latter needs to be considered as a basic added value that goes beyond the offering of the financial support. It enables an interdisciplinary collaboration and facilitates the alignment of plans and objectives. At the same time it helps to assure a proper realisation of supported projects.

The WP2 team was preparing 6 different open calls that were launched in 2020 and 2021. The general approach for realising the open calls is not unique, however since it is following the related guidelines of the Horizon 2020 programme in terms of evaluation, publication of open calls and related contracts to be prepared, knowledge of this programme is required. The design of the individual open call topics is elaborated in close collaboration with expertise from diverse fields, like agriculture, supply chain management, food chain operation, as well as the collaboration towards retail and consumers. This is based on the overall SAH network that presents in itself a reusable asset and offers competencies for the development of regional innovation programmes. The core team, realising the open calls, is also providing specific agri-food related knowledge, especially with respect to innovation processes and programmes, also complementing it with experience on digital transformation activities from both an RTD perspective as well as a more practical oriented innovation perspective, even including the analysis, design and realisation of related projects.

At the same time, the core team is providing diverse experience with the practical realisation, organisation and tooling of open calls. There are diverse document templates, structures, process definitions and tools available to support the overall realisation of open calls for proposals. This is also based on a network of contacts to diverse external experts that are supporting the realisation of the open call evaluation.

In summary, WP2 is compiling different types of complementary expertise, practical tools and defined processes for preparing, managing and reporting about the open calls. At the

same time, this approach was harmonised with methods and tools developed in the scope of WP3, 4, and 5, in relation to realising innovation activities/experiments as well as offering the structures for an innovation and technological support. Therefore, also tools like the DIH maturity self-assessment was used as integral element for being able to facilitate the evaluation of Digital Innovation Hubs.

There is a mix of competencies, methods and tools that offers potentials for reusability and sustainability of achievements in the SmartAgriHubs project. Customers who could reuse and exploit the competencies, methods and tools for the organisation of open calls can be different types of organisations:

- ✓ Public organisations that would like to realise topical and/or regional promotion of digital innovation activities.
- ✓ Private organisations that are searching for new ideas and business models, contributing to the internal innovation and marketing processes, also facilitating the development of new business models, usually based on small experiments and limited scale, driven by external teams
- ✓ Organisations, facilitating innovation and business development activities like accelerators, incubators, VCs or also more classical finance providers like regional banks or investors.

The described assets can match all three target audiences, while being able to satisfy different needs when implementing their specific strategy. SAH offers key knowledge and contacts to prepare and manage open calls as well as evaluate received proposals. ATB and CARSA can offer related experience gained in open calls that were realised with public and private financial support. WR offers experience and lessons learnt with the design and negotiation of sub-grants in the scope of EC funded projects.

A transfer of knowledge in terms of coaching, mentoring, or consultancy would be realised on usual hourly rates of SAH partners. At the same time it would also be possible to offer "packaged service offering" for e.g. the design, development, realisation and management of an open call campaign. This would be usually offered on a lump sum basis with a fixed price and variable components as far as required. Tools or templates could also be offered for usage by third parties. Depending on their availability and effort for providing them to third parties, the SmartAgriHubs partners would either offer e.g. an off-the-shelf-product/service at a fixed price or also at a price representing the required effort for providing the result.

TASK FORCE GENDER

The gender task force was set up in close cooperation with the IoF2020 project end 2019 and included two sub-groups, one focusing on communication and the other on analysis of relevant data related to the inclusiveness and gender in EU agricultural projects. In September 2021, the two sub-groups of the gender task decided to unite forces and maintain just one group that will focus on both aspects. This is in part also due to the fact that the IoF2020 project finalized and some of the members stopped their activity in the task force.

Main achievements of the gender task force include:

- Launch of the Gender Page in the SAH website
- Organization of several gender webinars
- Publication of a gender newsletter
- Campaign for gender week both internationally and EU
- Podcast from women in agriculture both from IoF2020 and SAH
- Ample social media promotion
- Creation of a gender Ambassador profile for SAH
- Publication of a gender toolkit
- Publication of a gender survey

S&P would like to take the lead in sustaining the task force beyond the SAH project and also contribute to other (EU) projects. They will start with a kind of secretariat; in general

to do things like they do now. They are still working on developing this offer. Main customers for this legacy elements are projects that want to use the services developed within the task force as described above.

4.6 COMMUNICATION ELEMENTS

To keep the SAH network alive and active, some communication is essential. A large number of communication elements can be identified (see also D1.5 Project Outreach Report for more details):

- The corporate identity
- The website, newsletters, social media, videos, etc.
- Events like conferences, webinars, etc.

At the moment, no organisations or network have been explored.

5. FIRST DESIGN: LITE WEIGHT ORGANISATION

As indicated in Chapter **Error! Reference source not found.**, our approach was to identify the most important legacy parts that can be continued by adoption by another organization than the current project. The parts should be sustained through their own business models that lay in other projects or opportunities (see Figure 5). So, each part could act as an independent unit, but the envisaged light-weight organization, called SAH Lite, should function as an umbrella that keeps the different parts together under the SAH brand.
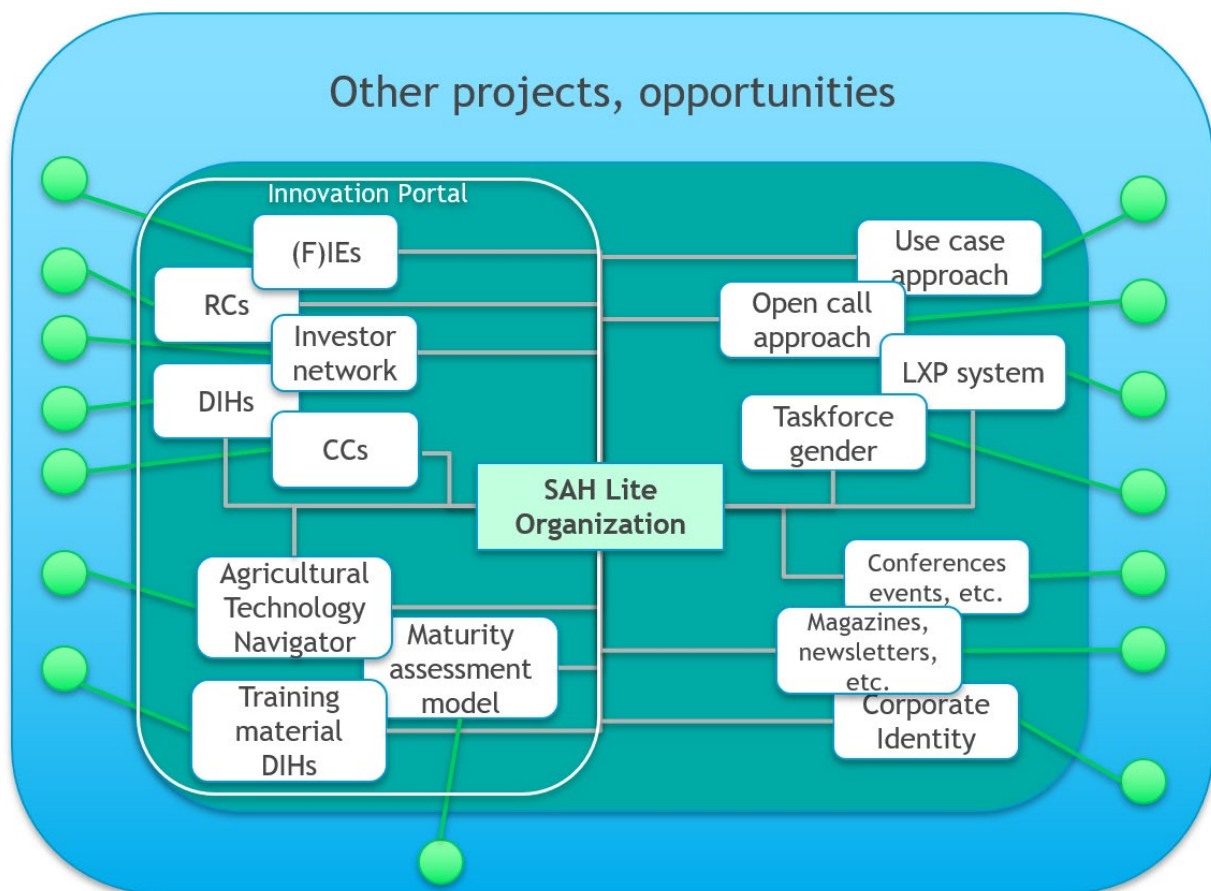
Figure 5 The SAH lite organization connecting all the different legacy parts but each part has also links to other projects or opportunities.

In this way, it is expected that SAH Lite does not require a heavy and complex structure as in the current SAH project, requiring a large budget. The remainder of this chapter describes the design for SAH lite in more detail covering:

- Objectives of the organization
- Organization model
- Activities of the organization
- Business Model

5.1 SAH LITE OBJECTIVES

The overall objective of the organization would be to propagate the vision that was defined in Chapter 3 and fulfil the mission statement by fostering the network and connect the dots between organizations that facilitate digital innovation in agri-food. This should be translated into a clear strategy to be carried out.

Furthermore, SAH Lite should have the responsibility to sustain and maintain the legacy of SmartAgriHubs, although the different legacy parts should also act independently as explained before. This means that SAH Lite mainly has a coordinating function to let the parts function together under the SAH brand.

In general, SAH Lite should also do advocacy for the network, in particular the DIHs. This means that it can liaise with other relevant organizations, institutes, programmes or projects in favour of the SAH network.

5.2 SAH LITE ORGANIZATION

The SAH Lite organization is basically a 'steering board' of people that are committed to the SAH Lite objectives and are able and willing to propagate them. To maintain good connections between the various legacy parts it is important that a member of this board is also in charge of one or more legacy parts. They act as linking pins. Taking this into account it would be logical that the envisaged board is a continuation of the current SAH Project Steering Group (PSG), although this should carefully evaluated when this board has to be installed.

For a good functioning of the board it is important to have a secretariate for basic support e.g. to organize meetings, internal communication, do official communications, etc. This secretariate could also a play a role in maintaining the external communication, which could be done through the official SAH Innovation Portal.

5.3 SAH LITE ACTIVITIES

SAH Lite is expected to organize several board meetings to discuss progress and matters concerning the vision, mission and strategy. For this purpose up to 2 meetings a year should be sufficient, while bilateral meetings between specific board members or subgroups around a specific legacy part or topic could be organized at an occasional basis.

Besides, it will be important to organize regular events. These can be of different size and scope. It would be nice if the annual large-scale conferences could be continued as an important activity to maintain the network and visibility. But it is also possible to organize more national or regional events under the SAH brand. Depending on the type and purpose of the event, it can be organized in different formats: physical, online or hybrid meetings. Concerning the organization and costs of these events, the idea would be that they are self-sufficient, which means that they can be fee-based or sponsored by other organizations or participating projects. This also means that the risk of eventual losses is also on the account of the organizer.

Another – occasional - activity could be that board members (or other active persons) fulfil a role of ambassador or evangelist of the SAH brand by giving keynotes or presentations, write blogs/vlogs or other type of publication on behalf of SAH.

Finally, occasional actions can be undertaken related to the liaison objective through lobbying activities to influence agenda's, work programmes or upcoming calls for projects.

5.4 SAH LITE BUSINESS MODEL

The rationale behind the SAH Lite organization is that it is light-weighted in terms of time and budget. It is expected that the board members will only spend a few days a year actively on their specific role. Also, it is expected that activities have much overlap with activities that members are already undertaking in their role as a professional. In that respect it is expected that this role will also support their business in a positive way e.g. by having access to specific networks and actual knowledge of strategic research agenda's.

Moreover, an option could be to ask the board members' organization a small fee (e.g. €1000,-) to cover the cost of the secretariate and other occasional costs (e.g. meeting room rents, catering, etc.). The secretariate could also circulate among the member organizations and they could also search for sponsoring of these costs (e.g. by national governments).

As already mentioned previously, the SAH Lite organization should not bear the costs for organizing events. Also here, it could be possible to ask money from the organizers in return for using the SAH brand. However, this should be carefully evaluated first with the legal form of organization that will be chosen if this is possible.

6. SECOND DESIGN - RESULTS WORKSHOPS

The first design of the sustainability plan that is described in Chapter 4 and Chapter 5, was evaluated in three rounds of workshops, expected to lead to additions and adaptations of this design (Figure 6, see also annex 1). The first round was with the Regional Cluster leaders and the Project Steering Group. The second round with a number of DIHs and CCs that were selected on their active role in the SAH network. Finally, a third round was held with the Strategic Guidance Board (SGB). Each workshop was held online lasting approximately 1.5 hour and a short report was made. The following sections will describe the main results of the three workshops. Besides, some extra occasional, but very useful feedback was received during the review meeting and in a meeting with Maurits Butter (TNO), main author of the green paper, that is also included.

Round 1	Round 2	Round 3
PSG + RC leaders	Mature DIHs, CCs	Strategic Guidance Board
Round table discussion	Subgroups to discuss aspects of (e.g. light weight organization)	Round table discussion
Early January 2022	February 2022	Early March 2022
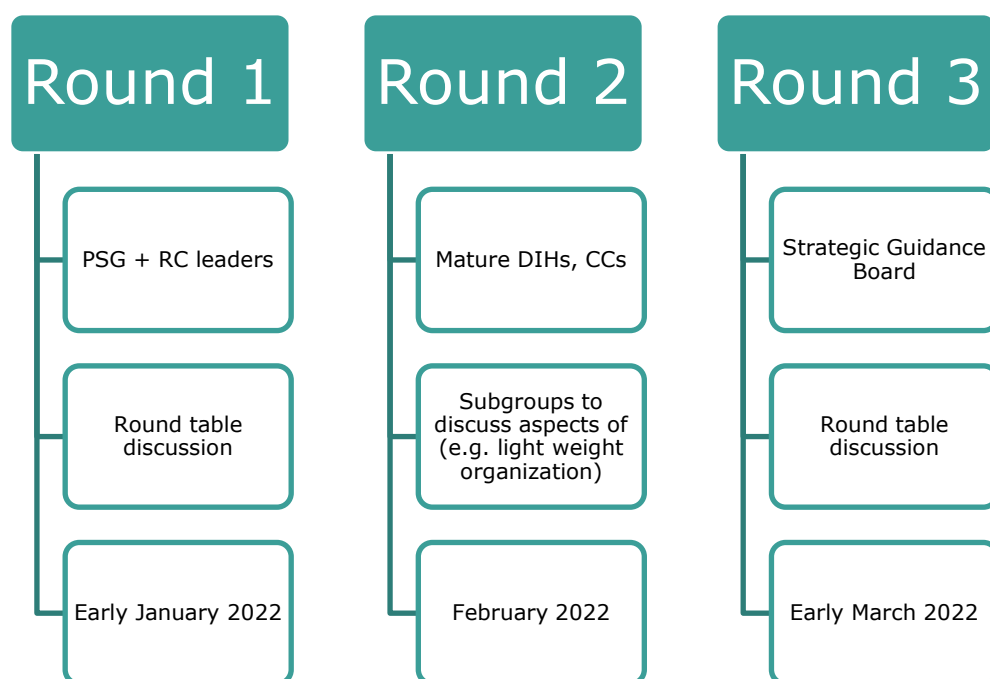
Figure 6 Three rounds of workshops to evaluate the first design of a sustainability plan for SmartAgriHubs

6.1 MAIN RESULTS WORKSHOP 1

Although the overall objective of the workshop was to evaluate the complete first design of the sustainability plan, a focus was put on the future role of the Regional Clusters. After a plenary round basically presenting the first design, the group was split up into four subgroups discussing the following issues:

1. Should the Regional Clusters be sustained?
2. Viability of the business model: current match with EDIH of EIP-Agri?
3. Are there other networks, organizations or models that can be a potential match?

At the end, the outcome of each group was plenary discussed again.

Concerning the first point it could be concluded that the RCs played an important role to build and maintain the regional network of DIHs, basically because of their proximity to local DIHs and other organizations. But the way this was implemented varied per region

depending on the type of organization that was behind a RC: government-, research- or more business-oriented. It should be noted that some RCs are one-on-one congruent with a country (e.g. France, Italy) while others are spanning multiple countries. In the first case it can be expected that RCs are more government-oriented and also prone to changes in national politics. Anyhow, RCs are expected to be able to play an important role in making the connection between DIHs and national or regional governments e.g. for lobbying and agenda setting. In some cases the role of RC leads was also blurred with leading DIHs or CCs.

With regard to the possible match with EDIH, it was generally concluded that it is an important development within the EU that SAH should definitely connect to. However, at the moment the whole concept of EDIHs is not yet very clear on how it is going to work in practice. It is also not primarily focusing on agriculture, but has rather a more technology orientation. The structure and set-up is also different and like the RCs in SAH varies between member states. Nevertheless there are currently already connections made with EDIHs trying sustain the legacy of SAH. It remains to be seen how this can be further organized in the coming years. Since EIP-agri is more clearly focusing on agriculture, it could be a good match with SAH, in which the latter is focusing more on the digital innovation aspects. But also here, the objectives and structure of EIP-agri are different from SAH and it should be further investigated how this could match. Finally, like SAH, there is also much diversity in the activities and impact of EIP-agri in different regions. In conclusion, both organizations are quite different but offer good opportunities to connect with, for different purposes.

Beside EDIH and EIP-agri other potential matches were mentioned, mainly at a national or regional level, such as Enterprise Ireland, Nordic network of digitalization, but this was not discussed in much detail.

Main conclusion from this workshop is that the RCs are a very valuable asset that should be maintained in the future organization of SAH. Many leaders indicated that they would like to keep fulfilling their role in SAH also after the project on a voluntary basis expecting that it somehow will pay back. However, the current structure should be reconsidered and in a possible restructuring the developments of other networks such as EDIH or EIP-agri should be taken into account in order to create optimal collaborations and synergies. Other organizations as potential match should mainly be considered at national or regional level and will also depend on how the RC can be characterized (government, research, busines) and the personal ambitions and network of the people involved.

6.2 MAIN RESULTS WORKSHOP 2

The main objective of this workshop was to get feedback from active DIHs and CCs on which legacy parts were most valuable to them to be sustained and how? Concerning the latter aspect, special attention was paid to potential business models. Again, after a plenary start the participants were split up into four subgroups to discuss this.

Like the previous workshop with the RCs, it could be noted that there is a large diversity in DIHs and CCs. Some are big, longstanding organizations while others are small start-up type of companies reflected by different maturity levels and needs. But overall, the SAH network was considered as very valuable by virtually all participants, which could be representative for the whole SAH network of DIHs and CCs. Because of the variation, more or less value was attached to different legacy parts. For example, the bigger, mature organizations were less dependent on the RCs while the new-coming, less mature DIHs appreciated them very much as a gateway to the overall network or bridges to local/regional (funding) organizations. Besides, the ATN, innovation portal and maturity assessment model were frequently mentioned as very valuable. Something that stood out was the strong brand 'SmartAgriHubs' that is now widely known in Europe, but often also at a regional level. Related to that, participants were enthusiastic about the magazines, newsletters, etc. but also online or physical meetings that are organized under the SAH

brand were much appreciated. Also the peer-learning experiences were much appreciated, e.g. to know which Innovation Experiments were carried out elsewhere or how another DIH tackled a problem concerning access to finance. In the end it could be concluded that virtually all legacy parts that can be identified (see Figure 3) were more or less considered as valuable to maintain.

Concerning the business modelling, the outcome of the workshop was not very specific. Most participants were also pointing at EDIH and EIP-agri along the same lines as in the first workshop. It was discussed that if the network is so valuable, the question then is if a membership fee is applicable? However, this was not elaborated in more detail.

Main conclusion is that there is a strong support from the DIHs and CCs to sustain the network and the brand SmartAgriHubs. Depending on their type of organization and maturity level, there are different needs for the various legacy parts but altogether all parts seem to have their value. However, in the end it is not yet very clear if DIHs and CCs are willing to pay to be part of the network. This should be further investigated.

6.3 MAIN RESULTS WORKSHOP 3

The third workshop had a different character than the previous two, since the group was much smaller and contained mostly people from outside the current SAH project. The objective was to get valuable, general feedback from these organizations/persons based on relevant experience they had.

Overall, the SGB confirmed the approach of sustainability planning, but had several remarks and advices. First of all they advised not to wait until the end of the project with the implementation of the sustainability plan, because otherwise there is a big risk to lose the momentum which at the moment seems to be very strong. One specific action is to start as early as possible with choosing the legal form of the 'SAH Lite' organization, because experience learns that this can take quite a long throughput time. Generally, the SGB confirmed the idea to start with a lightweight – lean and mean – organization, however it still has to be defined more concretely what is the bare minimum viable structure since this can mean that it is not so light as anticipated. To make this a success it was also an advice to have – beside a kind of steering group that meets on an occasional basis – a kind of operational manager that is operating SAH Lite on a daily basis. Although it is not necessarily a full-time job, it should be a substantial role (e.g. 0.5 FTE) executed by a senior person. This would mean a considerable cost. Furthermore the SGB highlighted the challenge of the transfer of IPR from the project to possible other organisations. This could also take quite some efforts and time. Not only financial resources are essential to maintain the network, but also personal commitment as is already illustrated by the RC leads; some of them indicated even to be willing to work on a voluntary basis.

The SGB highlighted the need for financial resources to be essential to maintain the network. They advised to think about this in small amounts of money per service/member. They indicated that a strong brand is worth its money. But many small amounts could still sum up to a substantial amount in total that you can use to maintain the essential structures. After some time it can then be considered to scale up and look for more substantial contributions.

The question which legal form of the envisaged organisation that should be chosen, the SGB indicated that each form has its pros and cons that should be carefully considered. Existing successful examples, such as EBN or EURobotics, are associations.

Concerning the Innovation Portal it is important to maintain the content, which can become obsolete very fast. Contributing with new content is more important. That is why there also has to be budget for maintenance and cleaning up.

It was briefly discussed if existing organizations, such as CEMA or CopaCogeca, would be interested to host the SAH Lite organization. It was concluded that this could certainly be a track to explore. Potential conflict of interest should be taken into account then.

Also expansion of SAH outside Europe, especially towards developing countries in the Southern hemisphere, could be an interesting pathway. There are indications that global donors such as the World Bank or Gates foundation, are interested. Actually there is already a big movement towards establishing DIHs in Africa going on and some of the SAH partners are already quite active in that. Nevertheless, the SGB advised to focus on making the EU network viable and sustainable first.

Main conclusion form this third round was that we are on the right track and that the high potential of the SAH network is confirmed. But we should not lose the momentum and not wait until the end of the project to put things in motion. This will also require more detailed exploration of several parts, in particular transfer of IPR and choice of the legal form and its implementation.

6.4 EXTRA FEEDBACK

Although it was not originally planned for this task, a draft of the sustainability plan was presented at the official mid-term project review resulting in some valuable feedback. Especially one of the reviewers had a successful experience in sustaining a similar type of network. He confirmed that we were on the right track with the approach and results so far. He actually estimated that the current SAH network is already more mature than the one he was referring to. Nevertheless, we should not underestimate the efforts that are still needed to make it a success. Especially, solving the financial challenges (business/revenue models) will be potential showstoppers. It was also mentioned that 'Wageningen' as a strong brand behind the SAH brand could be an important critical success factor. Finally, the reviewer offered to have a more in-depth follow-up meeting if desired.

We also had a half-an-hour online meeting with Maurits Butter, the main author of the green paper we referred to in Chapter 1. Maurits' organization, TNO is also a core SAH partner and therefore he was not unfamiliar with the project, although not deeply involved. From that background he was more or less confirming that we are already on the right track, but still a way to go. This could be summarized in three main questions that we only partly answered but should be explored into more depth:

1. Who are the **customers** of SAH Lite as a catalyst and what are their pains (and possibly gains)?
2. What are the **services** SAH Lite can deliver to ease their pains or address their gains?
3. What are the appropriate **business/revenue models** for these services? Tip: look at the 12 identified models in the green paper.

Additionally, we could look if some services could/should be offered as a composite cluster of services, also to include those services that are essential, but difficult to sell on their own. In that case, the services should be set-up as lean-and-mean as possible targeting at small amounts of money concerning the price-setting. But if these services can be offered to a large number of customers it is still possible to gain a considerable amount of money in total. Also Maurits offered to organize a more substantial follow-up meeting.

6.5 CONCLUSIONS

The first design of the SAH sustainability was thoroughly evaluated by different groups of stakeholders. It was generally confirmed that the current, first design fits well for its purpose and was supported by important stakeholder groups such as RCs and DIHs. In that sense, the outcome of the workshop rounds didn't lead to a complete re-design, but nonetheless valuable comments and suggestions were provided to improve parts of the design and some omissions were detected. The latter ones were mainly concerning the requirement to explore several parts in more detail (e.g. IPR transfer, business/revenue models, legal form of SAH Lite, etc.). This should be included in the final sustainability plan

and taken into account in the action plan in the next chapters. A very important main conclusion is that we should not wait with implementation of the sustainability plan until the end of the project, but act now in order not to lose the momentum.

7. SUSTAINABILITY PLAN

This chapter will present the sustainability plan of SAH as a current synthesis of all previous chapters, in particular Chapter 4 to 6. Section 7.1 will conclude and evaluate the status of the various legacy parts that were identified that should be turned into services with a viable business model. Section 7.2 will do so for the intended light-weight organization 'SAH Lite'.

7.1 LEGACY PARTS

Table 1 provides an overview of all identified legacy parts and their status on sustainability planning. It can be concluded that most parts that were identified and explored are desirable to sustain. Three of them are already more concrete which means that a feasible business model can be identified. However, as indicated in the previous chapters most parts under the Innovation Portal are difficult to be considered on their own and only have value if they will be offered as an integrated, composite set of services through the Innovation Portal. But within that scope, each service can have its own customers. For example, the Maturity Assessment model can be sold to DIHs and training materials to CCs. However, a question is if this should be organized in a *pay-per-use* business model or if it should be part of a more integrated *membership fee* model.

Table 1 SAH legacy parts and their status

Legacy Element	Not explored	Desirable, unknown yet how	More concrete	Completely arranged
Innovation Portal			X	
Network elements				
RCs			X	
DIHs		X		
CCs		X		
(F)IEs		X		
Investor network	X			
Methodologies and tools				
Maturity assessment model		X		
Training material DIHs		X		
Agricultural Technology Navigator		X		
Other methodologies and tools				
Use Case Approach			X	
Open Call approach			X	
LXP		X		
Task force gender				X
Communication elements				
Corporate identity		X		
Conferences, events, etc.		X		
Magazines, newsletters, etc.		X		

This means that for most network elements and methodologies & tools we must rely on a composite service model, although each service will have different potential customers with their own pains and gains. Moreover, some customers can be identified at a local or regional level and others will be more interested from the whole network level. This should be further explored to make it more concrete.

The parts under the third category (other methodologies and tools) could possibly have their own, independent business model, although still they will be much stronger if integrated in the Innovation Portal. Also this has to be further explored, although the

owners of these part should be encouraged to look for business outside the SAH network. The 'task force gender' so far is the only part that was already adopted (by S&P) and will be sustained, also through other projects and networks.

The parts in the fourth category (communication elements) are of course rather generic parts that can be applied in many different contexts, except for the corporate identity. The latter is very much connected to the SAH Brand and forms a core component of a future sustainability plan.

For all elements there are IPR issues to be solved. Since many different partners worked on various parts it will still be quite a puzzle that must be solved. In some parts data are involved creating another challenge how to handle that. The detailed templates that were the basis for Chapter 4 provide already some more concrete actions that should be addressed.

7.2 LITE-WEIGHT ORGANISATION

The basic design of the SAH Lite organisation as was depicted in Figure 5 still stands. However, the previous section showed that many of the connections are intertwined and many parts will be difficult to be sustained on their own, without the umbrella organization. At the same time, the form of organization will also very much depend on the (composite) business models that we want to apply to the different parts. If we opt for a membership model an association could be an appropriate format. But if some parts have a commercial business model and potentially can give a large profit the SAH Lite organization could probably better turned into a private type of organization. And here are still various options possible. This means that we should first try to answer the three questions that were raised in Section 6.4 for the various services, but concurrently explore the consequences it has for the organisation form of SAH Lite and *vice versa*.

To mitigate the risk that this exercise will take too long and the momentum gets lost we should start to execute the actions that will be defined in the next Chapter. In the meantime we should also still try to connect with relevant initiatives such as EDIH and EIP-agri and possibly through other on-going or new EU projects (e.g. Demeter, agROBOfood, etc.) to keep the network alive and active.

8. ACTION PLAN

This chapter describes the actions to actually sustain the SAH legacy, based on the second design. From now on, the Project Steering Group (PSG) will play a more active role in implementing the actions. Some actions will first be prepared in a smaller delegation of the PSG, so that they can further be discussed and decided on. One of the first things to be decided on is the vision on the network (described section 8.1) that will be the foundation for the other actions, e.g. the implementation of the lite-weight organisation (section 8.2). The sections 8.3-8.5 describe the actions on the Innovation Portal, network activation and task force gender. The chapter ends with longer term actions, after the end of SAH (8.6).

8.1 VISION ON THE NETWORK

A number of issues have to be solved for a better focus of what the SAH legacy is. This could be summarized in four main questions that we only partly answered so far, but should be explored into more depth before we can start with the remainder of the action plan:

1. Who are the direct and indirect **customers** of SAH Lite as a catalyst and what are their pains (and possibly gains)?
2. What are the **services of** SAH Lite can deliver to ease their pains or address their gains?
3. What should **minimally** be sustained to keep (part of) the SAH network with the Innovation Portal alive and active?
4. What are the appropriate **business/revenue models** for these services? Tip: look at the 12 identified models in the green paper.

Regarding the third point, a first exploration has been done by the task team (a small delegation of the PSG, based on the explored legacy elements). The results are shown below:

RCs	DIHs	CCs	(F)IEs	Investor Network	Maturity Assesment model	Training material DIHs	ATN	Use Case Approach	Open Call Approach	LXP	Corporate identity	Conferences and events	Newsletters, magazines
4	6	1	0	0	3	5	2	1	1	0	4	5	2
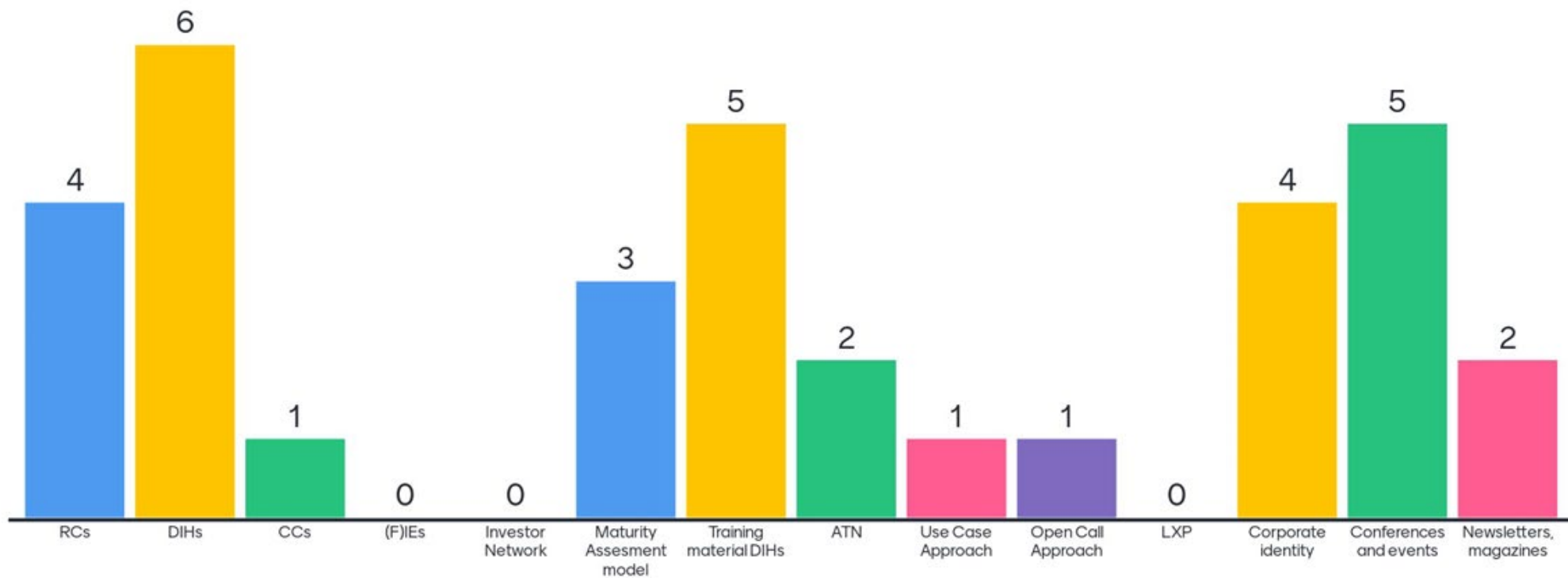
Regarding point 4, we also believe that we have to determine if some services could/should be offered as a composite cluster of services, also to include those services that are essential, but difficult to sell on their own. In that case, the services should be set-up as lean-and-mean as possible targeting at small amounts of money concerning the price-setting. But if these services can be offered to a large number of customers it is still possible to gain a considerable amount of money in total.

Actions:

Question 1-3 will further be discussed and decided on in a PSG meeting. For question 4, a smaller team will prepare a proposal to discuss and decide on by the PSG.

8.2 LITE-WEIGHT ORGANISATION

Organisational form

First steps concerning the lite-weight organisation are related to:

- Who will be the people that we need on board?
- What has to be arranged minimally?

It would be good to have at least a Memorandum of Understanding before the end of the project lifetime. Meanwhile, potential legal forms will be explored. Preferably, a decision will be made on the legal form that will be used. A quick research suggests that a foundation or association seem to be the most first logical choices. From there, the consequence of a certain choice should be elaborated, e.g. perhaps formulating statutes.

It would be logical that the envisaged board is a continuation of the current SAH Project Steering Group (PSG), although this should carefully evaluated when this board has to be installed. It is important to have the right people on board on a short notice.

The options to ask the board members' organization a small fee or circulating the secretariate or search for sponsoring of these costs have to be explored. The idea of having a more or less full-time operational manager that is responsible for the organization on a daily basis should also be explored. What would be the costs? How could this person be paid? If the answers are positive, what should be the profile of such a function?

Are there other organisations interested to host the SAH Lite organization? Are there then potential conflicts of interest?

Mandate

In the latter step also the relationship with the legacy parts should be defined and described. This will be most important for the Innovation Portal and its intellectual property rights since this is considered to be a cornerstone of the whole network. One of the questions if for example who will be moderating and approving the content (including the forum) to assure the quality.

How do we want to relate with other initiatives? What is our role? How to position ourselves?

Actions:

On short notice, before the end of the project, the PSG will discuss and decide on who will be in the lite-weight organisation and what has to be arranged minimally. This form the basis for a MoU among the partners, that can be presented at the closing event.

This decision will further be used to further explore potential legal forms and their pros and cons and decide in the PSG on the best option. Implementation is not foreseen before the end of the project.

Meanwhile, the Project Coordinator will also investigate whether other organisations in the SAH ecosystem are interested in hosting the lite-weight organisation. The PSG will continuously explore funding options to bridge the potential gap between the end of the SAH project and the implementation of a viable business model for the lite-weight organisation.

Possibly we could further explore the options with the SAH reviewer that has experience with similar developments.

8.3 INNOVATION PORTAL

How the Innovation Portal will evolve after the project, depends on the vision of the network. However, independently of that discussion, Schuttelaar and Partners can ensure a smooth transition to the next business model for which some technical and legal aspects have to be solved before the end of the project.

Technical aspects

It should be made easier to navigate through the Innovation Portal. The concept of the observatory (now for DIHs) with different user types having their own dashboard that guides them through the functionalities could for example be introduced for other users. Currently, the Innovation Portal is more or less a reservoir and the untraceability of things is a recurring sound.

Legal aspects

Things that have to be arranged to comply with the rights of the <u>data</u> suppliers (including registration data of network partners).

- An updated privacy statement to comply with the GDPR. The current privacy statement does not include an informed consent and does not say anything about the use of data after the project.
- Who will be the future data processor? Will there be a legal entity 'being' SmartAgriHubs?
- Other users of the data have to have a data processor agreement with S&P so that S&P assures the rights of the data donators.

Things that have to be arranged to comply with the rights of the donators of <u>information and knowledge (IPR)</u>. Here there has to be agreement within the consortium on what we would like to achieve after the SAH project:

- What elements and information within the Innovation Portal will be sustained?
- Do we need to make an arrangement on what will be the consequence of S&P no longer maintaining the Innovation Portal (e.g. bankruptcy, selling to another party, etc)?
- An additional issue that has to be explored is preparing for different scenarios: e.g. in case that S&P wants to stop with the Innovation Portal or in case of a bankruptcy, who will have the preferred right to take over the Innovation Portal, including the content.

If these questions are answered, it can be verified whether the Consortium and/or Grant Agreement are sufficient, otherwise additional arrangements (e.g. for IPR) have to made, e.g. in the statutes of the light weight organisation.

Actions:

S&P will, based on the earlier workshops and discussion, start taking care of the required actions. In case necessary, WR is available for guiding the legal actions.

8.4 NETWORK ACTIVATION QUICK WINS

The network will not stay alive automatically; it has to offer added value for actors to stay or join the network. What stakeholders will be relevant for the long term, has to explored first (section 8.2). For the various kind of stakeholders, different legacy element will play a role. The Use Case and the Open Call Approach have already been identified as 'quick wins': they need little effort to be sustained. For the other elements, it first has to be determined what is minimally necessary to keep the network alive and active.

RCs

Questions that exist related to RCs:

- Is the Regional Cluster approach maintained?
- Will every RC that is currently in SAH be sustained? Should we do a survey among them? Do we need a different structure of RCs?
- What level? The same regions, or per country?
- How to coordinate the RCs? What organisation will be in the lead for that?
- In case of a new structure, the Website and Innovation Portal has to be updated.
- Can their role be taken over by EDIHs?
- Do we need 100% coverage?
- What is exactly expected from them? Is that clear?

DIHs

- What is essential to keep the DIHs connected (e.g. assessment model, training material, LXP platform)?
- What would happen with the maturity self-assessment once the project is finalised?
- Should we ask the DIHs to do the Self-Assessment every year to keep them active?
- What network could take the lead in activating the DIHs? Connecting to other networks can provide alignment and also expand the outreach of the SAH community.

Relevant network

Decision and discussion with various networks will be needed. At the moment this is opportunity based and there are no particular tasks planned for such negotiations, but TNO is willing to establish the connection with DIHNET or other networks identified as relevant.

But also horizontal networks like the future EDIH network should be explored.

Maturity Assessment Model

Any other party that wants to sustain it, should arrange a license. Specific IP agreement has been set up to describe the current and future use of the maturity tool. Next to the foreground knowledge provided by TNO, the IP agreement identifies the following co-developed knowledge:

- The construction of the maturity concept (general, pillars)
- The specification of the (5) maturity levels for each of the relevant elements
- The logic with which we combine the scores into an overall view on the maturity of a DIH

For the tool itself, the agreed upon IP agreement determines the access to the tool. We see the following options:

- For the project's lifespan, no between-partner licensing is needed for the tool.
- Another relevant network or a separate partner may express an interest in the tool itself. In this case, a license will need to be created (on behalf of FH, BIOS and TNO). TNO has been empowered to do this on behalf of FH and BIOS. If such situation occurs, the access to the research/management data should be arranged with specific data

management plan for access to data for research purposes. At this moment, no partner (incl. TNO) has explicitly expressed the desire to incorporate the maturity tool. Naturally, this can change until the end of the project.

- If the SAH portal is continued after the end of the project and S&P to run the platform after project ends, a similar license would be needed. TNO, FH and BIOS have agreed that this would be free of charge if the same community is addressed under the same name of 'Smart Agri Hubs'. A data management plan would also need to be drafted. This is the preference option from TNO point of view and naturally open for discussion in the consortium.

Additionally, for the organisation sustaining the maturity assessment model, access to the current <u>content</u> might be of added value, although probably not essential. S&P have the input data and its use may be restricted without express consent of parties who provided information, given the current privacy statement on the Innovation Portal.

Training Programme For DIHs – SAH Academy

Final compilation of the materials (at the end of the project) needs to be made. The key question to be decided is <u>how the currently available materials</u> in SAH will be made accessible (overall sustainability and data management plan). TNO suggests to either:

- Keep the materials on the SAH portal (if it will remain active)
- Upload the publicly available ppts in an open access repository (such as zenodo)
- Incorporate the materials in an annex which can be included in one of the SAH public reports and therefore be available via cordis in the future. TNO public reports are also submitted to the TNO online repository and available for online search and free access (similar to D4.2 report).

Depending on the SAH project agreement and as the materials are publicly available, any of the 3 suggestions above are possible for TNO to incorporate. If the latter, an account for the open access repository needs to be developed (to be decided who can manage that).

Successful update of the materials depends on continuous activation and support of the SAH partners to update the material in the Innovation Portal and on the YouTube channel, although the uploading on the Innovation Portal requires a minimal investment by the developers of the material.

LXP

- Do we need the LXP to continue in its current form?
- Could the material (without the peer exchange) also be included in the SAH Academy?
- Decision on whether to further licence the LXP platform and related costs as well as connecting a button in the SAH community to connect to the LXP

(F)IES

- Is it essential to include new IE in the Innovation Portal?
- In case yes, does it fit in the business model of the Innovation Portal?

CCs

- What would be the role of the Competence Centres, would the ATN be open to other organisations as well? Or how can other organisations display their competences and systems in a generic way?
- Is the ATN essential to keep the network of CCs alive and active?

In case of transfer to another interested party, licensing and data transfer issues arise. As stated earlier, the concept and design is by the UAL, yet the ATN is now on the Portal of S&P, along with all inputs/content of CCs.

- With respect to <u>licencing</u>, the UAL could license the concept and design, along with the classification system. The bifurcation of the concept and design and the development of the ATN on the IP has created a "split asset".
- Any party interested in sustaining the ATN would have to have <u>access to content</u> on portal, not only the concept and design. S&P have the input data and its use may be restricted without express consent of parties who provided information, given the current privacy statement on the Innovation Portal. However, it is unknown that S&P could enter into agreements to pass on CC data input on the ATN. The data issues apply to any interested party.

In addition, DIH networks and their CCs would need to be encouraged to use it more to provide an attractive critical mass of content.

Use case Approach

Some issues need to be solved or arranged:

- Reach a final, mutual agreement on the definition of the use case approach.
- Discuss the position in the Innovation Portal and/or connection with the ATN and/or IoT catalogue or SAH Observatory.
- Trainings, consultancy around the approach can be commercialized. This doesn't mean that WUR claims exclusive rights for this; other parties can do the same. However, WUR suggests to look for a license model in which a certification fee can be asked if a 3rd party wants to do this: discuss the license model that should be used.
- The approach in terms of related documentation is linked with the SAH Observatory and/or IoT catalogue, so that a rich illustrative source of the use case approach can be demonstrated.
- The approach gets a clear position within the SAH Innovation Portal
- The use case approach must be open for use by everybody
- The documentation (incl. templates) are regularly updated
- Trainings, especially for DIHs are offered
- Are additional actions needed to keep the Use Case Approach alive?

Open Call Approach

Some issues need to be solved or arranged:

- As a potential transfer might differ in terms of strategic objectives and measure to be implemented, we need to carefully involve a related teams of experts from the SmartAgriHubs project to prepare and agree upon the most promising way to transfer knowledge. Therefore, we need to prepare a list of related contact persons from key organisations in each WP that could be involved in potential transfer activities also beyond the termination of the SmartAgriHubs project.
- Do we need to generate new Open Calls to keep the network alive?

Communication elements

- What should minimally be sustained to keep the network alive?
- What will be the business model?

Actions:

The Open Call and Use Case approach have both been identified as quick wins, that can be sustained easily. WR and ATB will take action to solve the open ends.

For the other parts of the legacy, the first action is to get a more clear vision on the customers and services. That will be decided on by the PSG (see 8.1). When that has become more clear, it will be discussed and decided on what elements will be sustained and the actions to be taken.

8.5 TASK FORCE GENDER

Since the services provided by the task force gender will more or less be continued by S&P after the SAH project, the only action is to develop the offer for other projects in more detail.

Actions:

S&P will develop a more clear offer.

8.6 LONGER TERM

Organizing SAH Lite as described is expected to result in a lean and mean organization with relatively low risks and minimal efforts and costs. It is proposed to set it up in this way for a couple of years (e.g. 2 -4 yrs.) and after evaluation if it should be continued in the same way or that it could be transformed into a heavier, more professional organization with the ultimate form of a private company perhaps. Or, of course it could also be an option that the organization does not appear to be viable, so has to be terminated.

At the same time, these first years could be used to explore if there are potential donors that want to invest in the organization (e.g. World Bank, EU, Impact Investors, etc.) on the longer term in relation with expansion of SAH outside Europe, especially towards developing countries in the Southern hemisphere.

Actions:

These actions are foreseen after the SAH project lifetime and will be handed over to the lite-weight organisation.

9. CONCLUSIONS

The overall objective of the SmartAgriHubs project was to consolidate and foster a European-wide network of Digital Innovation Hubs for Agriculture to enhance the Digital Transformation for Sustainable Farming and Food Production. At the time of writing this report, it can be concluded that this objective was successfully reached. There is an active ecosystem with several nodes and instruments to support their role and tasks. Moving towards the end of the project, the challenge is how we can keep this ecosystem alive and active without a similar budget as in the project's period. The RODIN green paper that was referred to in Chapter 1, confirmed that this is not an easy task and that the main critical factor is to find a suitable business model for the organization that has to continue as a catalyst for the DIH-network. To that end, services have to be identified that create added value to the network and that finally can be translated into revenue streams.

The objective of this task was to develop a plan for sustaining SmartAgriHubs as a catalyst after the project's period in order to keep on fostering the DIH ecosystem enhancing the digital transformation in agri-food. For that purpose we proposed a design in which we identified the legacy parts of SAH and a light-weight organization. The latter stands for a minimum governance structure that will enable the sustainability of the most essential parts to continue fostering the DIH network. The legacy parts can be considered as the potential services that SAH as a catalyst could offer in the future. The design was iteratively created and interactively adapted by thorough evaluation with various stakeholder groups.

The design forms the basis for the sustainability plan and - together with the more detailed assessments of the various legacy parts – a specific action plan was defined. It is of utmost importance not to wait for implementing these actions until the end of the project but act now in order not to lose momentum when the project is over.

ANNEX 1 WORKSHOPS

WORKSHOP 1 REGIONAL CLUSTERS

Attendees
Sustainability team
Other PSG members
RC Central Europe
RC France
RC Iberia
RC Ireland & UK
RC Italy and Malta
RC North-East Europe
RC North-West Europe
RC Scandinavia
RC Sout-East Europe

WORKSHOP 2 DIHS AND CCS

Attendees		
Sustainability team		50/53
RC Central Europe	DIH Innovate	DIH
	Josephinum Research	CC
	ADDSEN	DIH
	SmartAgro DIH	DIH
RC France	Arvalis	DIH
	Chamber of Agriculture of Pays de la Loire	DIH
	AgriSudOuest Innovation	DIH
	Atlanpole	DIH
	Vegepolys Valley	CC
RC Iberia	COTHN	DIH
	InnovPlantProtec	DIH
	T4E	DIH
	GRADIANT	CC
RC Ireland & UK	AgriEpi	DIH
	AgTech Cluster Ireland	DIH
	VistaMilk	CC
RC Italy and Malta	Innovacoop	DIH
	Agrifood ClustER	DIH
	BI-REX	CC
RC North-East Europe	Agrifood Lithuania DIH	DIH
	Agro DIH Poland	DIH
	Latvian Rural Advisory and Training centre	CC
	Wielkopolsa Agriculture Regional Advisory Center	CC
RC North-West Europe	DIH Smart Digital Farming	DIH
	DIH ODYC	DIH
	CC IMEC	CC
RC Scandinavia	AgroVäst	DIH
	Rural Industry DIH	DIH
	SEGES	CC
RC Sout-East Europe	AIC Central Macedonia	DIH

WORKSHOP 3 MINUTES STRATEGIC GUIDANCE BOARD

Subject   SGB
Date   01 March 2022
Time   13.30 -15.00
Organizer   Hennie

	Invited	Absent
SmartAgriHubs	George Beers (chair), Sjaak Wolfert, Hennie van der Veen (minutes)	
Fundingbox	Mayte Carracedo	
CEJA		Diana Lenzi
COPA-COGECA		Branwen Miles, Daniel Azevedo, Mauel Delgado
Foodscale Hub	Grigoris Chatzikostas	
CEMA	Vanja Bisevac and Jérôme Bandry	

OPENING (GEORGE)

George opens the meeting and welcomes the new members of CEMA. Due to a mistake, they were not invited for the first meeting. Last meeting we presented the project. Now we will discuss the sustainability plan.

MINUTES PREVIOUS MEETING

We don't have a systematic system to collect the information on the additional funding. For the final round that will be asked. From the general information that is available, the impression is that most co-funding comes from public funding (European, National and regional). Three years is a short time and there is still a way to go to generate more private funding. Public funding is not forever; that is something that the network has to be made aware of. The DIHs are triggered to find access to funding, it is not done by the WPs of SAH.

It is suggested to collect this information already since it is interesting for many people, also the reviewers. Since the EDIH call is now open and by the end of the project, some of the EDIHs will be nominated. They will be funded from different sources. In that way we can showcase EDIHs that are coming from the SAH ecosystem. If we record the funding properly we can show that the target of mobilizing has been achieved.

The idea of mixed funding has already been implemented in SAH, as now required by the commission in the EDIHs. The DIHs have to learn how to combine funding schemes. By this the commission wants to have the commitment of the Member States and/or regions.

The connection with the region is very important, new experiments/services can be funded at regional level based on internationally supported/developed services. Could this be explored through the expand call? This was the idea behind this call, however, the requirement of 80% of co-funding was a problem for most of the DIHs. Only mature DIHs (top 20) managed to work with this concept, the others had a lot of problems. Now only 15 new experiments are recruited, so we concluded that the DIHs should be more trained and facilitated on this. That is why the Open Calls were shifted from developing innovation experiments towards a focus on developing services.

During the first workshop on the sustainability plan, with the RCs, it was emphasized that the structure in the region is important. We now have 9 quite heterogenous RCs which should be sustained somehow. The EDIHs will also be regionally organized. In the ecosystem a regional level is necessary. We can complement the European knowledge and fill the gaps, replicate the experiments; identifying the gaps, the European knowledge and the funding.

How to connect the EDIHs with the over 300 agricultural DIHs is one of the challenges in sustaining SAH. It can also be an opportunity for SAH, although a lot is not clear. Some EDIHs are focusing on one technology, while SAH has the one stop shop concept for agri. The Lithuanian SAH DIH is the EDIH for their country, something similar in Slovenia. How to combine the bits and pieces in the DIH world is still a puzzle.

The deliverable on capacity building, WP4 is doing a good work on peer exchanges among top DIHs (events, webinars), that worked quite well.

INTRODUCTION SUSTAINABILITY PLAN – SJAAK & HENNIE

The review commission advised to start very soon with the legal basis.

DISCUSSION – GEORGE

- There is a **big potential on the network and the innovation portal**, which should be combined, they need each other. The local network is important, they need to go together to get more funding at the international level to finance new collaborations.
- The light organisation did not sound so light; sounded like a huge new project. Go to a minimum structure and maintain the network. What is the **bare minimum**/minimum viable structure; look at basic things. What are the costs for that?
- Maybe the light weight organization should be **managed by one person** (operational manager of SAH) allocated to this task, who needs to be paid.
- Commitment of the members and a small **contribution** is needed. Are there enough customers to keep it alive for 3 or 4 years.
- Use the **momentum**, act fast, things should be ready before the project ends.
- Be aware of the **IPR** on the content (Consortium Agreement – section 8). Any partner that contributes is owner. There needs to be consensus on consortium level (over 100 partners). This is already one of the topics identified while preparing the sustainability plan.
- It is important to maintain the **content**, which can become obsolete very fast. Contributing with new content is more important. That is why there also has to be budget for maintenance and cleaning up.
- Not only financial resources are essential to maintain the network, but also personal **commitment**. Some RCs have a tiny budget, but are very active. They use the SAH brand for their own organization. Goodwill is very important: you don't need big money to do big things.
- Would CEMA be interested in having such a network at hand? Maybe there is an organization that is willing to **host the light organization**? That is a track that must be explored. Conflict of interest is something to take care of then. The governance has to be clear on this. CEMA, FoodDrink Europe, COPA-COGECA, etc have made an alliance just a couple of days ago. For them it might also be interesting to join forces. This would also help the alliance, but it should be robust from a conflict of interest perspective. DIHs often work only with an MoU, this might also be sufficient in this case. Maybe something similar would be sufficient here also.
- What do people **expect** from the network? It is suggested to do a survey on this.
- Another question is how to link up with the **EDIH** network. They are doing similar things, e.g. thinking about an innovation portal. The digital innovation accelerator will be the central point to connect to the big networks and portals. Ideally it should work this way.

- Should we stay in **Europe**? There are many organizations that like the concept of SAH (FAO, World Bank, Innovation accelerator at the Food Programme UN). They all want SAH to have a kind of basis and then they want to jump in. The advice is that it would be much easier to connect from an established association as from a single company. The focus should be first on making SAH viable and then extend to other geographies. However, there is a big movement of DIHs towards Africa which should be explored, fostered by projects of the commission, promoted by GIZ, they have an alliance with the French Government and are working hard to get the idea of DIHs to Africa and other continents. They are selecting 10 DIHs, one related to agri. SAH is already active in this kind of networks. We don't have to start from scratch. There is also interest from India which generates mutual benefits (big data, AI). It would be a pity to let this go.
- The **gender task force** will be taken over by S&P to make it a service to other digital projects.
- Concerning the **legal entity** (e.g. association or foundation): should it be for profit or not for profit, probably not for profit, but then raising a fee is not possible? Without a legal structure you are not able to sign anything. VAT is then also a relevant issue. We also should start in time. EBN and euRobotics are successful examples. They are associations.
- Should we have a structure with **national member** organizations? Something like RCs?
- The **POs and EC** have also agencies that could provide support and guidance. George already had contact with them, but they suggested that we should be patient.
- Recently an interesting **green paper** on sustaining DIH networks has been published: https://ri4eu.eu/news/green-paper-post-project-sustainability-of-european-dih-networks/. It will be used to improve the deliverable.

AOB

The input will be used for updating the document. The next meeting will be before summer time.

The amount needed for the bear minimum will be made clear before this meeting.