



D2.4 Report on the screening and pre-selection of technological and non- technological innovations

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CBHU

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Author (s)	Camille Aouinaït (WBF), Danilo Christen (WBF), dr. Sebők, András (CBHU); Szegedyné Fricz (CBHU), Ágnes; Varsányi Kinga (CBHU); Parrag Viktória (CBHU)
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Executive Summary

Short food chains face several challenges in meeting the needs of consumers and in ensuring feasible operations for their chain members. The objective of the WP2 of the SMARTCHAIN project is to identify the typical needs of the short food supply chains (SFSCs) and the appropriate technological (TECI) and non-technological (NTI) innovations for improving the performance of short food supply chains and to identify and characterize their applicability. The objective of this task (Task T2.4) is to conduct a screening of the applicability and a pre-selection of technological and non-technological innovations. These innovations are prioritized based on the significance of the typical bottlenecks and success factors defined in Task 2.3 by a discussion with Hub managers, network leaders, and project partners. The most promising innovative solutions are analyzed and characterised for practical applicability, technological feasibility, financial feasibility, and social suitability for the different types of short food supply chains, such as producers markets, basket/box delivery systems, local food festivals/fairs, community-supported agriculture, catering, restaurants, vending machines, farmer's shops' direct sales by individuals or collective direct sales. The most promising ones are selected and their characterisation was provided as an input for WP7.

Methods

Based on the analyses of the 18 case studies their typical bottlenecks and success factors, their current value propositions and the possible, upgraded value propositions were identified, and the proposed tools, methods, activities, and actions, which help them to develop their business. From the innovations listed in the Innovation Inventory of TECIs and NTIs (<https://www.smartchain-platform.eu/en/innovation-inventory>), 98 were proposed for the 18 case studies for supporting them to operate more effectively and innovatively.

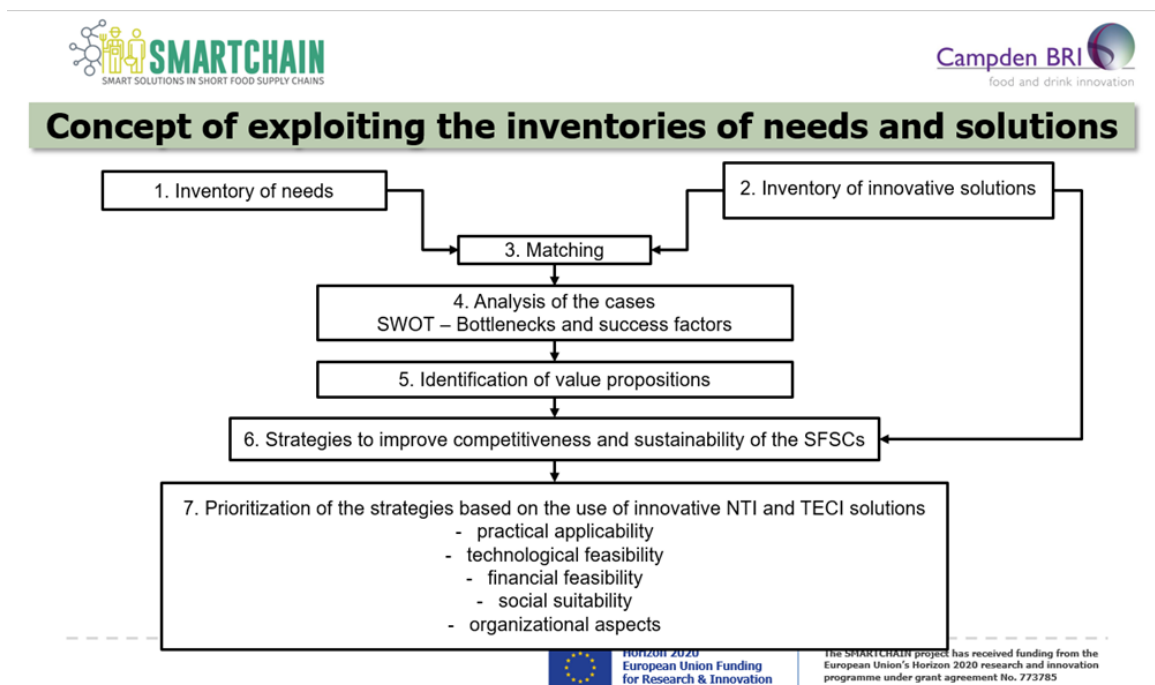


Figure 1. Process of Work Package 2

The Hub managers, WP2 partners, the case studies were asked to fill in the “Matrix for characterization and selection of innovative solutions” to characterize the previously identified innovative solutions based on the following criteria to see, which innovations, activities, and tools can be applied in their context:

- i) technological feasibility
- ii) financial feasibility
- iii) social suitability
- iv) organizational aspects
- v) practical applicability
- vi) competitiveness impact.

Thus the innovation can be classified as “applicable” for successful implementation of the innovation by the case study, or “not applicable”. Figure 2 summarizes the steps of this task T2.4.

Summary of the steps of task T2.4:

Step 1: consulting the **list of recommended innovations** to characterise the TECI and NTI (to avoid going back to the list of 136 innovations identified in the previous tasks of WP2) (annex I)

Step 2: filling in the questionnaire in the **characterisation matrix** (table 1)

Step 3: going towards the **implementation decision matrix** (figure 3) to analyse which innovations can be transferable to different contexts

Step 4: going back to the **proposed activities and tools** that case studies can use to specify them which innovations can be applied in their context

Figure 2. Summary of task 2.4 steps

List of type of SFSC channels where the innovation can be applied:

- Restaurants
- Supermarkets, retail shop
- Community Supported Agriculture
- Farm shop (own or collective)
- Open-air markets, farmers’ markets, local markets, market on the farm
- Consumer groups, AMAP
- Vending machines
- Pick your own
- Speciality retailers
- Physical shop (own or cooperative)
- Online shop (own or selling platform of third parties)
- Door-to-door delivery (by phone or web)
- Associative intermediary
- Cooperative intermediary
- Private intermediary
- Collectivities (schools, hospitals, ...)

The applicability of the methods and the guidance materials for the assessment were tested by all of the partners for the same three innovations and they were validated as feasible. Figure 3 represents the implementation decision matrix.

Innovations	Technological feasibility	Financial feasibility	Organizational aspects	Social suitability	Practical applicability	Successful implementation of innovations in another context
Innovation 1	✗	✓	✓	✗	✓	➔ Yes but necessary adjustments
Innovation 2	✓	✓	✗	✓	✓	➔ Yes
Innovation 3	✓	✗	✓	✓	✗	➔ Yes but necessary adjustments
...						
Innovation n	✓	✓	✓	✗	✗	➔ No

Figure 3. Implementation of the decision matrix

Each criterion is rated as „yes” or „no”, depending on the outcome of the evaluation. This summary allows determining if the innovation is expected to be successful in its implementation by the case studies or not. If there are only „yes” for all criteria, the final cell is filled in with a „yes”. However, if there are two or less than two „yes”, and/or if one criteria (e.g. practical applicability) is described as highly difficult to implement, the assessment results in a grade of “not successful implementation”. This evaluation is realized case by case and each criteria needs to be deeply described in order to assess the success the most accurately possible.

Results of the analysis of the technological and non-technological innovations

The main aim was to identify which technological and non-technological innovations can be implemented successfully by the 18 case studies of the project as representative samples. In total, 92 innovations were evaluated by the 18 case studies (Figure 4).

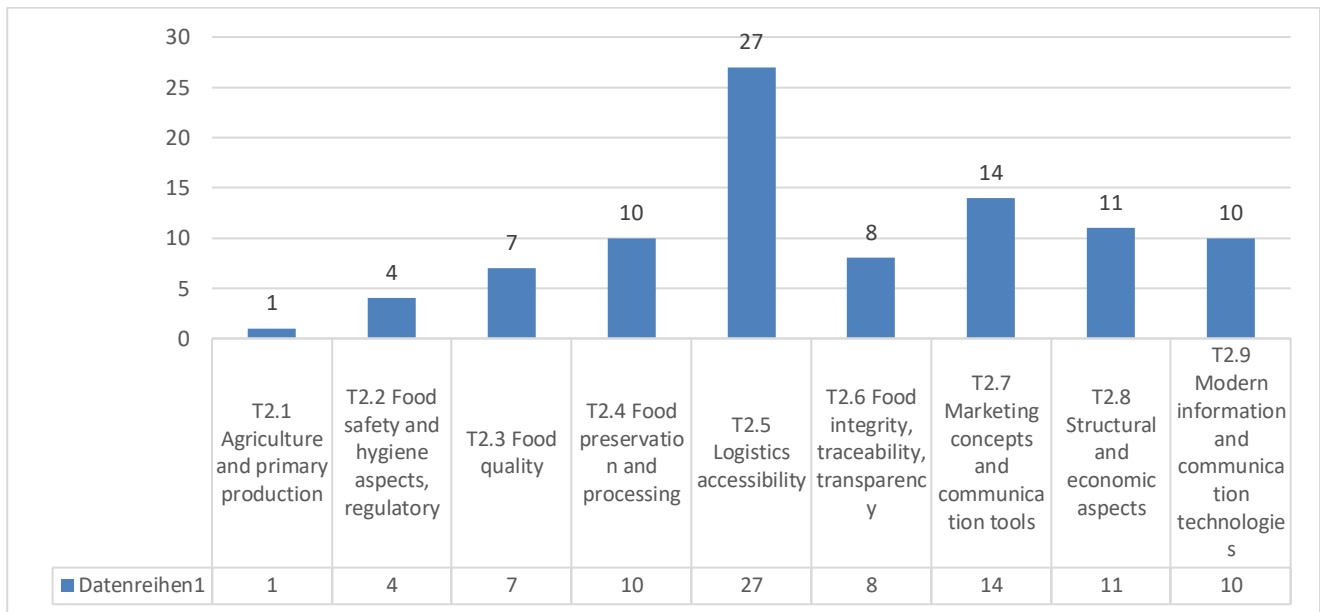


Figure 4. Frequency of innovations assessed by category

The innovations in Figure 4, include 11 solutions added by the case studies during the assessment. These innovations are not from the inventory but are provided by some case studies in Germany and the Netherlands. These innovations were included due to the relevance for SFSCs and their aspect of novelty respecting to the innovations present in the inventory of innovations.

The results of the study highlight that the majority (66.3%) of the assessed innovations are expected to be successfully implementable (61 innovations) in different contexts. Moreover, 11 innovations are already applied by the case studies.

Among the 61 innovations which were rated as successfully implementable, some hindering factors were identified. In Table 1 the categories of these factors are presented. Many of the innovations require resources like financial resources, staff resources, organizational processes, communication processes, marketing processes, and social processes. This includes financial support ("help" or "co-financing") as a medium and high investment were identified for some innovations. Furthermore, cost/benefit studies and marketing-consumer studies should be conducted for innovations that need clarifications on the financial aspect. Competencies and skills are lacking for many innovations. Training, dedicated time, and/or supplementary employees should be sought before implementing innovations. Skills and resources for organising agro-tourist events, extra ICT back-end support person, or technical support for integration of new needed infrastructure are examples of investments to be done for supporting innovation implementation. Besides, different minor organizational changes are also claimed for some innovations. Clarifications on the new market opportunities, the relevance for SFSCs, the goal identified by the innovations should be specified as well. There are similarities and divergences in the evaluation of the same innovation by different case studies. This can be explained by contextual differences. National context can explain the divergence in evaluations of some innovations. Regulations can be inadequate for short food supply chains. In other cases, financial means that are limited for most of the small and medium-sized enterprises in the SFSCs framework is a critical factor.

Table 1. Categories of hindering factors for innovations estimated to be successfully implemented

Categories of hindering factors (with the percentage of innovations specifying these needs)	Identified needs to overcome the barriers for innovation implementation
Financial resources (27.3%)	<ul style="list-style-type: none"> • Need of “help” or “co-financing” because medium or high investments are estimated for many innovations (e.g. governmental support, collective SFSC initiatives’ investment) • Cost/benefit studies and marketing-consumer studies are needed for innovations that need clarifications on the financial aspect
Organizational processes (including: staff resources, marketing, and communication processes) (12.5%)	<ul style="list-style-type: none"> • Clarifications on the new market opportunities • Clarification of the innovations’ relevance for SFSCs (e.g. no real need of label use in direct sales) • Identification of the innovations’ goals for better implementation and its’ impact (e.g. change of delivery management) • Competencies and skills are lacking. Recruitment of employees can be realized in order to: <ul style="list-style-type: none"> - Organize agro-tourist events - Conduct training activities related to innovations or SFSC context - Integrate new needed infrastructure (e.g. extra ICT back-end support person or technical support) • Dedicated time for specific activities (e.g. developing marketing through Internet channels) and/or supplementary employees
Social processes (8.2%)	<ul style="list-style-type: none"> • Negative impacts should be identified to optimize the context of the implementation and foster the positive impacts of the innovation • Social suitability should be clarified for some innovations

There were 39 innovations assessed as non-implementable in a different context. The main reasons for this include the lack of available financial resources currently, the need for a cost/benefit study for the specific SFSC; the need for a major investment; a different type of short food supply chain than that one that applied this innovation, the need for a marketing and/or consumer study to understand the new market opportunities before implementing such innovations; recruitment of skilled staff. Technological and financial feasibility was a hindering factor for many innovations.

Finally, as presented in Figure 5, innovations were evaluated to have an impact on the competitiveness of the firms in which they can be implemented. It appears that many innovations were assessed as implying a moderated (25%), major (30%), and significant (19%) improvement of the firms’ competitiveness. Around ¾ of the evaluated innovations are therefore implying a change in the firms’ competitiveness. The main reasons are the expected increased sales if the innovations are matching consumers’ expectations, the spillovers that innovations can bring (e.g. the lead-user approach increasing wivibility of farms through word-of-mouth), logistics improvement, and new selling channels created. Innovations can also highly improve a firm’s competitiveness thanks to the increased added value and the extended shelf life of the products like biodegradable packaging. Other reasons explaining the expected major improvement of competitiveness is the popularity of the local farms/production/services that will improve through a certain type of innovations implementation (e.g. open farm tours), the increased number of visitors.

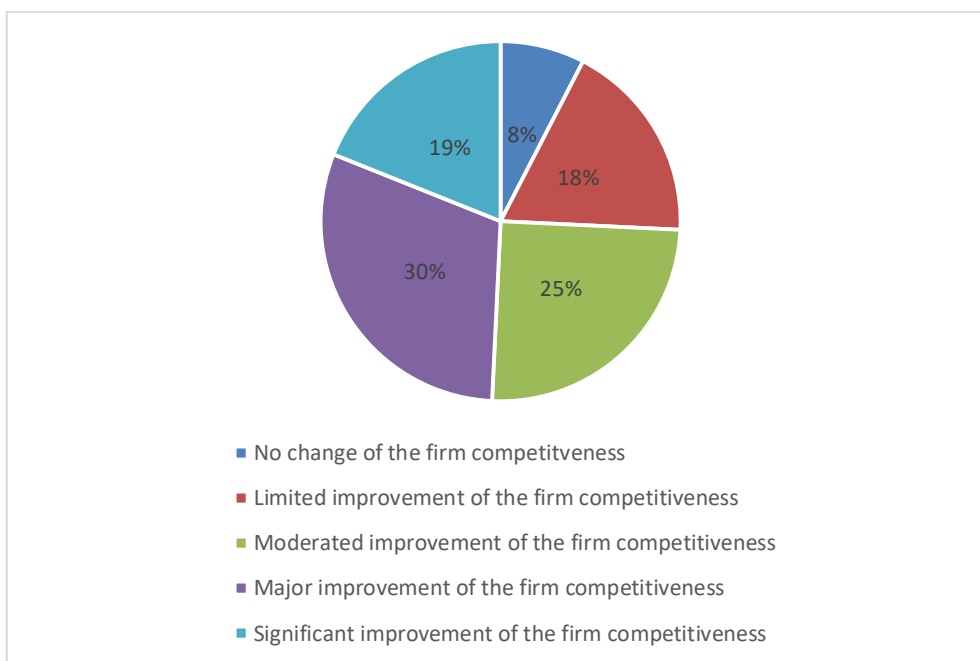


Figure 5. The proportion of innovations that are expected to have an impact on firms' competitiveness

Conclusions

Decisions on investment into the application of new operational and organisational principles, technological and marketing methods, equipment by the SFSCs shall be based on cost-benefit assessment, independently whether these represent the adoption of known or innovative solutions. The current study provides input for this cost-benefit assessment on the evaluation criteria of innovations for applicability in short food chains: practical applicability, technological feasibility, financial feasibility, social suitability, organisational aspects, competitiveness impact. The current study shall be complemented with an assessment of the market demand and consumers need which are not in the scope of this study.

The availability of the necessary resources for the application of a new innovative solution is always a critical aspect. The need and the level of the necessary resources, including the competent and trained staff, IT infrastructure, production and storage facilities, financial resources, the availability of the own resources varies by the case and the individual innovation and they are specific for the case. Therefore innovative solutions may be differently applicable for different cases. Since each case study is different, their needs and resources are different and the business environment of the region, country, and food branch is also different. Therefore an innovation that is useful and applicable for one case may not be the same for the other case. So if an innovative solution is applicable for at least one SFSC case study it can be counted as applicable for some other case studies.

The SFSC supporting organizations, intermediaries shall explain to the farmers and micro-businesses that it is similarly usual at the innovation projects of larger food businesses that the resources for the implementation of the innovative solutions are usually not available immediately. First the concept, the objective has to be defined and it is necessary to look systematically for funding/co-funding of innovation projects. SMEs need training on innovation project management!

The positive results of a large number of evaluations of several innovations verify that the procedure for the evaluation of the applicability is a useful tool that can be applied by the SFCs beyond the end of the project. The proportion of the innovations assessed reflects a balanced interest - 50 TECIs 42 NTIs.

Since the consumer concerns on food safety and hygiene is a significant barrier to purchasing from SFSCs, in particular at products of animal origin and at the same time there is a remarkable consumer concern on the freshness, authenticity, and integrity of the food products from the global food supply compared to the local food the improvement of the integrity and transparency of the food from SFSCs represents an obvious opportunity to increase the attractiveness of the local food and improve the competitiveness of the SFSCs the adoption of the relevant innovative solutions needs more attention by the SFSCs! These trends are more observable by the time of the SARS-CoV-2 pandemic.

Among those innovations which were most frequently selected by the 18 case studies as interesting for the assessment of the applicability 7 innovations were related to the marketing and access to consumers, 4 innovations to improve sales, market access, 2 innovations on meeting labelling and legal requirements, 2 on the packaging, 1 on safety related to the prevention of the SARS -COV-2 infection.

Technical skills, marketing skills, IT skills, knowledge related to the products or services that are part of the innovations have to be taken into account for innovation adoption and implementation.

The results of the assessments show that SFSCs are very limitedly aware of and understand the benefits of the tools that support the identification and agreement on joint goals and the combined use of resources. There is a need for training of the members and chain operators. coordinators on these tools and techniques and other organizational methods to support the application of innovations.

Many SFSCs feel that it is very challenging to meet the very complex requirements of the food legislation particularly the hygiene and the labelling, sometimes the traceability. The EU legislation encourages the application of the flexibility rules, but frequently neither the short food chain member nor the local food control inspectors are familiar with the good practices of the implementation of them. The false interpretation of necessary actions proportional to the actual risks to ensure compliance to legal requirements has a negative and impact on the competitiveness of the SFSCs. There are practical solutions that may help significantly. However, the SFSCs should have a better understanding of the importance of compliance through simple methods and the potential for asking assistance from food network operators and technical centres. In many cases, it is necessary to explain to the SFSCs that legal compliance is a prerequisite of market access! They can learn from the competitors since the large retailers request always from their private label suppliers measures to ensure food safety, compliance to the agreed specifications (quality), legality, authenticity! Labelling is a tool, which provides information for conscious consumers, who are interested in the origin the quality of the product, nutritional value, of the production method. More attention has to be paid to the provision of label-based and non-label-based information to the consumers to help their informed decision as a tool to improve competitiveness.

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1. Acknowledgments

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2. Objectives of the work

The technological and non-technological innovations identified in Task T2.3 are prioritised in this work, based on the significance of the typical bottlenecks and success factors. The most promising innovative solutions are analysed and characterised by considering five criteria: practical applicability, technological feasibility, financial feasibility, and social suitability. The evaluation of the innovative solutions is carried out by the 18 case studies of the SmartChain project to identify the innovations that can be implementable in different contexts. The outcomes of these evaluations by the users are analysed to establish patterns, describe the lessons learned, and draw general conclusions. The most promising innovative solutions are selected, and their characterization is provided as an input for WP7. Regarding the innovations that cannot be implementable or for those who need supplementary resources, tools, and support for their implementation, the hindering factors have to be identified.

3. Methodology

The SWOT analyses that have been communicated by the partners related to the 18 case studies allow the identification of success factors and bottlenecks. The significance of these success factors and bottlenecks were discussed among partners. In parallel, value propositions are designed to exploit the success factors and eliminate the bottlenecks identified respectively in each case (Figure 6).

Concept of exploiting the inventories of needs and solutions

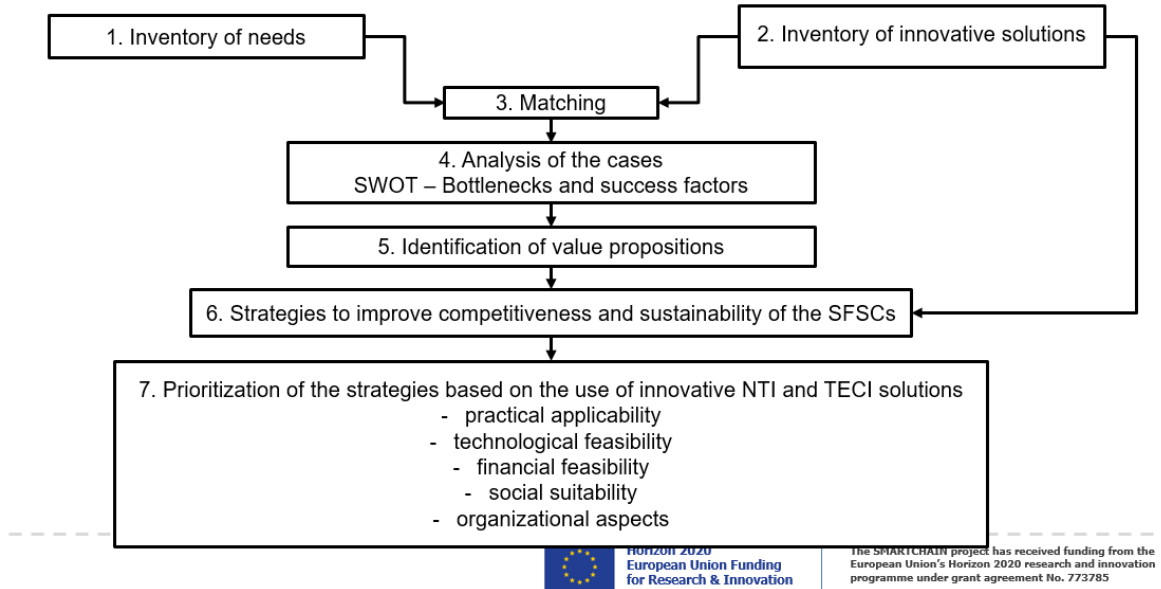


Figure 6. Procedure of WP2

The overview of the workflow of task T2.4 is presented in Figure 7.

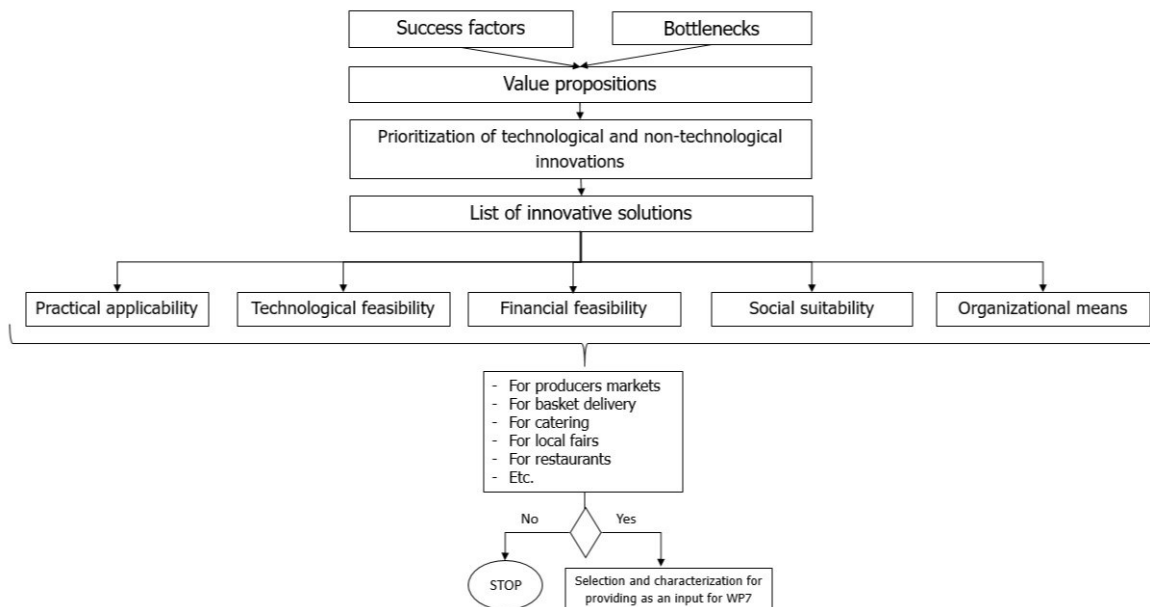


Figure 7. Workflow of task T2.4.

From the 136 innovations listed in the “Inventory of TECIs and NTIs”, 98 were identified and proposed for the 18 case studies for supporting them to operate more effectively and innovatively. There are innovations, which may be widely applicable and can offer a solution for many SFCs organizations.

The most frequently recommended innovations were:

- "T2.6.11 Collection of rules and regulations, Guidelines and Good Practices" – 15 times recommended
- "T2.7.1D Social media marketing" – 15 times recommended
- "T2.2.5 Risk Assessment on the infection of the consumers by SARS-CoV-2 during purchasing in different types of SFSCs" – 10 times recommended
- "T2.5.5D Diverse direct marketing" – 10 times recommended
- "T2.5.15 Naaber online marketplace" – 10 times recommended
- "T2.3.13D Food labelling and nutritional analyses without lab tests" – 8 times recommended
- "T2.4.14D Biodegradable active packaging" – 8 times recommended • "T2.6.2D Platform for Short Food Supply Chains" – 8 times recommended
- "T2.6.3 Participatory Guarantee Systems as a mechanism for building the trust of parties" – 8 times recommended

3.1 Procedure for task T2.4

Hub managers, WP2 partners, case studies and the providers of the listed innovative solutions (<https://www.smartchain-platform.eu/en/innovation-inventory>) will be asked to fill in the matrix (see "Table 1. Matrix for characterization and selection of innovative solutions" below on page 6) to characterize the identified innovative solutions of the SMARTCHAIN project. Following the work that has been done in task T2.3., the list of innovations related to each case study (**Annex I**) will serve as the starting point for the characterization.

3.1.1 Pre-selection of the innovations

Based on the Inventory of technological and non-technological innovations (developed in T2.2) and after the step-by-step analysis (SWOT) of each case study their current, and possible upgraded value propositions were identified. For achieving the upgraded value propositions of each case study, the necessary activities and actions were identified, and the additional tools, and methods that would be necessary for developing their activities (carried out in T2.3). The proposed activities and innovations marked with their reference title from the Inventory can be found in Annex I.

Thanks to the table in Annex I, it is possible to confirm to each case study, which innovations they could implement.

Due to the contribution of the 18 case studies, the proposed activities and innovative solutions have been screened and their applicability has been evaluated individually for each case based on the following five criteria.

Five criteria serve as starting points for the analysis of the innovations for their i) technological feasibility, ii) financial feasibility, iii) social suitability, iv) organizational aspects, v) practical applicability, and vi) competitiveness impact.

Then, we get a matrix ("Figure 3. Implementation decision matrix") with identified promising innovations for successful implementation.

The last step consists of using the Table of "proposed additional activities, tools, and methods for developing the activity of the case study using innovative solutions and the references from the Inventory by case studies" of Deliverable D2.3.

Summary of the steps of task T2.4:

Step 1: consulting the **list of recommended innovations** to characterise the TECI and NTI (to avoid going back to the list of 136 innovations identified in the previous tasks of WP2) (annex I)

Step 2: filling in the questionnaire in the **characterisation matrix** (table 1)

Step 3: going towards the **implementation decision matrix** (figure 3) to analyse which innovations can be transferable to different contexts

Step 4: going back to the **proposed activities and tools** that case studies can use to specify them which innovations can be applied in their context

The process of pre-selection of technological and non-technological innovations can be found in Figure 8.

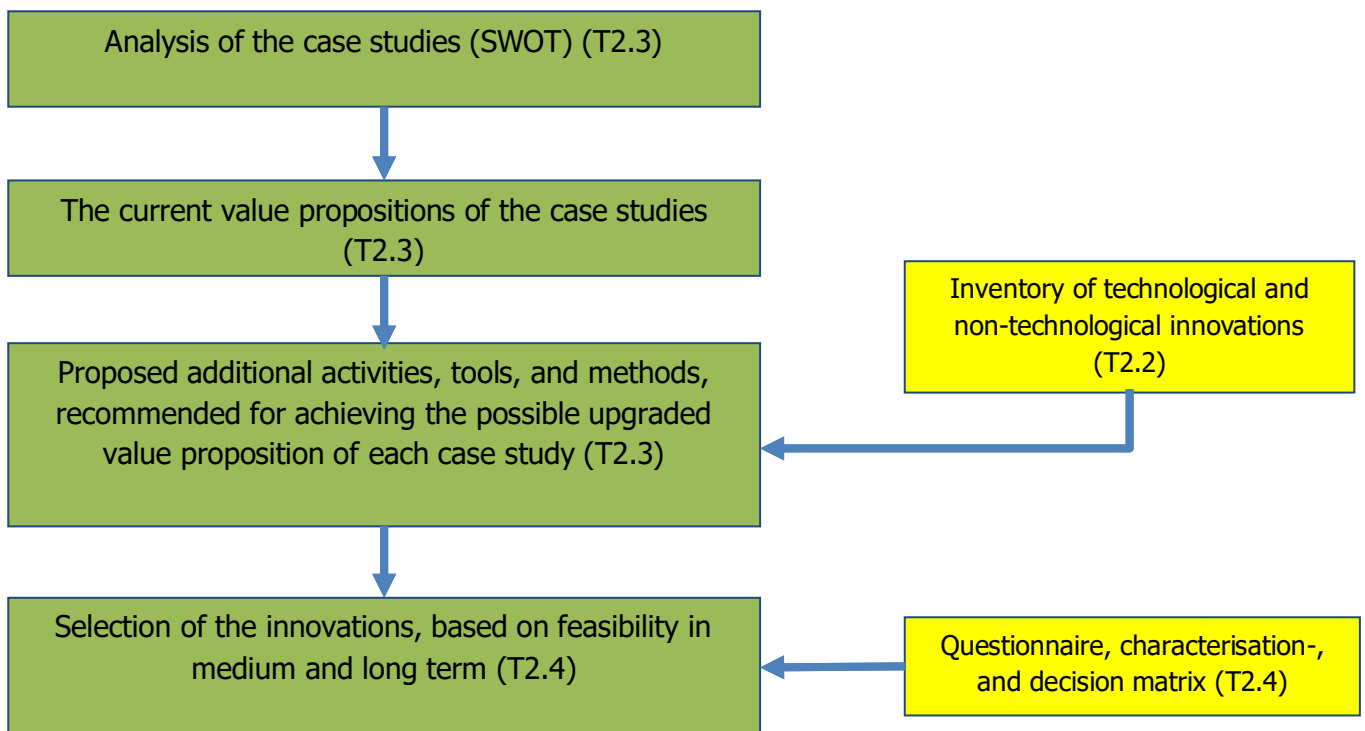


Figure 8. Flow chart of the process of pre-selection of technological and non-technological innovations.

The most frequently recommended innovations were:

- "T2.6.11 Collection of rules and regulations, Guidelines and Good Practices" – 15 times recommended
- "T2.7.1D Social media marketing" – 15 times recommended
- "T2.2.5 Risk Assessment on the infection of the consumers by SARS-CoV-2 during purchasing in different types of SFSCs" – 10 times recommended
- "T2.5.5D Diverse direct marketing" – 10 times recommended
- "T2.5.15 Naaber online marketplace" – 10 times recommended
- "T2.3.13D Food labelling and nutritional analyses without lab tests" – 8 times recommended
- "T2.4.14D Biodegradable active packaging" – 8 times recommended
- "T2.6.2D Platform for Short Food Supply Chains" – 8 times recommended
- "T2.6.3 Participatory Guarantee Systems as a mechanism for building the trust of parties" – 8 times recommended

The most promising innovations will be selected and their characterization will be provided as an input for WP7.

12 examples of best practices of successful and technological, non-technological (and social innovation) have been already described in the *Best practice guide for the implementation of innovative solutions in SFSCs*.

Examples of the best practices of innovation

The detailed description of these innovations can be found in the *Best practice guide for the implementation of innovative solutions in SFSCs* (WP7).

Technological innovations:

- Freeze-drying (applied by La Truda Alava, Spain)
- Vending machines for agricultural products (applied by Landwirtschaftskammer Niedersachsen, Germany)
- Mobile poultry coops (applied by Landwirtschaftskammer Niedersachsen, Germany)
- Replace meat by oyster-mushroom stems (applied by Natuurlijk Vleespakket, Netherlands)

Non-technological innovations:

- Hermeneus online marketplace (applied by Hermeneus World, Spain)
- Lead user approach (applied by Alce Nero, Italy)
- Method for setting common goals in SFSCs and networks (developed in the TRUEFOOD project)
- Common tradenarj system (applied by Éltető Balaton-felvidék Association, Hungary)

Innovations		Technological feasibility			Financial feasibility		Organizational aspects			Social suitability: environmental, ethical, economic			Practical applicability				Competitiveness impact				For each SFSC channel	
		a) To apply the innovation		b) Does the innovation need...		Does the SFSC have enough financial resources such as cash and other financial resources?	Does the innovation need low, medium or high investment from the firm point of view?	Does the innovation need access to its own financial means or external financial means?	Does the innovation induce changes in the product flow? (yes/no) Please specify	Does the innovation induce changes in the services flow? (yes/no) Please specify	Does the innovation need additional skills and competencies to be implemented? Please specify (e.g. labour force: size, knowledge and skills (production, technical, marketing, managerial, ICT, financial, etc.))	Does the innovation induce...			Applicable without any changes				Does the innovation result in improvement of the organization or firm competitiveness?			
Does the innovation need new resources ?	Does the innovation need new infrastructure to be implemented?	to outsource or subcontract to the processing and/or packaging?	to combine it with complementary infrastructures of other SFSC actors?	patterns, know-how, patents?							positive changes?	neutral changes?	negative changes?	Yes/No	Yes/No	Yes/No	Yes/No	0: no change	1: limited improvement	2: moderate improvement	3: major improvement	4: significant improvement
<i>Please specify (e.g. raw materials, ingredients, packaging materials)</i>	<i>Please specify (e.g. equipment, facilities, size, the minimum volume of production /packaging /sales, IT</i>			<i>Please specify</i>							<i>Please specify if possible</i>	<i>Please specify if possible</i>	<i>Please specify if possible</i>	<i>Please describe the adjustments</i>	<i>Please describe the adjustments</i>	<i>Yes/No</i>						

		<i>infrastructure, access to infrastructure, ability to use existing own infrastructure)</i>																			
1																					
2																					
3																					
4																					
5																					
...																					
n																					

Table 2. Matrix for characterization and selection of innovative solutions

Innovations	Social suitability: environmental, ethical, economic			Practical applicability				Competitiveness impact					For each SFSC channel does the innovation suit?
	Does the innovation induce...			Applicable without any changes	With minor adjustments	After major adjustments	Not applicable	Does the innovation result in improvement of the organization or firm competitiveness?					
	positive changes? <i>Please specify if possible</i>	neutral changes? <i>Please specify if possible</i>	negative changes? <i>Please specify if possible</i>	Yes/No	Yes/No <i>Please describe the adjustments</i>	Yes/No <i>Please describe the adjustments</i>	Yes/No	0: no change	1: limited improvement	2: moderated improvement	3: major improvement	4: significant improvement	
1													
2													
3													
4													
5													
...n													

Table 3 (continued). Matrix for characterization and selection of innovative solutions

Questionnaire explaining the matrix

The questions included in Table 1 are presented in this section.

Task partners and Hub managers are required to ask the following questions to case studies and innovation sources:

Please, analyse the following aspects and answer each question regarding each innovation by which you are concerned.

1. Technological feasibility

- a) To apply the innovation
 - Does the innovation need new **resources**? Please specify (e.g. raw materials, ingredients, packaging materials)
 - Does the innovation need new **infrastructure** to be implemented? Please specify (e.g. equipment, facilities, size, the minimum volume of production/packaging/sales, IT infrastructure, access to infrastructure, ability to use existing own infrastructure).
- b) Does the innovation need
 - to outsource or subcontract to the processing and/or packaging
 - to combine it with complementary infrastructures of other SFSC actors
 - patterns, know-how, patents?

2. Financial feasibility:

- a. Does the SFSC have enough financial resources such as cash and other financial resources?
- b. Does the innovation need low, medium or high investment from the firm point of view?
- c. Does the innovation need access to its own financial means or external financial means?

3. Organizational aspects;

- a. Does the innovation induce changes¹ in the **product** flow? (yes/no)
Please specify.
- b. Does the innovation induce changes¹ in the **services** flow? (yes/no)
Please specify.
- c. Does the innovation need **additional skills and competencies** to be implemented?
(Please specify (e.g. labour force: size, knowledge and skills (production, technical, marketing, managerial, ICT, financial, etc.)).

¹Changes can be seen as modifications. For instance, reduced workload, improved work conditions, better and more frequent relations with consumers, etc.



4. Social suitability: environmental, ethical, economic. Does the innovation induce positive, neutral, or negative changes? Please specify if possible.

5. Practical applicability

- a. Applicable without any changes.
- b. With minor adjustment. Please describe the adjustment.
- c. After major adjustment. Please describe the changes.
- d. Not applicable.

6. Does the innovation result in improvement of the competitiveness of the firm?

- 0: no change
1: limited improvement
2: moderated improvement
3: major improvement
4: significant improvement

7. Please precise for each SFSC channel if the innovation suit.

List of type of SFSC channels where the innovation can be applied:

- Restaurants
- Supermarkets, retail shop
- Community Supported Agriculture
- Farm shop (own or collective)
- Open-air markets, farmers' markets, local markets, market on the farm
- Consumer groups, AMAP
- Vending machines
- Pick your own
- Speciality retailers
- Physical shop (own or cooperative)
- Online shop (own or selling platform of third parties)
- Door-to-door delivery (by phone or web)
- Associative intermediary
- Cooperative intermediary
- Private intermediary
- Collectivities (schools, hospitals, ...)

Thanks to the characterization of each innovation, another matrix (Figure 9) is designed. It helps to identify those innovations that can be transferrable in a different context for successful implementation and set them as “applicable” or “not applicable”.

In this matrix, a summary of the details from the characterisation matrix is reported. Each criterion (i.e. technological feasibility, financial feasibility, social suitability, organizational means, and practical applicability) is rated as „yes” or „no”, depending on the evaluation that was previously made. This summary allows determining if the innovation is successful in its implementation by the case studies or not. Comments detailed in the matrix can also help to set the final decision in the last column in Figure 3. If there are only „yes” for all criteria, the final cell is filled in with a „yes”.

However, if there are two or less than two „yes”, and/or if one criteria (e.g. practical applicability) is described as highly difficult to implement, the assessment results in a grade of “not successful implementation”. This evaluation is realized case by case and each criteria needs to be deeply described in order to assess the success the most accurately possible.

Innovations	Technological feasibility	Financial feasibility	Organizational aspects	Social suitability	Practical applicability	Successful implementation of innovations in another context
Innovation 1	✗	✓	✓	✗	✓	➔ Yes but necessary adjustments
Innovation 2	✓	✓	✗	✓	✓	➔ Yes
Innovation 3	✓	✗	✓	✓	✗	➔ Yes but necessary adjustments
...						
Innovation n	✓	✓	✓	✗	✗	➔ No

Figure 9. Implementation decision matrix

Implementation agenda

3.1. Development of guidance for the task partners and the hub managers on the evaluation of the technological and non-technological innovations for screening and pre-selection

(WBF – other partners: CBHU, ACTIA, UOB, UNIBO, AZTI, IPB, OS, KIS)

This document is a tool providing precise guidance for the interpretation and evaluation of the technological feasibility, financial feasibility, organisational aspects, social suitability, and practical applicability. This includes the description of the main, typical factors that have to be considered for each of the 5 main aspects. Although for some TECI and NTI specific additional considerations may be necessary, these can be added to the list of evaluation criteria as other factors as necessary. It should be indicated that some flexibility shall be applied to this approach.

3.2 Selection of the innovations for analyses

(WBF – other partners: CBHU, ACTIA, UOB, UNIBO, AZTI, IPB, OS, KIS)

Priority should be given to those innovations that were selected during task 2.3 as being recommended for one of the case studies or more for upgrading their value propositions or improving the efficiency of their operations. These may be extended with a few additional TECI and NTI which may have a good potential for application beyond the 18 cases.

The list of innovations is in Annex 1. This includes the recommended innovations.

3.3 Testing the applicability of the guidance material on a few (3) selected TECI and NTI

This is necessary to avoid failures, interpretation problems during the application for several TECI and NTI.

3.4 Review the guidance material and the evaluation report on the 3 selected TECI and NTI.

3.5 Preparing a draft evaluation report of the selected TECI and NTI

(The tasks shall be distributed among the task participants)

3.6 Review of the draft evaluations

WBF and CBHU in consultation with the relevant partners.

3.7 Sharing the draft evaluations for all cases to the Hub managers and case study representatives (all task partners)

In each country, the Hub managers were in contact with the two case studies in **February**. They filled in the document together and sent it back to the task leader for the **end of February-beginning of March**. Analysis and synthesis of the results were made during **March**. A round of feedback was conducted between the task leaders and the hub managers in the **first part of April**. The report was finalized by **end of April-mid-May**. The persons that developed innovative solutions and are not hub managers or case studies were might contacted to participate in the rating of the innovative solutions for their pre-selection.

3.2 Testing three selected innovations (TECI and NTI)

All partners tested the same three innovations to check the robustness of the method (see the second part on page 17) and validate the guidance material. These innovations are the following:

- "T2.6.11 Collection of rules and regulations, Guidelines and Good Practices"
- "T2.7.1D Social media marketing"
- "T2.4.14D Biodegradable active packaging"

These three innovations were selected based on their type (one innovation in regulations, one in marketing, and one technical innovation) and their degree of complexity.

The characterisation matrix is validated, after a few adjustments.

- In the technological feasibility aspects, question b is updated as the following: Do the innovations need patterns, know-how, and **patents**?
- As it is difficult to precise for each SFSC channel if the innovation suit (a question related to the technological feasibility), this question was moved to the end of the questionnaire. It allows giving an overview of the suitability of innovation for the SFSC channel.

The characterization matrix has been used to test 3 innovations. The results are provided in Annex IIIa, IIIb, IIIc, IIId, IIIe, IIIf, IIIg, IIIh, and IIIi.a

From a general point of view, the 3 innovations tested were evaluated in the same way by the partners. The technological feasibility was evaluated similarly. New resources and new infrastructures were identified, especially in the case of innovation T2.14.D biodegradable active packaging. Less consensus was found for innovation T6.11 Collection of rules and regulations, guidelines and good practices; where new resources have been mentioned in one test (i.e. employee(s) of the organization should have the appropriate knowledge and competencies to apply the relevant legislation and good practices), as well as new infrastructures (i.e. IT background and competent staff/professional to operate it so that good practices can be adapted to the processes of the organization).

The financial feasibility was mainly assessed as not easy to fill in because the case studies have the knowledge and data about what is possible for them to do (investment, use of own financial resources, subcontract, etc.).

Regarding organizational aspects, all replies to the test were similar, identifying which changes does the innovation induces (i.e. product or service or both). Additional skills were mentioned for all three innovations, like additional technical, production and ICT knowledge for T2.4.14D Biodegradable active packaging; social network marketing skills, IT and selling skills for T2.7.1D social media marketing; and food law and food technology knowledge, management/networking and financial skills for T2.6.11 Collection of rules and regulations. The tested innovations can induce product and/or service flow changes.

The social suitability was also assessed similarly in all the tests. The innovations are expected to providing positive changes. The innovation T2.6.11 regarding the collection of rules and regulations may bring an easy-to-read guide that makes it easier for small farmers to better comply with standards (e.g food safety), better use of resources, and allows farmers to focus more on farming activity for instance. For the innovation T2.7.1D on social media marketing, complementary elements for the category of positive changes were provided like the awareness of organizations products and services, less printed marketing materials, and the focus on one or more elements of social suitability.

Practical applicability was assessed as bringing no change or minor adjustments for T2.6.11 Collection of rules and regulations; minor or major adjustments for T2.14.D biodegradable active packaging; and without any change or minor adjustments for T2.7.1D social media marketing.

Last, for the competitiveness impact category, the question is “Does the innovation result in improvement of the organization or firm competitiveness?”. In innovation T2.6.11 Collection of rules and regulations, results ranged from no change to moderated improvement. For T2.14.D Biodegradable active packaging and T2.7.1D social media marketing, moderated to significant improvement were raised. For example, a major improvement was claimed for T2.7.1D Social media marketing thanks to the “communication with a broad audience, promotion of company increase can the trust”, or “visibility of company”, or “marketing effectiveness”. This competitiveness category is sensitive to interpretation by the stakeholders who conduct the assessment. Thus, it will be crucial to discuss with the case studies and/or innovation developer to clarify what would fall into this category, what level of improvement does the innovation can bring to the firm competitiveness.

The implementation decision matrix is validated through three tests, presented in Table 2. In this table, all the categories were similarly assessed, especially technological feasibility and social suitability. Financial feasibility should be filled in with data and knowledge provided by the case studies. The organisational aspect was generally assessed as ok for all innovations, with one exception for innovation T2.14D biodegradable active packaging, for which the case study should provide information. Practical applicability was also consensus for all innovations tested, with an “ok” for T2.6.11. Collection of rules and regulations, Guidelines and Good Practices” and “T2.7.1.D Social media marketing”. Minor adjustments are advised for “T2.4.14D Biodegradable active packaging”. In the end, successful implementation of those 3 innovations in another context is possible (with two hesitations marked by “?”).

Table 4. Test of the 3 selected innovations in the implementation decision matrix

Innovations	Technological feasibility	Financial feasibility	Organizational aspects	Social suitability	Practical applicability	Successful implementation of innovations in another context	Provided by
T2.6.11 Collection of rules and regulations, Guidelines and Good Practices”	ok	provided by the firm/case study	ok	ok	ok	YES	UNIBO
T2.6.11.Collection of rules and regulations, Guidelines and Good Practices	ok	ok	ok	ok	ok	?	IPB
T2.6.11.Collection of rules and regulations, Guidelines and Good Practices	ok	provided by the firm/case study	ok	ok	ok (with adapted investments)	YES	UoB
T2.4.14D Biodegradable active packaging	ok	provided by the firm/case study	ok	ok	ok (with minor adjustments)	YES	WBF
T2.4.14D Biodegradable active packaging	ok	provided by the firm/case study	provided by the firm/case study	ok	ok (with adapted investments)	?	IPB
T2.4.14D Biodegradable active packaging	ok	provided by the firm/case study	ok	ok	ok (with minor adjustments)	YES	UNIBO
T2.4.14D Biodegradable active packaging	ok	provided by the firm/case study	ok	ok	ok (with major investments)	YES	UoB
T2.7.1.D Social media marketing	ok	provided by the firm/case study	ok	ok	ok	YES	UNIBO
T2.7.1.D Social media marketing	ok	ok	ok	ok	ok	YES	IPB
T2.7.1.D Social media marketing	ok	provided by the firm/case study	ok	ok	ok	YES	WBF
T2.7.1.D Social media marketing	ok	provided by the firm/case study	ok	ok	ok (with adapted investments)	YES	UoB

4. Results of the analysis of the technological and non-technological innovations

Thanks to data collection with case studies and Hub managers, the recommended innovations from task T2.3 were assessed. The main aim was to identify which technological and non-technological innovations can be implemented successfully in different contexts, taking the 18 case studies of the project as examples.

The findings are presented in three tables: categorization matrix, implementation decision matrix, and recommended innovations for each case study. Annex VI presents the recommended innovations for each case study as positively assessed.

183 assessments of the innovations were conducted within the 9 national hubs. There are 92 innovations assessed through the matrix (one innovation might have been evaluated several times). 50 are technological innovations and 42 are non-technological innovations. This highlights a balance between resources that should be included in the implementation of the innovations, as those resources highly differ. Technical skills, marketing skills, IT skills, knowledge related to the products or services that are part of the innovations will have to be taken into account for innovation adoption and implementation.

The innovation T2.5.3 Producers' shop was assessed by 3 partners. The findings reveal heterogeneity regarding technological feasibility. In one case, to apply the innovation on human resources for presentation and selling products in shop were raised, and no resources for the other two cases. They all need new infrastructures for implementation. This innovation is expected to be combined with complementary infrastructures and/or to outsource or subcontract to the processing or packaging steps. On the financial level, all three case studies estimated that they do not currently possess the financial resources needed for the innovation implementation and they need external financing means. The organizational aspects were homogeneously evaluated. All three case studies claimed services and products flow changes due to the innovation. Moreover, new skills are needed to be included together with the innovation (i.e. marketing skills). Also, the social suitability was positively rated, the innovation inducing positive changes (e.g. (add a new selling channel, better access to customers, increase direct sale, increase trust, many different products in one place encourage buyers to visit producer's shop). Practical applicability suits minor or major changes. It can range from minor changes like "the shop will be equipped with shelves and other important equipment for the store" to "A new shop. More workers". Last, the innovation was rated as bringing moderated to major competitiveness impact to the firm that will use it (i.e. "Selling of products will increase the knowledge of buyers on local food sale, trust and total sale of products", "A new selling channel").

The following analysis focuses on the similarities and differences in the assessment of the innovation conducted by different partners (e.g. Hub managers and WP2 partners together with the 18 case studies).

In Figure 10, the innovations inventoried comprise 11 additional innovations that were provided by the case studies and assessed thanks to the methodology of task T2.4. These innovations include several financing models that could be related to the category T2.8 Structural and economic aspects. One innovation concerns quality assurance system (related to T2.3 Food quality), and short supply chain animator training (related to T2.7 Marketing concepts and communication tools). One innovation could be related to Food preservation and processing as it aims to contribute with its products to nature-inclusive and circular farming. They are turning locally grown animal feed, like oats and peas into products suitable for human consumption. Three innovations are included in modern information and communication technologies. Their main goals are to reconnect citizens with the farmers and the living environment, to connect young talents to meaningful work and thereby empowers them to take part in transforming the food system, and to collect food needs and wishes via an

online platform to set up local food chains and distribution points. One last added innovation is a food distribution software for SFSC-initiatives and vendors, Smart City logistics, customer support, and product-market concepts as plugin services. This is set up to be able to scale up, other regions and initiatives can easily implement, align, connect and collaborate.

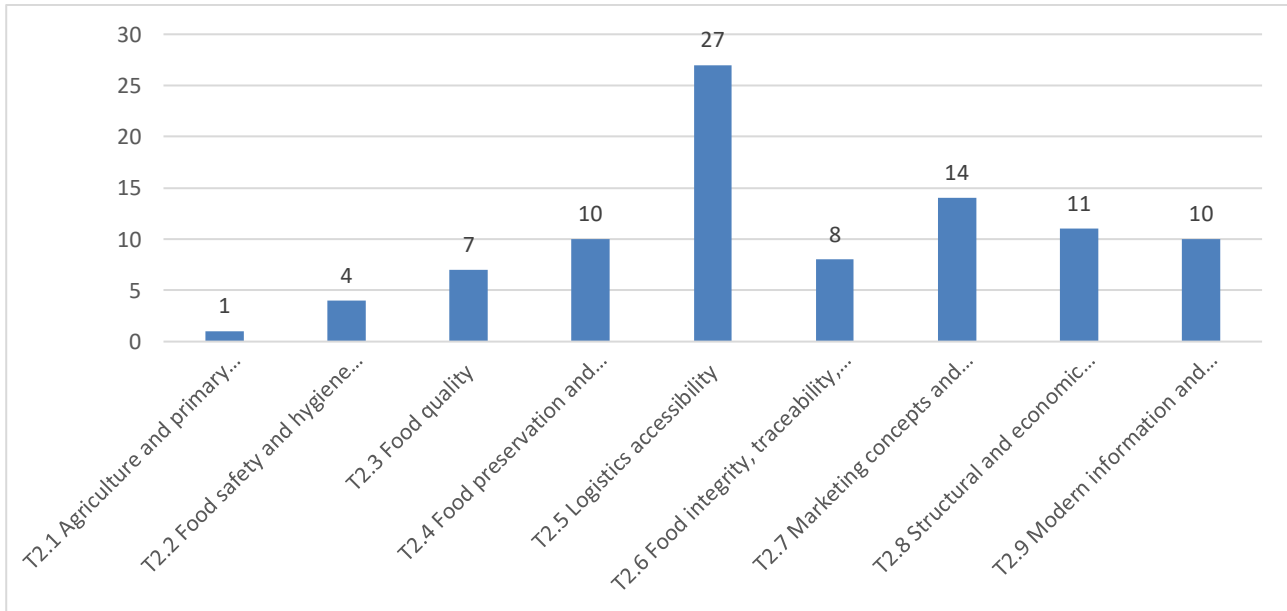


Figure 10. Frequency of innovations assessed by category

The details of the categories are presented in Table 3.

Table 3. Categories of innovations

Subtask	Category
T2.1	Agriculture and primary production
T2.2	Food safety and hygiene aspects, regulatory
T2.3	Food quality
T2.4	Food preservation and processing
T2.5	Logistics accessibility
T2.6	Food integrity, traceability, transparency
T2.7	Marketing concepts and communication tools
T2.8	Structural and economic aspects
T2.9	Modern information and communication technologies

Different categories of innovations were assessed (cf. Table 3). There is a predominance of innovations related to logistics accessibility (category T2.5) with 27 innovations that were evaluated by the partners. Innovations in marketing concept and communication tools are also highly represented with 15.2% (14 innovations on the 92 innovations evaluated), followed by structural and economic aspects (11 innovations). Innovations in the categories of food preservation and processing innovations (10 innovations), modern information and communication technologies (10 innovations). Categories upstream of the chain (agriculture and primary production, food safety hygiene aspects and regulatory, and food quality) were less evaluated in this task.

How many times each innovation was assessed

Most of the innovations evaluated were assessed once or twice (i.e. per different case studies). Figure 11 presents the frequency of innovations' assessment. 39 innovations were studied once, 22 innovations were analyzed twice (i.e. by two different case studies), 15 innovations were assessed three times 11 were evaluated by four case studies, 2 by 5 case studies, 6 by 3 case studies.

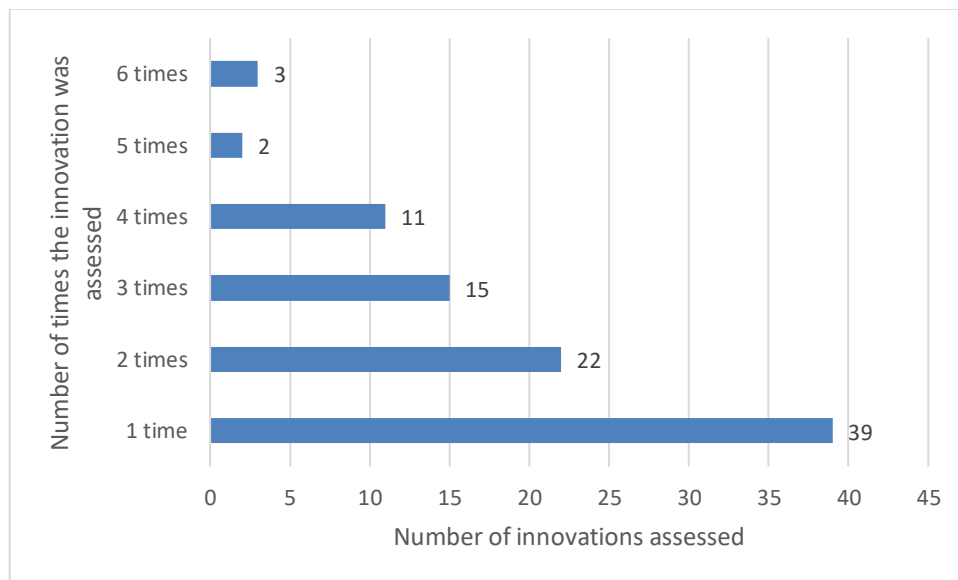


Figure 11. Frequency of innovations assessment

The innovations that were assessed four to six times are the following:

- T2.2.5 Risk Assessment on the infection of the consumers by SARS-CoV-2 during purchasing in different types of SFSCs
- T2.3.13D Food labelling and nutritional analyses without lab tests
- T2.4.15D Biodegradable packaging
- T2.4.6 Modified Atmosphere Packaging (MAP)
- T2.5.11 Predictive analytics of order
- T2.5.15 Online Marketplace for local and fresh products (Naaber)
- T2.5.22D Involvement of the consumers
- T2.5.23 Agro-tourism chain
- T2.5.3 Producers' shop
- T2.5.34 Open farm tours
- T2.5.5D Divers direct marketing
- T2.6.11 Collection of rules and regulations, Guidelines and Good Practices
- T2.6.3 Participatory Guarantee Systems as a mechanism for building the trust of parties
- T2.7.1D Social media marketing
- T2.7.15 Storytelling
- T2.7.3D Marketing tools

These innovations include different categories like logistics accessibility, food quality, food integrity, traceability, transparency, marketing concepts, and communication tools. These innovations are both technological and non-technological. The innovations refer to communication about the products directly to

the consumers, explaining from where the products come from, what are the production processes behind, and other information that is relevant for consumers (T2.7.5 Storytelling and T2.5.5. Diverse direct sale). Social media (T2.7.1D Social media marketing) is an efficient and useful tool for SMEs to communicate about innovations (e.g. new products), events, increase and improve their image and visibility to consumers. Different marketing tools (T2.7.3D Marketing tools) can also be used by SMEs in this regard. The aim of open farm tours (T2.5.34 Open farm tours) is close to the one of social media marketing. Communicating about the firms, farms, and cooperatives is crucial for producers to maintain and increase their competitiveness and attract new consumers. The social aspect of this type of innovations highlights the need for support for implementation by farmers.

The innovation T.2.5.15 Naaber online marketplace is a system that contains software (an application) as a service solution to manage and operate online the activities of the firms. Naaber serves as a full logistics and business management platform for small and medium-sized enterprises. The network is bringing farmers markets online and providing an Uber-like delivery solution. This digital innovation was evaluated five times and is proven to have a great future in its implementation since it was assessed as possibly implementable by the case studies. The innovation T2.6.11 Collection of rules and regulations, Guidelines and Good Practices is a non-technological innovation that relates to the collection of specifically applicable rules and regulations together with an easy-to-read and understandable explanation and guideline. It was evaluated by case studies in Germany, Spain, Italy, (Greece and the Netherlands), and Serbia.

Regarding food quality, the innovation T2.3.13D Food labelling and nutritional analyses without lab tests were partially positively as implementable in different contexts. Labelling is a tool to ensure the quality of products as well as driving criteria and information to consumers that are increasingly interesting in where the food comes from and how it is produced. The technological innovation T2.5.11 Predictive analytics of order aims at making predictions about future outcomes based on historical data and analytics techniques such as statistical modeling and machine learning. The science of predictive analytics can generate future insights with a significant degree of precision.

List of innovations as the most promising implementable innovative solutions

61 innovations are estimated to be successfully implementable by the case studies, representing 66.3% of the total evaluated innovations. Moreover, 11 innovations are currently applied by the case studies.

Table 4. List of innovations assessed to be successfully implementable by at least one case study

Name of innovations
Cultural Capital Counts methodology
Dapper Texel
Kuh-Aktien (financing model already applied by Solawi)
Local2Local Food Distribution Software (FDS)
Local2Local Talents
Operation Food Freedom
Profit participation certificates (financing model already applied by Solawi)
Quality assurance system: product specifications, jointly agreed quality requirements
Short supply chain animator training
T2.2.3 Regulation of the SFSCs
T2.2.5 Risk Assessment on the infection of the consumers by SARS-CoV-2 during purchasing in different types of SFSCs
T2.3.1 Quality schemes
T2.3.11D Temperature Monitoring Labels
T2.3.13D Food labelling and nutritional analyzes without laboratory tests
T2.4.14D Biodegradable active packaging
T2.4.15 Biodegradable packaging
T2.4.16 Biodegradable packaging
T2.4.5 Freeze-frying for food products
T2.4.6 Modified Atmosphere Packaging (MAP)
T2.5.1 Vending Machines, Automatic distributors of farm products
T2.5.10 Refrigerated pickup station – cool lockers, Temperature-controlled lockers for groceries
T2.5.11 Predictive analytics of orders
T2.5.13 Farmers’ market “Liliomkert”
T2.5.15 Online marketplace for local and fresh products
T2.5.18 All-in-one packaging
T2.5.21 Joint distribution
T2.5.22D Involvement of the consumers
T2.5.23 Agro-tourism chain
T2.5.24 Moving outlets
T2.5.29 CHERRY
T2.5.2D Multi-channel sale
T2.5.3 Producers' shop
T2.5.34 Open farm tours
T2.5.5D Diverse direct sale
T2.5.6 Post service cold chain

T2.5.8 Shared production facilities
T2.5.9 LANDPACK – Green packaging solutions from grain fields
T2.6.1 Internal Control System
T2.6.11 Collection of rules and regulations, Guidelines and Good Practices
T2.6.2D Platform for Short Food Supply Chains
T2.6.3 Participatory Guarantee Systems as a mechanism for building the trust of parties
T2.6.8D fTRACE
T2.7.10 Exposition of products
T2.7.12 turn2bio
T2.7.15 Storytelling
T2.7.16 Local product tasting tours
T2.7.16 Method to find common goals (Truefood)
T2.7.1D Marketing on social networks
T2.7.1D Social media marketing (Biofruits)
T2.7.2 Lead user approach - Alce Nero
T2.7.3D Marketing tools (Alce Nero)
T2.7.4 Crowdfunding
T2.7.6D “Éltető Balaton-felvidék” brand system
T2.8.1 Community-supported agriculture (Solidarische Landwirtschaft)
T2.8.11 Implementation of vending machine
T2.8.2 Hermeneus Marketplace
T2.8.3 Cooperative Supermarket
T2.8.8 OrganicNet
T2.9.2 D Virtual market platform for farmers
T2.9.3D Smart label
T2.9.7D Fresh Produce Trade App
T2.9.8 FOODER
Tierpatenschaften (financing model already applied by Solawi)
Voedsel in de buurt application

The list of innovations assessed as successful for implementation is presented below. 29% of these innovations concern the topic of logistics accessibility such as vending machines that allow consumers to purchase food products from SFSCs with high convenience in terms of availability and localization access. Another example is the shared production facilities devoted to the small scale transformation of primary production, into finished products, likely to return to the producer for further direct retailing. Those facilities can be both stationary (processing platforms) or small scale mobile processing facilities (“plant in a truck”). Open farm tours, agritourism activities, moving outlets and other innovative solutions related to the topic of logistics were all well received and positively assessed for implementation. Innovations related to marketing concepts and communication tools were also important in the analysis. Using social media tools to communicate and increase visibility of farmers and their products is one innovation that could be easily implemented by number of firms. Moreover, using strategies like the lead-user approach could also benefit the agricultural firms to best target consumers’ expectations and needs. Biodegradable packaging, food labelling, risk assessment of the ingestion of the consumers, digital innovations like sales on the webshop or virtual market platform for farmers represent innovations that have great potential for implementation in different context. Other examples can be found below.

The list of innovations assessed as successful for implementation (Annex IV)

- T2.2.3 Regulation of the SFSCs
- T2.2.5 Risk Assessment on the infection of the consumers
- T2.3.6 Biosensor system (lactate biosensor) that ensures quality and efficiency in the fruit juice industry
- T2.3.13D Food labelling and nutritional analyses without lab tests
- T2.4.14D Biodegradable active packaging
- T2.4.15 Biodegradable packaging
- T2.4.16 Biodegradable packaging
- T2.4.5 Freeze-drying for food products
- T2.4.6 Modified Atmosphere Packaging (MAP)
- T2.5.1 Vending Machines, Automatic distributors of farm products
- T2.5.6 Post service cold chain
- T2.5.8 Shared production facilities for the small-scaled preservation and packaging of primary agricultural production
- T2.5.9 LANDPACK – Green packaging solutions from grain fields
- T2.5.10 Refrigerated pickup station – cool lockers, Temperature-controlled lockers for groceries
- T2.5.15 Online Marketplace for local and fresh products (Naaber)
- T2.5.18 All-in-one packaging
- T2.5.21 Joint distribution
- T2.5.22 Involvement of the consumers
- T2.5.23 Agrotourism one day
- T2.5.24 Moving outlets
- T2.5.3 Producer's shop
- T2.5.34 Open farms tours (Open farm Sunday)
- T2.6.2 PDO and PGI certification or transparency supported by digital tools
- T2.6.2D Platform for Short Food Supply Chains
- T2.6.3 Participatory Guarantee Systems
- T2.6.10 Collective selling points (PVC)
- T2.6.11 Collection of rules and regulations, Guidelines and Good Practices
- T2.7.1D Social marketing
- T2.7.2 Lead user approach - Alce Nero
- T2.7.3 Marketing tools
- T2.7.4 Crowdfunding

- T2.7.10 Exposition of products
- T2.7.12 turn2bio
- T2.7.15 Storytelling
- T2.7.16 Local product tasting tours
- T2.7.16 Method to find common goals (Truefood)
- T2.8.1 Community-supported agriculture (Solidarische Landwirtschaft)
- T2.8.11 Implementation of the vending machine
- T2.8.2 Hermeneus Marketplace
- T2.8.3 Cooperative Supermarket
- T2.8.8 OrganicNet
- T2.9.1D Sales on the webshop (Natuurlijk Vleespakket BV (NV))
- T2.9.2 D Virtual market platform for farmers
- T2.9.7D Fresh Produce Trade App
- T2.9.8 FOODER

Furthermore, the list of recommended innovations for each case study as positively assessed (from Annex VI) is following:

The list of recommended innovations for each case study as positively assessed (Annex VI)

- T.2.4.14D Biodegradable active packaging
- T.2.4.15 Biodegradable packaging
- T.2.4.16 Biodegradable packaging2
- T2.2.2 E.coli detection in goat milk
- T2.2.3 Regulation of the SFSCs
- T2.2.5 Risk Assessment on the infection of the consumers by SARS-CoV-2 during purchasing
- T2.3.1 Quality programs
- T2.3.11D temperature monitoring labels
- T2.3.13D Labeling of foodstuffs and nutritional analyzes without laboratory tests;
- T2.3.4 Hydro Cooler for loose produce
- T2.3.6 Biosensor system (lactate biosensor) that ensures quality and efficiency in the fruit juice industry
- T2.4.1 Vacuum cooling solutions for food products;
- T2.4.11 Ultrasound application: Homogenization and pasteurization
- T2.4.12 Ultrasound application: Meat pickling/curing;
- T2.4.5 Freeze-drying for food products;
- T2.4.6 Modified Atmosphere Packaging (MAP)
- T2.4.7 Vacuum-microwave drying technology for food products;
- T2.5.1 Vending Machines, Automatic distributors of farm products
- T2.5.2D Multi-channel sale
- T2.5.3 Producers' shop
- T2.5.4D Purchasing via collaboration
- T2.5.5D Diversified direct sales; Collaborative platform;
- T2.5.6 Post service cold chain
- T2.5.7 Demand-driven supply chain (Local2Local)
- T2.5.8 Shared production facilities for the small-scaled preservation and packaging of primary agricultural production
- T2.5.9 LANDPACK – Green packaging solutions from grain fields
- T2.5.10 Refrigerated pickup station – cool lockers, Temperature-controlled lockers for groceries
- T2.5.11 Predictive analytics of orders
- T2.5.12 Logistic based on the regional network

- T2.5.13 Farmers' market "Liliomkert"
- T2.5.15 Online Marketplace for local and fresh products (Naaber)
- T2.5.16 YouTyúk
- T2.5.18 All-in-one packaging;
- T2.5.19 Regional corner at the supermarket and in point of sales
- T2.5.21 Joint distribution
- T2.5.22D Involvement of the consumers
- T2.5.23 Agro-tourism chain
- T2.5.28 IntelliFood
- T2.5.29 CHERRY
- T2.5.31D FRISBEE Tool
- T2.5.32 Small depots for the personalized supply of perishable foods
- T2.5.34 Open farm tours
-
- T2.6.1 Internal Control System
- T2.6.10 Collective selling points (PVC)
- T2.6.11 Collection of rules and regulations, Guidelines and Good Practices
- T2.6.2 PDO and PGI certification or transparency supported by digital tools
- T2.6.2D Platform for Short Food Supply Chains
- T2.6.3 Participatory Guarantee Systems
- T2.6.8D fTRACE
- T2.6.9 Austrian Small farm taxation
- T2.7.1D Social media marketing
- T2.7.2 Lead user approach - Alce Nero
-
- T2.7.3 Marketing tools
- T2.7.4 Crowdfunding
- T2.7.6D "Éltető Balaton-felvidék" brand system
- T2.7.9 QUALIVITA
- T2.7.10 Exposition of products
- T2.7.12 turn2bio
- T2.7.15 Storytelling
- T2.7.16 Method to find common goals (Truefood)
- T2.7.17 Sommer and winter seasonal offers
- T2.8.1 Community Supported Agriculture (CSA)
- T2.8.2 Hermeneus Marketplace Platform
- T2.8.3 Cooperative Supermarket
- T2.8.6 Farm diversification Tekerés-valley
- T2.8.8 OrganicNet
- T2.8.10 New packaging for fruit juices
- T2.8.11 Implementation of the vending machine;
- T2.9.1D Sales on the webshop (Natuurlijk Vleespakket BV (NV))
- T2.9.2 D Virtual market platform for farmers
- T2.9.3D smart label
- T2.9.7D Fresh Produce Trade App
- T2.9.8 FOODER
- T2.9.9D AgriAware
- T2.9.10D PerishABLE

Justification how and why the innovations were selected

All the bottlenecks and problems identified in T2.3 in the different fields of the SFSCs need effective solutions, that ensure the development, the effective operation of each short chain organization. A large number of relevant, possible solutions from the Innovation Inventory were proposed for each case study. In T2.4 the proposed solutions have been reviewed, screened, and evaluated. A large number of innovations and solutions were identified as the “most promising implementable innovative solutions” (61, which is 45% of the innovations in the Inventory. Other innovations were expected to be successfully implementable by the case studies (these innovations were evaluated as successfully implementable, however, some hindering factors were identified), and a large number of innovative solutions were positively assessed (of those that have been recommended in T2.3) by the cases. If there were only one case, which could apply one of the solutions, it can be anticipated, that this solution can be recommended as a possible successful implementable solution for the SFSCs in general. In this list, there are only those innovations, which were proposed, and evaluated by the 18 case studies, but the list can be extended, when assessing all the 147 innovations in the Inventory. All these solutions are able to eliminate or reduce the bottlenecks and the currently existing problems of the SFSCs. A large number of the positively, and successfully implementable solutions shows, that through the application of these innovations, new methods, tools, and additional activities, the SFSCs can be more effective, competitive, and sustainable. Each SFSC organisation has individual needs and problems, which require individual solutions.

List of innovation with successful implementation, with additional resources needed

Among these 61 innovations, many of them require resources like financial resources, staff resources, organizational processes, communication processes, marketing processes, and social processes. In Annex IV, the findings related to these innovations are presented. These innovations were evaluated as successfully implementable, however, some hindering factors were identified. They include financial support (“external help” or “co-financing”) as a medium and high investment were identified for some innovations. Furthermore, cost/benefit studies and marketing-consumer studies should be conducted for innovations that need clarifications on the financial aspect. Several innovations could be implemented, but depending on the implementation level (chamber, network, or member), public funding, and firm size that the success can be assessed. The available resources (workers, buildings, infrastructures) can also be barriers to a successful implementation. These elements should be specified for the innovations that are not clear. Competencies and skills are lacking for many innovations. Training, dedicated time, and/or supplementary employees should be thought before implementing innovations. Skills and resources for organizing agro-tourist events, extra ICT back-end support person, or technical support for integration of new needed infrastructure (scanners, tablets, phones) are examples of investments to be done for supporting innovation implementation. Besides, different minor organizational changes are also claimed for some innovations. Clarifications on the new market opportunities, the relevance for SFSCs, the goal identified by the innovations should be specified as well. Finally, there may also be some negative impacts to consider when implementing different innovations.

List of innovation differently assessed by the case studies

Since each case study is different, their needs and resources are different. Therefore, an innovation that is useful and applicable for one case may not be the same for the other case. The following 21 innovations were differently assessed by the case studies (Table 5), influencing the decision as success or failure in their implementation:

- T2.3.11D temperature monitoring labels
- T2.3.13D Food labelling and nutritional analyses without lab tests
- T2.4.5 Freeze-drying for food products
- T2.4.6 Modified Atmosphere Packaging (MAP)
- T2.5.3 Producers' shop
- T2.5.5D Divers direct marketing
- T2.5.10 Refrigerated pickup station – cool lockers, Temperature-controlled lockers for groceries
- T2.5.11 Predictive analytics of orders
- T2.5.22D Consumer involvement
- T2.5.23 Agrotourism
- T2.5.29 Cherry
- T2.6.11 Collection of rules and regulations, Guidelines and Good Practices
- T2.6.2D Platform for Short Food Supply Chains
- T2.6.3 Participatory Guarantee Systems as a mechanism for building the trust of parties
- T2.8.1 Community Supported Agriculture (CSA)
- T2.7.1D Social media marketing (Biofruits)
- T2.7.2 Lead user approach - Alce Nero
- T2.7.3D Marketing tools (Alce Nero)
- T2.7.6D "Éltető Balaton-felvidék" brand system
- T2.8.3D Cooperative supermarket
- T2.9.3D Smart label

The two French case studies assessed the innovation T2.3.11D temperature monitoring labels. The difference lies in the organizational aspects, for which one case estimated that new labels have to be created and implemented and there is a need to master the skills necessary for the implementation of the label (techniques and ICT). Consequently, this innovation was not interesting for the case studies in France.

One innovation that was tested by France and Switzerland relates to food labelling and nutritional analyses without lab tests (T2.3.13D). While this innovation has positive social suitability and practical applicability, it required information about legal requirements to implement it. Besides, both in Switzerland and in one French case studies, it is not needed by the case, as the interest and advantage of short food supply chains are that consumers do not need labels on the products they purchase. The direct contact with the producers appears to be enough for them, as they know and can ask the producers about the quality, the production process, the origin, and other information that typical labels guarantee, of their products. The results are similar for the T2.9.3D Smart label.

The innovation T2.4.5 Freez-frying for food products was assessed by the two Spanish case studies. For one case study, technological feasibility, social suitability, financial feasibility, and organization aspects are possible. Practical applicability is in progress and not fully implemented. For the other Spanish case study, there is a need for major investment, creating a completely new business and technological feasibility and organizational aspects require major investments too.

For the innovation T2.8.1 Community Supported Agriculture (CSA), it seems that the national context explains the difference in the evaluation. For the French case studies, the national regulations seem to hinder the implementation of this innovation. Whereas, for the German case studies, it is not the case.

Economic resources are lacking for case studies and investments are needed to implement innovations like T2.4.6 Modified Atmosphere Packaging (MAP), independently of the country.

Regarding consumers' involvement, the Italian and the Hungarian cases estimated that the innovation can be successfully implemented, whereas, for the French case study, there is a need of providing information on the product's production process like provenance, processing. Moreover, transparency of the entire product production chain (on the website, in the form of farm visits, etc.) should also be provided, which is a lot of work and need resources to conduct such activities.

Agrotourism events like farm visits, tastings, demonstrations of farm activities differ in their appreciation. This difference is explained by the structural organization of the farms. In Switzerland, the small farm that was asked about this innovation is independent and has not enough resources to implement these types of activities. In the Serbian context, farmers are organized in an association. The association members have their own infrastructure for the degustation of their products. They can welcome tourists to their farms/production plants. They have already prepared a program for potential tourists. Similarly, the innovation related to a platform for SFSCs (T2.6.2D) and Participatory Guarantee Systems as a mechanism for building the trust of parties (T2.6.3) were differently assessed based on the SMEs structure and financial resources, not for country context. These innovations are not applicable for small farms not engaged in groups of producers. This is the same for T2.7.3D Marketing tools (Alce Nero). Small farms do not have the financial resources to invest in this type of communication and marketing activities, especially when human resources should be developed (specific skills needed).

Introducing a shop at a farms' location requires investment and human resources (i.e. for presentation and selling products directly within the shop). However, the type of products is of importance to assess the relevance of a shop. For a seasonal product like truffle, a shop will not be relevant (e.g. this product is very specific and seasonal). An association with other products from different farmers could support the introduction of a shop.

The lead-user approach (T2.7.2) implies taking into account consumer opinions for the development of new products (collecting consumer expectations upstream of the development of new products - replacing traditional market studies), developing a specific procedure to select leaders (or consumers that know future trends related to food consumption) and interdisciplinary experts. The French and the Swiss case studies claimed that this innovation is not adequate in their context, while it is relevant for the Italian case study. This innovation can result in a significant improvement of the organization or firm competitiveness. Identifying the needs of future consumers facilitates the development of customer-driven products. This implies targeted production, with positive implications for economic and social sustainability.

National context can explain the divergence in evaluations of some innovations. Regulations can be inadequate for short food supply chains, like for T2.8.1 Community Supported Agriculture (CSA) in France and not in Germany.

Table 5. List of innovations that were differently categorized by the case studies, according to different criteria

Innovations	Technological feasibility	Financial feasibility	Organizational aspects	Social suitability	Practical applicability	Successful implementation of innovations in another context	For which case study
T2.3.11D temperature monitoring labels	Yes	Yes	No	No	Yes	Yes, but little interest from Couleurs paysannes	Couleurs Paysannes, FR
T2.3.11D temperature monitoring labels	Yes	Yes	Yes	Yes	No	Yes	V&Co, NL
T2.3.11D temperature monitoring labels	Yes	Yes	Yes	No	Yes	No, because not interesting for the producer	Foie gras, FR
T2.3.13D Food labelling and nutritional analyses without lab tests	No (too much information about legal requirements to collect)	Adjustment	Yes (no need for a label in direct sales)	Yes	Yes	No	Chèvremont Bon, CH
T2.3.13D Food labelling and nutritional analyses without lab tests	Yes	Yes	Yes	Yes	Yes	Yes	Couleurs Paysannes, FR
T2.3.13D Food labelling and nutritional analyzes without laboratory tests	Yes	Yes	Yes	Yes	Yes	No, because not interesting for the producer	Foie gras
T2.3.13D Labeling of foodstuffs and nutritional analyzes without laboratory tests	Yes	Yes	Yes	Yes	Yes	Yes	Alce Nero, IT
T2.4.5 Freeze-drying for food products	Yes (with major investment)	No (currently no economic resources)	Yes (with major adjustment)	Yes	no (major investment needed, a completely new business)	No	Lantegi, ES
T2.4.5 Freeze-frying for food products	Yes	Yes	Yes	Yes	Yes (in progress, not fully implemented)	Yes	La Trufa, ES

T2.4.6 Modified Atmosphere Packaging (MAP)	Yes	No (currently no economic resources)	Yes	Yes	No (major investment needed, it is needed a cost/benefit study)	No	La Trufa, ES
T2.4.6 Modified Atmosphere Packaging (MAP)	Yes	No	Yes	Yes	No	Yes, but necessary adjustments	Gaia, GR
T2.4.6 Modified Atmosphere Packaging (MAP)	Yes	Yes	Yes	Yes	Yes (minor adjustments)	Yes	Arvaia, IT
T2.4.6 Modified Atmosphere Packaging (MAP)	Yes	Yes	Yes	Yes	Yes	They currently apply this innovation	Lantegi, ES
T2.5.10 Refrigerated pickup station – cool lockers, Temperature-controlled lockers for groceries	Yes	???	Yes	Yes	Yes	No	La Trufa, ES
T2.5.10 Refrigerated pickup station – cool lockers, Temperature-controlled lockers for groceries	Yes	Yes	Yes	Yes	Yes (major adjustments)	Yes	Arvaia, IT
T2.5.10 Refrigerated pickup station – cool lockers, Temperature-controlled lockers for groceries	Yes	Yes (low-med estimated cost)	Yes	Yes	Yes (it is needed a cost/benefit study, a marketing-consumer study)	Yes	Lantegi, ES
T2.5.11 Predictive analytics of orders	Yes	No (currently no economic resources)	Yes	Yes	No (currently no economic resources, it is needed a cost/benefit study)	No	Biofruits, CH
T2.5.11 Predictive analytics of orders	Yes	No (currently no economic resources)	Yes	Yes	No (currently no economic resources, it is needed a	No	Lantegi, ES

					cost/benefit study)		
T2.5.11 Predictive analytics of orders	Yes	Yes	Minor organization changes	Yes, economic	Yes	Yes	FOODHU, HU
T2.5.22D Consumer involvement						No	Couleurs Paysannes
T2.5.22D Involvement of the consumers	Yes	Yes	Yes	Yes	Yes (minor adjustments)	Yes	Arvaia, IT
T2.5.22D Involvement of the consumers	Yes	Yes (with adapted investment)	Yes	Yes	After major adjustments	Yes	Zala Thermal Valley-HU
T2.5.23 Agrotourism chain	Yes	?	No	Yes	No	No	Chèvremet Bon, CH
T2.5.23 Agrotourism one day	Yes	No investment is needed	Yes	Yes	Yes	Yes	UoB, SR
T2.5.23 Agrotourism several days	Yes	Low investment, external help	Yes	Yes	Yes (with minor investments)	Yes	UoB, SR
T2.5.29 Cherry	Yes	No	Yes	Yes	No (Interesting but major adjustments to be done)	No	Biofruits, CH
T2.5.29 Cherry	Yes	No	Yes	Yes	Yes	Yes	L2L, NL
T2.5.3 Producers' shop	Yes (with major investment)	No (currently no economic resources)	Yes (with major adjustment)	Yes	No (major investment needed, is needed a cost/benefit study, as the product is very specific and seasonal (truffle), it has not too much sense (only could work if the shop is shared with other producers of other foods)	No	La Trufa, ES
T2.5.3 Producers' shop	Yes (with major investment)	No (currently no economic resources)	Yes (with major adjustment)	Yes	No (major investment needed, it is needed a	No	Lantegi, ES

					cost/benefit study)		
T2.5.3 Producers' shop	Yes	Yes	Yes	Yes	Yes	Innovation currently applied	V&Co, NL
T2.5.3 Producers' shop	Yes	Low investment, external help	Yes	Yes	Yes (with minor investments)	Yes	UoB, SR
T2.5.5D Divers direct marketing	Yes (with major investment)	No (currently no economic resources)	Yes (with major adjustment)	Yes	No (major investment needed, they use currently different ways of selling, it is needed a cost/benefit study)	No	La Trufa, ES
T2.5.5D Divers direct marketing	Yes (with major investment)	No (currently no economic resources)	Yes (with major adjustment)	Yes	No (major investment needed, they use currently different ways of selling, it is needed a cost/benefit study)	No	Lantegi, ES
T2.5.5D Diversified direct sales; Collaborative platform	Already set up					They currently apply this innovation	Foie gras
T2.6.11 Collection of rules and regulations, Guidelines and Good Practices	Yes	Yes	Yes	Yes	Yes (minor adjustments)	Yes	Arvaia, IT
T2.6.11 Collection of rules and regulations, Guidelines and Good Practices	Yes	depends on the implementation level (chamber or member) and public fundings	Yes	Yes	Yes	Yes	CALS, DE
T2.6.11 Collection of rules and regulations, Guidelines and Good Practices	Yes	Yes	Yes	Yes, demand on the good practices applied.	Yes	Yes	FOODHUB, HU

T2.6.11 Collection of rules and regulations, Guidelines and Good Practices	Yes	Yes	Yes	Yes, but there may also be some negative impacts to consider	Yes	Yes	Solawi, DE
T2.6.11 Collection of rules and regulations, Guidelines and Good Practices	Yes	Yes	Yes	Yes	Yes	Yes	La Trufa, ES
T2.6.11 Collection of rules and regulations, Guidelines and Good Practices	No	No	No	No	No	Restructuring rules and regulations making them more friendly for SFSCs	Allotropon, GR
T2.6.2D Platform for Short Food Supply Chains	Yes	Yes	Yes	Yes	Yes	Yes	Alce Nero, IT
T2.6.2D Platform for Short Food Supply Chains	Yes	No	Yes	Yes	Yes	Yes but necessary adjustments	Allotropon, GR
T2.6.2D Platform for Short Food Supply Chains	No	No (too expensive)	Yes	Yes	Yes	No	Chèvrement t Bon, CH
T2.6.3 Participatory Guarantee Systems as a mechanism for building the trust of parties	Yes	Yes	Yes	Yes, but there may also be negative impacts to consider	Yes, it depends on the quality of data and the significance of CSA. Some minor adjustments may be necessary to cover specific requirements of CSA	Yes	Solawi, DE
T2.6.3 Participatory Guarantee Systems as a mechanism for building the trust of parties	Yes	Yes	Yes	Yes	Yes	Yes	CALS, DE

T2.6.3 Participatory Guarantee Systems as a mechanism for building the trust of parties	Yes	Yes	No	No	Yes	No	V&Co, NL
T2.6.3 Participatory Guarantee Systems as a mechanism for building the trust of parties	No (not applicable for small farms not engaged in groups of producers)	No	No (not applicable for small farms not engaged in groups of producers)	Yes	No	No	Chevremet Bon, CH
T2.7.1D Social media marketing (Biofruits)	Yes	Yes (low-med estimated cost)	Yes	Yes	Yes (it is needed a cost/benefit study)	Yes	Lantegi, ES
T2.7.1D Social media marketing (Biofruits)	Yes	No (recruitment of skilled staff)	Yes	Yes	No (too time-consuming)	No	Chevremet Bon, CH
T2.7.1D Social media marketing (Biofruits)	No	No	Yes	Yes	Yes	Yes, but necessary adjustments	Gaia, GR
T2.7.1D Social media marketing (Biofruits)	Yes	Yes	Yes	Yes	Yes	Yes	Alce Nero, IT
T2.7.2 Lead user approach - Alce Nero	Yes	Yes	Yes	Yes	Yes	Yes	Alce Nero, IT
T2.7.2 Lead user approach - Alce Nero	No	No	Yes	Yes	No	No	Biofruits, CH
T2.7.2 Lead user approach - Alce Nero						No	Couleurs Paysannes
T2.7.3D Marketing tools (Alce Nero)	Yes	Yes	Training need	Yes	No	Yes but need more precise technology and training	Foie gras
T2.7.3D Marketing tools (Alce Nero)	Yes	Yes (low-med estimated cost)	Yes	Yes	Yes (it is needed a cost/benefit study)	Yes	Lantegi, ES
T2.7.3D Marketing tools (Alce Nero)	Yes	No (recruitment of skilled staff, marketing activities)	No (new staff)	Yes	No (not for independent farms)	No	Chevremet Bon, CH
T2.7.6D "Éltető Balaton-	Yes	Yes	Yes	Yes	Yes	Yes	V&Co, NL

felvidék” brand system							
T2.7.6D “Éltető Balaton- felvidék” brand system	Yes	Yes	No	No	No	No	Couleurs Paysannes, FR
T2.8.1 Community Supported Agriculture (CSA)	Yes	Yes	Yes	Yes	no	Seems difficult to apply because of French regulations	Couleurs Paysannes
T2.8.1 Community- supported agriculture (Solidarische Landwirtschaft)	Yes	Yes	Yes	Yes	Yes	Yes	Arvaia, IT
T2.8.3 Cooperative Supermarket	Yes	Depends on the resources available (staff, buildings)	Yes	Yes	Yes	Yes	CALS, DE
T2.8.3D Cooperative supermarket	Yes	Yes	Yes	No	No	no	Couleurs Paysannes
T2.9.3D Smart label	No	No	No (not for independent farms)	Yes	Yes	No	Chèvremen t Bon, CH
T2.9.3D Smart label	Yes	Yes	Yes	Yes	Yes	Yes	Couleurs Paysannes

List of innovation NOT implementable

There are 39 innovations assessed as non-implementable in a different context (Annex V). The main reasons claimed by the case studies include: no available economic resources currently, need of a cost/benefit study; major investment needed; different short food supply chains type (i.e. the case study is currently using different ways of selling); need of a marketing consumer study to understand the new market opportunities before implementing such innovations; recruitment of skilled staff (e.g. for performing marketing activities).

The reasons for an estimated failure of implementation of those innovations are mainly related to technological feasibility, financial feasibility, organizational aspects, and practical applicability.

Technological feasibility was a hindering factor for many innovations, especially for its irrelevance respecting to the farms’ structures (i.e. innovations might not fit for small farms not organized in cooperatives). Much information has still to be collected for a sound analysis of the innovation potential. Financial feasibility was also a barrier, that was cited in 75% of the evaluations. The firms need to invest, either by developing financial opportunities and/or by accessing external funding. Supplementary financial means can serve to invest in new technologies, recruiting skilled employees, or developing marketing activities for example. Regarding organizational aspects, major adjustments are required to implement the innovations. Besides, some innovations are not relevant for independent and small farms. The main explanations for categorizing practical

applicability as a barrier for innovations' implementation include a need for a cost-benefit analysis, investments to introduce new selling channels, innovations not adequate for independent farms or very small farms, inadequate regulations, and issues of missing certificates to use the innovations. Regarding social suitability, either the innovations were positively assessed (i.e. they induce positive changes) or some information about the innovations were lacking, affecting the understanding of its implications on social suitability.

Finally, all five criteria were concerned about hampering innovations' implementation in different contexts. In some cases, the national context can explain the challenge for the implementation, while in several cases it is not related to the current context per country (e.g. regulations, national or regional policy means, quality tools, consumers' demand, local features). Innovations can require high investment in terms of financial means (as examples, T2.5.8 Shared production facilities, T2.5.16 YouTyúk, T2.5.3 Producers' shop, T2.1.4D Weather monitoring for agriculture). The situation in which the case studies are can define their innovation needs (e.g. a small farm can be interested in using social media and light marketing tools to increase its visibility, attract new consumers, but might not be interested in registering in an online marketplace due to different reasons like time investment to register all the products, or to perform the logistics behind).

Summary of the innovations in each country of the project

In Italy, Alce Nero assessed 11 innovations to be successfully implementable in their case, as well as Arvaia with 7 innovations. In the German situation, CALS and Solawi assessed respectively all 12 and 11 innovations as also implementable with some adjustments to take into account. The University of Belgrade also assessed the 8 innovations to be successfully implementable in the Serbian context. For Hungary, Zala Thermal Association assessed positively the 4 innovations, as well as FoodHub with the 5 innovations recommended. The Spanish case "La Trufa de Álava" assessed one-third of the recommended innovations as being successfully implementable. "Lantegi Batuak", the Spanish other case study assessed 14 innovations on 33 to be not implementable in their current situation. Biofruits, the Swiss case study, assessed 7 innovations as not implementable, 5 innovations as possibly of success for their implementation. They already use 6 innovations that are recommended. 10 innovations not implementable for the Swiss case study Chèvrement Bon, one already used and two possible for successful implantation. Finally, in the French context, 6 innovations are positively assessed, and 8 no implementable by Couleurs Paysannes. For the AGPFGA, 2 innovations are positively assessed, 2 innovations are negatively assessed, and 2 innovations are already used by the case study. Concerning the two Dutch case studies, one case positively assessed all the ten innovations (Local2Local). Adjustments are needed for these innovations, particularly for the financial feasibility criterion like a collective SFSC initiative investment to conduct for one innovation. For V&Co, four innovations were expected to be successful, one innovation is currently applied at a small scale and five innovations are not expected to be successfully implemented. The main explanations for the negatively assessed innovations are the necessary time to implement the innovations and gather benefits. Some innovations require a lot of work (i.e. T2.5.31D FRISBEE Tool, T2.8.2 Hermeneus Marketplace Platform) and in the long run, it could be worth implementing them. In the Greek context, Allotropon 11 innovations can be successfully implemented with adjustments on technological feasibility, financial feasibility, and/or practical applicability. One innovation was *assessed* as not implementable due to the need of restructuring the rules and the regulations making them more friendly for SFSCs. For the Greek case study Gaia, all 5 innovations are expected to be successfully implemented, but with necessary adjustments, mainly on financial feasibility and practical applicability.

Table 6. Summary of the innovations assessed by the case studies

Name of the case study	successfully implementable innovations in the case (or with some adjustments)	not implementable innovations	Possibly of success	Already used innovations
Italy, Alce Nero	11			
Italy, Arvaia	7			
Germany, CALS	12			
Germany, Solawi	11			
Serbia, University of Belgrade	8			
Hungary, Zala Thermal Association	4			
Hungary, Food Hub	5			
Spain, La Trufa de Álava	one-third of the recommended innovations (11/28) 3	12	6	1
Spain, Lantegi Batuak	0	18	8	4
Switzerland, Biofruits		7	5	6
Switzerland, Chèvrement Bon		10	2	1
France, Couleurs Paysannes	6	8		
France, AGPFGA	2	2		2
Netherland, Local2Local	10			
Netherland, V&Co	4	5		1
Greece, Allotropo	11	1		
Greece, Gaia	5			

Analysis of the competitiveness impact

A criterion of analysis in the characterization matrix was the implication of the innovation result in improvement of the organization or firm competitiveness. Many innovations were assessed as implying a moderated to significant improvement of the firms' competitiveness. The main reasons are the expected increased sales if the innovations are matching consumers' expectations, the spillovers that the lead-user approach can bring (i.e. groups visiting the firm can, with word-of-mouth have an impact on sales), logistics improvement, and new selling channels created for instance. The biodegradable packaging innovation was assessed by a case study as highly improving firm's competitiveness because the increased added-value and the extended shelf life of the products, and the development in sustainable and economical aspects are important. It can improve the value proposition provided by the company to targeted consumer segments. It is an aspect for successful differentiation from the products of conventional food chains and a powerful tool to support the value for money approach. Other reasons explaining the expected major improvement of competitiveness is the popularity of the local farms/production/services that will improve through a certain type of innovations implementation (e.g. open farm tours), the increased number of visitors, and increased sales as well.

Moderated competitiveness improvement was assessed for innovations in the frame that if the firm is involving and takes the necessary time to run the social media tools and posts frequent news, images, ideas online, regularly, the competitiveness can partially increase. The increase of shelf life products is also including in these moderated expectations. The knowledge about marketing and advertising will increase the likelihood of success and increase the ability to understand consumers' needs. Therefore, the relationship between the customer and the entity can be enhanced by some innovations and moderately impact the firm's competitiveness.

Limited competitiveness improvement can include reasons like since internal control systems could be cheaper but with no direct impacts on sales and competitiveness, the improvement of cold chain that is already well developed.

5. Conclusions

Decisions on investment into the application of new operational and organisational principles, technological and marketing methods, equipment by the SFSCs shall be based on cost-benefit assessment, independently whether these represent the adoption of known or innovative solutions. The current study provides input for this cost-benefit assessment on the evaluation aspects of innovations for applicability in short food chains: practical applicability, technological feasibility, financial feasibility, social suitability, organisational aspects, competitiveness impact. This shall be complemented with an assessment of the market demand and consumers need which are not in the scope of this study.

The availability of the necessary resources for the application of a new innovative solution is always a critical aspect. The need and the level of the necessary resources, including the competent and trained staff, IT infrastructure, production and storage facilities, financial resources, the availability of the own resources varies by the case and the individual innovation and they are specific for the case. Therefore, innovative solutions may be differently applicable for different cases. Since each case study is different, their needs and resources are different and the business environment of the region, country, and food branch is also different. Therefore, an innovation that is useful and applicable for one case may not be the same for the other case. Therefore, if an innovative solution is applicable for at least one SFSC case study it can be counted as applicable for some other case studies.

The SFSC supporting organisations, intermediaries shall explain to the farmers and micro-businesses that it is similarly common at the innovation projects of larger food businesses that the resources for the implementation of the innovative solutions are usually not available immediately. First the concept, the objective has to be defined and it is necessary to look systematically for funding/co-funding of innovation projects. SMEs need training on innovation project management!

The positive results of a large number of evaluations (183) of several innovations (92) verify that the procedure for the evaluation of the applicability is a useful tool that can be applied by the SFCs beyond the end of the project. The proportion of the innovations assessed reflects a balanced interest - 50 TECIs 42 NTIs.

The most frequently assessed innovation categories by the 18 case studies reflecting their needs for innovative solutions: logistics accessibility 27, marketing concepts and communication tools 14, structural and economic aspects 11, food preservation and processing 10, modern information and communication technology, food integrity, and transparency 8.

Consumer concerns on food safety and hygiene are a significant barrier to purchasing from SFSCs, in particular products of animal origin. In addition, there is a remarkable consumer concern on the freshness, authenticity, and integrity of the food products from the global food supply compared to the local food supply. Therefore, improving the integrity and transparency of the food from SFSCs represents an obvious opportunity to increase the attractiveness of the local food and improve the competitiveness of the SFSCs, with the adoption of the relevant innovative solutions needs more attention by the SFSCs! These trends are more remarkable by the time of the SARS-CoV-2 pandemic.

Among those innovations which were most frequently selected by the 18 case studies as interesting for the assessment of the applicability 7 innovations were related to the marketing and access to consumers, 4 innovations to improve sales, market access, 2 innovations on meeting labelling and legal requirements, 2 on the packaging, 1 on safety related to the prevention of the SARS -COV-2 infection.

Technical skills, marketing skills, IT skills, knowledge related to the products or services that are part of the innovations will have to be taken into account for innovation adoption and implementation.

The results of the assessments show that SFSCs are very limitedly aware of and only partially understand the benefits of the tools that support the identification and agreement on joint goals and the combined use of

resources. There is a need for training of the members and chain operators in these tools and techniques as well as other organizational methods to support the application of innovations.

Many SFSCs feel that it is very challenging to meet the very complex requirements of the food legislation particularly the hygiene and the labelling, sometimes the traceability. The EU legislation encourages the application of the flexibility rules, but frequently neither the short food chain member nor the local food control inspectors are familiar with the good practices of the implementation of them. The false interpretation of necessary actions proportional to the actual risks to ensure compliance to legal requirements has a negative impact on the competitiveness of the SFSCs. There are practical solutions such as the " T2.6.11 Collection of rules and regulations" that may help significantly. The interest in this solution is reflected by the fact that the applicability of it was evaluated by the case studies in Germany, Spain, Italy, Greece, Netherlands, and Serbia. However, the SFSCs should have a better understanding of the importance of compliance through simple methods and the potential for asking assistance from food network operators and technical centres. In many cases, it is necessary to explain to the SFSCs that legal compliance is a prerequisite of market access! They can learn from the competitors since the large retailers request always from their private label suppliers measures to ensure food safety, compliance to the agreed specifications (quality), legality, authenticity of the products. Labelling is a tool, which provides information for conscious consumers, who are interested in the origin the quality of the product, nutritional value, of the production method. More attention has to be paid to the provision of label-based and non-label-based information to the consumers to help their informed decision as a tool to improve competitiveness.

Within the SmartChain project, there is still an opportunity to organize 1-2 web-based consultations with the case studies (on project level) on improving their competitiveness. This consultation shall include guidance on the formulation and communication of the value propositions of the SFSCs.

Annex I

Proposed additional activities, tools, and methods for developing the activity of the case study using innovative solutions and the references from the Inventory by case studies

CH1 BIOFRUITS		
Number of the Activity	Proposed additional activities, tools, and methods for developing the activity of the case study using innovative solutions	Reference and title from the Inventory
CH1-A1	Building up clear differentiation from other organic products by transparent, potentially certified local production requirements (A1)	T2.6.1 Internal Control System T.2.6.2 PDO and PGI certification or transparency supported by digital tools; T.2.5.15 Naaber online market place T.2.5.19 Regional corner at the supermarket and in point of sales T.2.5.28 IntelliFood; T.2.5.29 CHERRY; T.2.5.32 Small depots for the personalized supply of perishable foods T2.7.12 turn2bio online market and library tool T2.8.10 New packaging for fruit juices
CH1-A2	IT-supported demand forecast and supply recording; demand-driven fruit juice production (A2)	IT-supported demand forecast and supply recording; T.2.5.7 Demand-driven supply chain (Local2Local) T.2.5.11. Predictive analytics of orders; T.2.5.28 IntelliFood; T2.3.6 Biosensor system (lactate biosensor) that ensures quality and efficiency in the fruit juice industry
CH1-A3	Exploring the needs of the HORECA sector for niche products and serving it. Building up organic producers' & consumers' community (A3)	T. 2.5.5. Diverse direct sale (Gaia) T2.7.2 Lead user approach (Alce Nero);
CH1-A4	Building up a reliable, acknowledged company, brand identity (A4)	T.2.7.1 Social media marketing T2.7.3Marketing tools (Alce Nero) T2.7.12 turn2bio online market and library tool T2.8.8 OrganiNet;
CH2 CHEVREMENT BON		
Number of the Activity	Proposed additional activities, tools, and methods for developing the activity of the case study using innovative solutions	Reference and title from the Inventory
CH2-A1	Administration support (GS1): an organization that develops and maintains global standards for business communication. The best-known communication tool is the barcode, a symbol printed on products that can be scanned electronically. It can be used standardizes in the SFSCs. GLOBAL STANDARD FOR ADMINISTRATION AND COMMUNICATION	T2.5.23 Agro-tourism chain; T2.2.2 E.coli detection in goat milk; T2.3.13D Food labelling and nutritional analyses without lab tests; T2.4.11 Ultrasound application: Homogenization and pasteurization; T2.6.3 Participatory Guarantee Systems as a mechanism for building the trust of parties T2.6.2DPlatform for Short Food Supply Chains; T2.7.1D Social media marketing (Biofruits); T2.7.3D Marketing tools (Alce Nero); T2.7.10 Exposition of products; T2.7.15 Storytelling; T2.8.6 Farm diversification Tekeress-valley; T2.9.1D Sales on the webshop (Natuurlijk Vleespakket BV (NV)); T2.9.3D Smart label;
CH2-A2	Standardized quality system: standard quality is required from the Partners. STANDARDIZED QUALITY SYSTEM	T2.6.3 Participatory Guarantee Systems as a mechanism for building the trust of parties;
DE 1 CALS		
Number of the Activity	Proposed additional activities, tools, and methods for developing the activity of the case study using innovative solutions	Reference and title from the Inventory
DE1-A1	Sharing success and expenses, work in collaboration due to sharing the cost and value of the organization (A1)	T2.5.21 Collaboration – “Joint distribution”; Platform in collaboration; T2.5.8 Shared production facilities for the preservation and packaging of primary agricultural production; T2.8.3D Cooperative Supermarket;
DE1-A2	Provision of practice-oriented, individual, and group training focusing on innovative solutions. Avoiding communication gaps between the farmers and professionals and reducing the lack of knowledge with education. Development of training programs (face-to-face and distance learning), which also include practical group training. Group hands-on training can provide an opportunity for producers/producers to share their experiences. TRAINING AND EDUCATION (A2)	T2.7.16 Method to find common goals (Truefood); T2.6.11 Collection of rules and regulations, Guidelines and Good Practices
DE1-A3	Reviewing the operation of each farmer/producers/members of CALS for the protection of Coronavirus pandemic, introducing measures to reduce the risk of SARS-CoV-2 contamination: REDUCING THE RISK OF CORONAVIRUS CONTAMINATION (A3)	T2.2.5 Risk Assessment on the infection of the consumers by SARS-CoV-2 during purchasing in different types of SFSCs
DE1-A4	Involving the enthusiastic young generation into the work. Inspiring and working with the young generation, application the added value of their innovative ideas. INVOLVEMENT OF THE YOUNG GENERATION (A4)	T2.5.34 Open farm tours; T2.7.16 Local product tasting tours; T2.6.11 Collection of rules and regulations, Guidelines and Good Practices

DE1-A5	Ensuring a potential place to educate the young generation, to learn about farming, food production, about nature through play. E.g. looking for and cooperate with an entrepreneur, who has the skills for the education of the children and who introduces the children to the farm. SKILLS AND KNOWLEDGE, EDUCATION (A5)	
DE1-A6	Assessing the opportunities that can be generated through cooperation/ merging with like-minded organizations. COOPERATION WITH LIKEMINDED	T2.2.5 Risk Assessment on the infection of the consumers by SARS-CoV-2 during purchasing in different types of SFSCs
DE1-A7	Evaluating internally which activities/ services have not been requested often and are just continued because they have always been offered. Conducting an economic analysis of the loss-making, break-even, and profit-making activities. ANALYSIS OF SERVICES	
DE1-A8	Starting an organization's review process together with authorities and members to develop and determine those core services that CALS can afford to provide in the future. ORGANISATIONAL DEVELOPMENT PROCESS	
DE1-A9	Digitizing, using online tools, and reducing on-site services for making more out of available resources. Further improving online marketing, online shops connecting individual solutions for providing an improved marketing experience for consumers, and collective marketing. DIGITALISATION AND ONLINE	
DE1-A10	Many services, information, etc. have already been developed by others. Investing time in compiling such information rather than developing them anew. Young(er) members are language savvy so that the search can be broadened. Long-term: Developing as an information hub connecting people with like-minded interests for exchange, learning, and cooperation, rather than providing services individually. INFORMATION HUB	
DE1-A11	Focusing on continued learning of members through vocational training, training (courses), webinars. Provision of practice-oriented, individual, and group training focusing on gaps and innovative solutions bridging between farmers and professionals. Development of practical group training. Group hands-on training can provide an opportunity for producers to share their experiences. TRAINING AND EDUCATION	
DE1-A12	Concentrating on the business development of members rather than focusing on single (innovative) technologies and solutions. BUSINESS DEVELOPMENT	
DE1-A13	Focusing on young farmers to counter the trend of less specific education, e.g. household management, that includes knowledge about food regulations, processing, labelling, hygiene, etc. that is indispensable knowledge especially for small(er) mixed farming operations that target direct marketing. BRIDGING GENERATION GAP	
DE1-A14	Researching and working out practical solutions for countering standards that were developed for the food industry and other purposes (e.g. road construction law, the definition of the agricultural area) and that are applicable for small operations as well, but not appropriate, given their size, processing, labelling needs, documentation, etc. A working group of selected authorities, legal experts, research institutions, and practitioners should be convened to draft and propose changes. SIZE APPROPRIATE REGULATIONS	
DE2 SOLAWI		
Number of the Activity	Proposed additional activities, tools, and methods for developing the activity of the case study using innovative solutions	Reference and title from the Inventory
DE2-A1	Develop a strategy for fundraising and project development on the national level and through EU programs that will allow covering system development costs. Alternatively, other	Kuh-Aktien (financing model already applied by Solawi) Profit participation certificates (financing model already applied by Solawi) Tierpatenschaften (financing model already applied by Solawi)

	funding instruments should be evaluated, e.g. crowdfunding, loans, setting-up of a SoLaWi fund. FUNDRAISING	T2.7.16 Method to find common goals (Truefood)
DE2-A2	Focus on the behavioral (social, psychological, emotional) aspects of SoLaWi. Producers and consumers alike are not aware of the real costs of food, not outspoken about economic realities, and mutual aspirations: if you do not know the reality of the other, cooperation might fail. REALITY CHECK OF ASPIRATIONS	
DE2-A3	Digitizing, developing online tools, and reducing on-site services for making more out of available resources. DIGITALISATION AND ONLINE	
DE2-A4	Developing an information hub connecting people with common interests for exchange, learning, and cooperation, rather than providing services individually. INFORMATION HUB	T2.5.15. Naaber online marketplace; T2.8.2 Hermeus market place; T2.6.11 Collection of rules and regulations, Guidelines and Good Practices
DE2-A5	Focusing on continued learning of members through vocational training, training (courses), webinars. Provision of practice-oriented, individual, and group training focusing on gaps and innovative solutions bridging between farmers and consumers. TRAINING AND EDUCATION	T2.6.11 Collection of rules and regulations, Guidelines and Good Practices
DE2-A6	Concentrating on the business development of members rather than focusing on single (innovative) technologies and solutions. BUSINESS DEVELOPMENT	
DE2-A7	Promoting the concept of SoLaWi more pro-actively, especially the benefits for smaller farms but as well as for consumers. Covid19 has proven, e.g. with doubling growth rates for organic products, that the consumer is interested in local and responsibly grown food. PROMOTION	T2.2.5 Risk Assessment on the infection of the consumers by SARS-CoV-2 during purchasing in different types of SFSCs; T2.6.11 Collection of Rules, regulations, guidelines, good practices
DE2-A8	Seeking closer cooperation with (organic) farmers' organizations, political parties, nature conservation, and consumer organizations, e.g. health food shops, from organization to organization, but also particularly focusing people on the ground. NETWORKING	
ES1 LANTEGI		
Number of the Activity	Proposed additional activities, tools, and methods for developing the activity of the case study using innovative solutions	Reference and title from the Inventory
ES1-A1	To organize faster and more effective logistics for perishable products: On conventional food supply chains numerous IT and now AI is available for suppliers and producers to ensure their logistics issues. For better scoping, it should be analyzed what kind of IT solutions would fit better to the special needs of salads. APPLICATION OF TECHNOLOGICAL INNOVATIONS (A1)	T2.4.1 Vacuum cooling solutions for food products; T2.4.5 Freez-frying for food products; T2.4.6 Modified Atmosphere Packaging (MAP); T2.4.7 Vacuum-microwave drying technology for food products; T2.5.6 Post service cold chain T2.5.10 Refrigerated pickup station – cool lockers, Temperature-controlled lockers for groceries T2.3.4 Hydro Cooler for loose produce
ES1-A2	Higher price due to social claim, lack of knowledge about target consumer groups: according to the analysis, it might be pointed out that NAlA products a niche product but they want to reach the conventional wide market and they regard the biggest companies as their main competitors. If we see this question from a marketing point of view it is suggested to do a re-segmentation of consumers who are willing to pay more for a product with higher added value. After the segmentation, targeted communication is the need for a new target group. BETTER SEGMENTATION OF CONSUMERS (A2)	T2.7.9 QUALIVITA; T2.7.12 turn2bio; T2.8.11 Implementation of vending machine; T2.9.8D FOODER; T2.5.34 Open farms tours; T2.7.17 Sommer and winter seasonal offers
ES1-A3	Difficult to control the production of the raw materials: Developing the skills of producers with courses available online or in collaboration with universities/agricultural chambers/product associations locally, developing online training packages for Short Chain members on typical small-scale food technologies, good practices & entrepreneur skills applicable for products in SFCs and group practice-oriented training on technology, food safety, marketing, etc. Producers who are working should be allowed to take part in	T2.1.4D Weather monitoring for agriculture; T2.3.2D Invivo PS PP; T2.3.4 Hydro-Cooler for the loose product; T2.9.9D AgriAware; T2.9.10D PerishABLE

	<p>individual and group practice-oriented training focusing on innovative solutions, to raise interests in using potential innovations.</p> <p>The development of training programs based on face-to-face sessions and distance learning, which also includes practical group training can make clearer the innovation opportunities to apply. Group hands-on training can provide an opportunity for producers/producers to share their experiences. SKILLS, KNOWLEDGE, TRAINING, AND EDUCATION, VISIT GOOD PRACTICES (A3)</p>	
ES1-A4	<p>Difficult to control the production of the raw materials: Control all the inputs and process on-farm by experts who visit farmers and get into daily contact with them. KNOW-HOW TRANSFER (A4)</p>	
ES1-A5	<p>Using an effective IT- system for improving the efficiency of the product flow: To replace the communication system built on daily calls on the amount of offer and demand, a more effective communication system, and a data-based system with IT tools can be built up. The system should collect, archive, and process the daily data from the farmers/producers and the HORECA customers, so the system could predict the meeting offer and demand online. E.g. using an application for meeting offer and demand, using a database for analyzing the data in an effective system with the use of IT tools. IT DEMAND FORECAST AND SUPPLY RECORDING (A5)</p>	T2.5.16 YouTyúk; T2.9.7D Fresh Produce Trade App;
ES1-A6	<p>Reviewing the operation of each farmer/producer/member of the NAIA for the protection of the Coronavirus pandemic, introducing measures to reduce the risk of SARS-CoV-2 contamination. REDUCING THE RISK OF CORONAVIRUS CONTAMINATION (A6)</p>	T2.2.5 Risk Assessment on the infection of the consumers by SARS-CoV-2 during purchasing in different types of SFSCs
ES1-A7	<p>Reduction of the damages of climate change: there are several new innovative products to reduce risks or harms of climate change e.g.: Water Retainer (VizŐr®) which can hold water in the soil, or soil covering plants to keep humidity in the soil; nee bacteria and mineral wealth to reduce freezing damages. MITIGATION THE RISK OF CLIMATE CHANGE (A7)</p>	
ES1-A8	<p>Use the social aspect as the content of PR activities: using compostable packaging and working with disabled people have a strong social aspect which can be an attractive added value for those consumers who try to follow sustainable, fair products. These activities need to be highlighted and show as an exploratory plant. ORGANISATION OF PERFORMANCE OPEN DAY FOR CONSUMERS TO SHARE "SECRETS OF SUSTAINABILITY" (A8)</p>	T2.4.14D Biodegradable active packaging; T2.4.15D Biodegradable packaging; T2.4.16D Biodegradable packaging2; T2.7.1D Social marketing; T2.7.3 Marketing tools
ES1-A9	<p>Use the local products to attract local consumers: As NAIA wishes to build on local consumers and the national consciousness that's why targeted marketing tools are needed in local restaurants, HORECA, shops to communicate that they are local, Basque products. USING MARKETING METHODS (A9)</p>	T2.5.1 Vending Machines, Automatic distributors of farm products; T2.2.2D Multi-channel sale; T2.5.3 Producers' shop; T2.5.5D Divers direct marketing; T2.5.10 Refrigerated pickup station – cool lockers, Temperature-controlled lockers for groceries; T2.5.11 Predictive analysis of orders; T2.5.12 Logistic based on the regional network;
ES2 LA TRUFA		
Number of the Activity	Proposed additional activities, tools, and methods for developing the activity of the case study using innovative solutions	Reference and title from the Inventory
ES2-A1	<p>Encouraging more young farmers to start truffle production as an additional income opportunity. Those farmers, who have a permanent job besides truffle production can decrease their exposition of changing meteorology or international selling price, etc. NEW START-UPS (A1)</p>	T2.6.9 Austrian Small farm taxation; T2.6.10 Collective selling points (PVC)
ES2-A2	<p>The members of the cooperation have their business process. But usually, farmers do not have enough management knowledge. They should be provided with more business management skills by organizing training. PROVIDING MORE BUSINESS SKILLS (A2)</p>	T2.6.11 Collection of rules and regulations, Guidelines and Good Practices

ES2-A3	Using innovative methods in decision-making (risk analysis, cost analysis, quick graphs to make understandable all the decisions) and strategic planning (involving every member in planning and increase the engagement to the cooperation and the common aims) can decrease the reaction-time for international changes. INNOVATIVE STRATEGIC TOOLKIT (A3)	T2.5.11 Predictive analysis of orders; T2.5.12 Logistic based on the regional network
ES2-A4	By targeted marketing and communication, the niche market can be an added value (common brand, quality assurance system). The strong connection to the territory must be emphasized by marketing activities. Target groups must be determined exactly. Wide publicity of truffle products can increase the demand not only in the territory but all over the world. TARGETED MARKETING (A4)	T2.5.16 YouTyúk; T2.9.7D Fresh Produce Trade App; T2.2.2D Multi-channel sale; T2.5.3 Producers' shop; T2.5.5D Divers direct marketing; T2.5.10 Refrigerated pickup station – cool lockers, Temperature-controlled lockers for groceries;
ES2-A5	Because of using only the roots of trees for production, diverse using of the plantation (like picnic place from spring to autumn or planting other appropriate plants into the rows of trees, etc.) can give an added value for farmers.- DIVERSE USING OF PLANTATION (A5)	
ES2-A6	Targeting SFSCs instead of wholesalers. Encouraging direct sale forms like e-commerce, farmers' shops, restaurants, fairs, gastro events, gastro-touristic destinations. DIRECT SALE (A6)	T2.5.1 Vending Machines, Automatic distributors of farm products; T2.2.2D Multi-channel sale; T2.5.3 Producers' shop; T2.5.5D Divers direct marketing; T2.5.10 Refrigerated pickup station – cool lockers, Temperature-controlled lockers for groceries; T2.5.11 Predictive analysis of orders; T2.5.12 Logistic based on the regional network;
ES2-A7	Bringing the customers closer to production. Organizing farm visits where consumers can know the production process, taste the product, or even take part in cooking training with truffle as an ingredient. - FARM VISITS (A7)	T2.9.8D FOOODER; T2.5.34 Open farms tours; T2.7.17 Sommer and winter seasonal offers
ES2-A8	Introducing new products, which can make the season longer. Farmers should consider some technological innovation tools, like freeze-drying truffles or put truffles into olive oil. So, these technologies can make longer the commercial life of the product and create added value. MAKING THE SEASON LONGER (A8)	T2.4.1 Vacuum cooling solutions for food products; T2.4.5 Freez-frying for food products; T2.4.6 Modified Atmosphere Packaging (MAP); T2.4.7 Vacuum-microwave drying technology for food products; T2.5.6 Post service cold chain T2.5.10 Refrigerated pickup station – cool lockers, Temperature-controlled lockers for groceries T2.3.4 Hydro Cooler for loose produce
FRI AGPFGA		
Number of the Activity	Proposed additional activities, tools, and methods for developing the activity of the case study using innovative solutions	Reference and title from the Inventory
FR1-A1	Advertising appealing recruitments with the short and long-time benefits of woking by the organization	T2.7.3D Marketing tools; T2.3.11D Temperature Monitoring Labels; T2.3.13D Food labelling and nutritional analyses without lab tests
FR1-A2	Products diversity with more products from different seasons covering the whole year, or production of products, which can be available during the whole year	T2.5.15 Naaber online marketplace;
FR1-A3	Planning a long-time strategy to distribute the costs	T2.5.5D Diverse direct sale; Platform in collaboration; T2.5.4D Purchase via collaboration - ALLOTROPON;
FR2 COULEURS PAYSANNES		
Number of the Activity	Proposed additional activities, tools, and methods for developing the activity of the case study using innovative solutions	Reference and title from the Inventory
FR2-A1	Advertising appealing recruitments with the short and long-time benefits of woking by the organization	T2.6.3 Participatory Guarantee Systems as a mechanism for building the trust of parties; T2.3.11D Temperature Monitoring Labels; T2.8.1 Community-supported agriculture (Solidarische Landwirtschaft);
FR2-A2	Ensuring products diversity with new processing techniques and methods	T2.3.11D Temperature Monitoring Labels; T2.3.13D Food labelling and nutritional analyses without lab tests; T2.5.15 Naaber online marketplace; T2.7.1D Social media marketing - Biofruits; T2.7.3D Marketing tools – Alce Nero; T2.7.15 Storytelling; T2.8.3D Cooperative Supermarket; T2.8.1 Community-supported agriculture (Solidarische Landwirtschaft); T2.8.8 OrganicNet;
FR2-A3	Ensuring the consumers about the added value of the products, compared to the mass-products (e.g. high- quality) - differentiation with quality and origin labels, certification	T2.3.1 Quality schemes - AGPFGA /Association Gersoise pour la Promotion du Foie Gras/; T2.7.2 Lead user approach - Alce Nero; T2.7.6D “Éltető Balaton-felvidék” brand system; T2.5.22D Involvement of the consumers; T2.9.3D Smart label; T2.9.9D AgriAware
GRI ALLOTROPON		

Number of the Activity	Proposed additional activities, tools, and methods for developing the activity of the case study using innovative solutions	Reference and title from the Inventory
GR1-A1	Providing demand-driven products, offering appealing products, traceability, meeting consumer's needs (e.g. new type of products, other sizes of packaging, promotions with added value, lower price, introducing new trends). FLEXIBILITY BASED ON MARKET'S DEMAND (A1)	T2.3.1 Quality schemes - AGPFGA /Association Gersoise pour la Promotion du Foie Gras/; T2.5.5D Diverse direct sale; Platform in collaboration; T2.3.14 Plant-based diet (vegan, vegetarian); T2.5.18 All-in-one packaging; T2.7.15 Storytelling; T2.5.15 Naaber online marketplace; T2.5.2D Multi-channel sale; T2.7.12 turn2bio; T2.7.3D Marketing tools – Alce Nero; T2.8.1 Community-supported agriculture (Solidarische Landwirtschaft); T2.8.2D Hermeneus Marketplace Platform; T2.6.1 Internal Control System; T2.6.2D Platform for Short Food Supply Chains; T2.6.3 Participatory Guarantee Systems as a mechanism for building the trust of parties; T2.2.5 Risk Assessment on the infection of the consumers by SARS-CoV-2 during purchasing in different types of SFSCs
GR1-A2	The motivation of the volunteers with competitive earnings, education, catering, or other services needed for effective work and their satisfaction. INCENTIVES FOR VOLUNTEERS (A2)	T.2.4.14D Biodegradable active packaging; T.2.4.15 Biodegradable packaging; T.2.4.16 Biodegradable packaging2; T2.5.9 LANDPACK – Green packaging solutions from grain fields;
GR1-A3	Education, training, developing skills, organizing workshops. Assisting producers to expand and apply their IT knowledge. This is fundamental for improving the management and the efficiency of the activities. Moreover, it would also help the association to be more present in social media and due to the covid-19 pandemics, would develop the skills of the people who are engaged in the e-commerce service. KNOWLEDGE OF THE COLLABORATORS (A3)	T2.5.22D Involvement of the consumers; T2.5.34 Open farm tours; T2.6.11 Collection of rules and regulations, Guidelines and Good Practices
GR1-A4	Involving the enthusiastic young generation into the work. Inspiring and working with the young generation, application the added value of their innovative ideas. INVOLVEMENT OF THE YOUNG GENERATION (A4)	
GR2 GAIA		
Number of the Activity	Proposed additional activities, tools, and methods for developing the activity of the case study using innovative solutions	Reference and title from the Inventory
GR2-A1	Working out a marketing strategy developed for the organization (promotion of the brand's value in the consumers' mind). Application of innovations.	T2.4.6 Modified Atmosphere Packaging (MAP); T2.5.2D Multi-channel sale; T2.5.18 All-in-one packaging; T2.6.3D Participatory Guarantee Systems as a mechanism for building the trust of parties; T2.7.3D Marketing tools – Alce Nero; T2.7.15 Storytelling; T2.3.14 Plant-based diet (vegan, vegetarian); T2.7.12 turn2bio; T2.8.1 Community-supported agriculture (Solidarische Landwirtschaft); T2.8.2D Hermeneus Marketplace Platform; T2.8.8 OrganicNet
GR2-A2	Education at the national level, raise a generation educated in agritourism and agriculture. Giving more attention to agrar education. Or working with the experts of agriculture together.	T2.5.22D Involvement of the consumers; T2.5.34 Open farm tours; T2.6.11 Collection of rules and regulations, Guidelines and Good Practices
GR2-A3	Organizing workshops, events, promotion of the products on different channels using free online communication channels (e.g. using the webpage, webshop, social media advertisements)	T2.5.13 Farmers' market "Liliomkert"; T2.5.15 Naaber online marketplace; T2.5.19 Regional corner in the supermarket and the point of sales; T2.5.21 Collaboration – "Joint distribution"; T2.5.23 Agro-tourism chain; T2.7.1D Social media marketing (Biofruits); T2.8.2D Hermeneus Marketplace Platform; T2.8.12D Platform in collaboration
HU1 ZALA THERMAL VALLEY ASSOCIATION		
Number of the Activity	Proposed additional activities, tools, and methods for developing the activity of the case study using innovative solutions	Reference and title from the Inventory
HU1-A1	Promotion of the farms and members of the Zala Valley, on the popular places of tourists to make them aware of the opportunities nearby e.g. speciality shops, advertising in the busy tourist points. PROMOTION OF THE OPPORTUNITIES (A1)	T2.5.34 Open farm tours; T2.7.16 Local product tasting tours; T2.7.17 Sommer and winter seasonal offer; T2.8.12D Platform in collaboration; T2.3.14 Plant-based diet (vegan, vegetarian; T.2.4.14D Biodegradable active packaging; T2.5.5D Diverse direct sale (Gaia); T2.5.13 Farmers' market "Liliomkert"; T2.5.18 All-in-one packaging; T2.5.23 Agro-tourism chain; T2.7.1D Social media marketing (Biofruits); T2.7.2 Lead user approach (Alce Nero); T2.7.3D Marketing tools (Alce Nero); T2.7.6D "Éltető Balaton-felvidék" brand system; T2.7.15 Storytelling; T2.9.7D Fresh Produce Trade App; T2.2.5 Risk Assessment on the infection of the consumers by SARS-CoV-2 during purchasing in different types of SFSCs

HU1-A2	The Association collaborates with the hotels, tourist offices, restaurants in the region, organizing local product tasting tours. TASTING TOURS (A2)	T.2.7.1 Social media marketing; T2.7.16. Method to find common goals
HU1-A3	Targeting people who are looking for physically active holiday programs, environmentally conscious consumers, building up an electric bike hire system in the region, to explore the Zala Valley Open Farms. The booking could be online or personally based on time and day, which would be the best for having the trip to the Zala Thermal Valley. E-BIKE HIRE SYSTEM (A3)	
HU1-A4	Providing seasonal programs, guided tours collaborating with the hotels, tourist offices, restaurants in the region: e.g. in the summertime wine tasting, in the wintertime mulled wine tasting and pig slaughtering on the farm, etc., meanwhile, the farmer/producer doesn't waste time at work. The guests have the opportunity to see the village work, e.g. how to milk a goat, etc. COLLABORATIVE PROGRAMS IN THE VILLAGE (A4)	
HU1-A5	Ensuring a potential place to educate children, to learn about farming, about food production, about nature through play. E.g. looking for and cooperate with an entrepreneur, who has the skills for the education of the children and who introduces the children to the farm. Education of the individual farmers/producers to increase knowledge and the education of the young children especially in the kindergarten and elementary school to learn the vision of the small-scale farming and food production e.g. due state-funded training and education programs, or with self-employments, whose trade is the education SKILLS AND KNOWLEDGE, EDUCATION (A5)	Short supply chain animator training
HU1-A6	Promotion of the culture of collaboration and team spirit between the association members. A casual community conversation about the actuality and plans. INFORMATIVE TEAM BUILDING PROGRAMS FOR THE MEMBERS (A6)	
HU1-A7	Reviewing the operation of each farmer/producer/member of the Zala Valley Association for the protection of the Coronavirus pandemic, introducing measures to reduce the risk of SARS-CoV-2 infection. REDUCING THE RISK OF CORONAVIRUS INFECTION (A7)	
HU1-A8	Provision of practice-oriented, individual, and group training focusing on innovative solutions. Avoiding communication gaps between the farmers and professionals and reducing the lack of knowledge with education. Development of training programs (face-to-face and distance learning), which also include practical group training. Group hands-on training can provide an opportunity for producers/producers to share their experiences. TRAINING AND EDUCATION (A8)	
HU1-A9	Building up a long-term relationship between the members in the association based on the appropriate interest. Developing a long-term marketing strategy with the participation of members and employees of the organization, with the involvement of external experts. LONG TERM STRATEGY (A9)	Cultural Capital Counts methodology
HU2 FOODHUB		
Number of the Activity	Proposed additional activities, tools, and methods for developing the activity of the case study using innovative solutions	Reference and title from the Inventory
HU2-A1	To counteract the lack of packaging technology: The use of packaging equipment allows the packaging of many types of products produced in small batches individually or in large batches as well. Use of environmentally friendly, biodegradable, home compostable packaging materials, investing/collaborating for investment	T2.4.15 Biodegradable packaging; T2.4.14D Biodegradable active packaging; T2.4.6 Modified Atmosphere Packaging (MAP); T2.5.5D Diverse direct sale (Gaia); T2.5.6 Post service cold chain; T2.5.11 Predictive analytics of orders; T2.3.11D Temperature Monitoring Labels; T2.5.15 Naaber online marketplace; T2.5.29 CHERRY; Development of joint specifications; T2.6.1 Internal Control System (Fundacion Lantegi Batuak); T2.7.2 Lead user approach (Alce Nero); T2.9.1 D Sales on the webshop (Natuurlijk Vleespakket BV (NV)); T2.9.2 D

	in packaging. RESILIENCE, APPLICATION OF TECHNOLOGICAL INNOVATIONS (A1)	Virtual market platform for farmers; T2.9.7D Fresh Produce Trade App; T2.2.5 Risk Assessment on the infection of the consumers by SARS-CoV-2 during purchasing in different types of SFSCs
HU2-A2	To counteract the incomplete cold chain technologies: Investing in cooling systems/equipment on its own or in collaboration with the use of transport vehicles equipped with refrigeration and cooling system for the transport of fresh fruits and vegetables. Application/renting of a cold store, where the cooling capacity demand is booked for a year in advance (in a long-term contract), but the utilization of the cold store is not uniform throughout the year (in the season of fruits and vegetables higher utilization, in the wintertime lower – pay-per-use model). APPLICATION OF TECHNOLOGICAL INNOVATIONS (A2)	
HU2-A3	Developing the skills of producers with courses available online or in collaboration with universities/agricultural chambers/product associations locally, developing online training packages for Short Chain members on typical small-scale food technologies, good practices & entrepreneur skills applicable for products in SFCs and group practice-oriented training on technology, food safety, marketing, etc. Producers who are working should be allowed to take part in individual and group practice-oriented training focusing on innovative solutions, to raise interests in using potential innovations. The development of training programs based on face-to-face sessions and distance learning, which also includes practical group training can make clearer the innovation opportunities to apply. Group hands-on training can provide an opportunity for producers/producers to share their experiences. SKILLS, KNOWLEDGE, TRAINING, AND EDUCATION (A3)	
HU2-A4	Having partners (farmers and producers) standby if there is a too high demand for raw materials and ingredients, from the other side having a reserve list of additional (HORECA customers) who can be contacted, if there is a surplus in the production by the farmers/producers. MEETING NEEDS AND RESERVE PARTNERS (A4)	
HU2-A5	Using an effective IT- system for improving the efficiency of the product flow: To replace the communication system built on daily calls on the amount of offer and demand, a more effective communication system, and a data-based system with IT tools can be built up. The system should collect, archive, and process the daily data from the farmers/producers and the HORECA customers, so the system could predict the meeting offer and demand online. E.g. using an application for meeting offer and demand, using a database for analyzing the data in an effective system with the use of IT tools. IT DEMAND FORECAST AND SUPPLY RECORDING (A5)	
HU2-A6	Administration support (GS1): an organization that develops and maintains global standards for business communication. The best-known communication tool is the barcode, a symbol printed on products that can be scanned electronically. It can be used standardizes in the SFSCs. GLOBAL STANDARD FOR ADMINISTRATION AND COMMUNICATION (A6)	
HU2-A7	Standardized quality system: standard quality is required from the Partners. STANDARDIZED QUALITY SYSTEM (A7)	Quality assurance system: product specifications, jointly agreed quality requirements
HU2-A8	Reviewing the operation of each farmer/producer/member of the FOODHUB for the protection of the Coronavirus pandemic, introducing measures to reduce the risk of SARS-CoV-2 contamination. REDUCING THE RISK OF CORONAVIRUS CONTAMINATION (A8)	
ITI ALCE NERO		

Number of the Activity	Proposed additional activities, tools, and methods for developing the activity of the case study using innovative solutions	Reference and title from the Inventory
IT1-A1	Education, training, developing skills, organizing workshops. TRAINING	T2.3.13D Food labelling and nutritional analyses without lab tests; T.2.4.14D Biodegradable active packaging; T.2.4.15 Biodegradable packaging; T.2.4.16 Biodegradable packaging2; T2.5.5D Diverse direct sale (Gaia); T2.5.9 LANDPACK – Green packaging solutions from grain fields; T2.5.18 All-in-one packaging; T2.5.19 Regional corner in the supermarket and the point of sales; T2.5.20 Fast food chains; T2.6.2D Platform for Short Food Supply Chains; T2.7.1D Social media marketing (Biofruits); T2.7.2 Lead user approach - Alce Nero; T2.7.12 turn2bio; T2.8.8 OrganicNet;
IT1-A2	Writing successful tenders with the organization's activities. REQUESTS FOR FUNDINGS	
IT1-A3	Using technological innovations with low effort (e.g. new technology methods, like freeze-drying, MAP, new packaging, modernization of the existing techniques)	T2.6.2D Platform for Short Food Supply Chains; T2.7.12 turn2bio; T2.8.8 OrganicNet; T2.9.3D Smart label;
IT1-A4	To follow the requirements of the authorities, and to follow the hygiene rules. CERTIFICATION	
IT1-A5	Education, training, developing skills, organizing workshops. TRAINING	T2.3.13D Food labelling and nutritional analyses without lab tests; T.2.4.14D Biodegradable active packaging; T.2.4.15 Biodegradable packaging; T.2.4.16 Biodegradable packaging2; T2.5.5D Diverse direct sale (Gaia); T2.5.9 LANDPACK – Green packaging solutions from grain fields; T2.5.18 All-in-one packaging; T2.5.19 Regional corner in the supermarket and the point of sales; T2.5.20 Fast food chains; T2.6.2D Platform for Short Food Supply Chains; T2.7.1D Social media marketing (Biofruits); T2.7.2 Lead user approach - Alce Nero; T2.7.12 turn2bio; T2.8.8 OrganicNet;
IT2 ARVAIA		
Number of the Activity	Proposed additional activities, tools, and methods for developing the activity of the case study using innovative solutions	Reference and title from the Inventory
IT2-A1	A1: Building up a modern cooling system for having a longer expiry date of products. This is a very important issue for ARVAIA since one of its main goals is sustainability. Moreover, a cooling system will provide to the members' limited quantities of food but for a longer time. SUSTAINABILITY	T2.4.1 Vacuum cooling solutions for food products; T2.4.6 Modified Atmosphere Packaging (MAP); T2.5.6 Post service cold chain T2.5.10 Refrigerated pickup station – cool lockers, Temperature-controlled lockers for groceries T2.3.4 Hydro Cooler for loose produce;
IT2-A2	A2: Monitoring the suppliers, choosing another cheaper one of the same (or higher) quality.	
IT2-A3	A3: Product diversification, product development with an educated team. It is crucial for the training of the members to increase the innovativeness of the group and subsequently provide more tailor-made products for them. INNOVATION	T2.5.22D Involvement of the consumers; T2.6.11 Collection of rules and regulations, Guidelines and Good Practices; T2.7.1D Social media marketing (Biofruits); T2.7.15 Storytelling; T2.8.1 Community-supported agriculture (Solidarische Landwirtschaft);
IT2-A4	A4: Providing added value (e.g. high-quality and reliability) to justify the costs of production.	
NL1 NV		
Number of the Activity	Proposed additional activities, tools, and methods for developing the activity of the case study using innovative solutions	Reference and title from the Inventory
NL1-A1	Developing a plan on where the organization want to be certification wise	T2.3.15 Applicability of the ultrasonic measurement method for the study of rennet coagulation of milk T2.6.3 Participatory Guarantee Systems as a mechanism for building the trust of parties T2.3.10D FreshSense; T2.3.6 Biosensor system (lactate biosensor) that ensures quality and efficiency in the fruit juice industry; T2.3.7 Food radar system for the detection of foreign objects with low density in foods; T2.3.11D Temperature Monitoring Labels; T2.3.13D Food labelling and nutritional analyses without lab tests; T2.4.12 Ultrasound application: Meat pickling/curing; T2.5.3 Producer's shop; T2.3.3D IFSC; T2.4.15 Biodegradable packaging; T2.6.8D fTRACE; T2.6.5 Vitaproject; T2.9.12D Qlfresh; T2.9.13D Tsenso;
NL1-A2	Investing in marketing and media promotions	T7.2.6 “Éltető Balaton-felvidék” brand system; T2.7.1 Social media marketing - Biofruits; T2.9.13D Tsenso; T2.5.30D TagtSmart; T2.5.31D FRISBEE Tool;
NL1-A3	Higher promotion of the key factor: "eat less meat, but of better origin".	T2.1.3D Szomor-Farm Hungary
NL1-A4	Having a more developed IT platform, developing an automated control program for the livestock.	T2.8.2 Hermeneus Marketplace Platform; T2.9.7D Fresh Produce Trade App; T2.8.12D Platform in collaboration; T2.5.3 Producer's shop;
NL2 LOCAL2LOCAL		

Number of the Activity	Proposed additional activities, tools, and methods for developing the activity of the case study using innovative solutions	Reference and title from the Inventory
NL2-A1	A1: Promotion of the farms and members of the Local2Local, on social media. PROMOTION OF THE OPPORTUNITIES	T2.3.11 Temperature Monitoring Labels; T2.3.13D Food labelling and nutritional analyses without lab tests; T2.5.20 Fast food chains; T2.5.11D Predictive analytics of orders; T2.15 Naaber online marketplace; T2.5.29 CHERRY; T2.7.1D Social media marketing - Biofruits; T2.8.8 OrganicNet; Dapper Texel; Local2Local Food Distribution Software (FDS)
NL2-A2	A2: Ensuring a potential place to educate the young generation, to learn about farming, food production, about nature through play. E.g. looking for and cooperate with an entrepreneur, who has the skills for the education of the children and who introduces the children to the farm. SKILLS AND KNOWLEDGE, EDUCATION	T2.6.11 Collection of rules and regulations, Guidelines and Good Practices; T2.5.22D Involvement of the consumers; T2.9.8 FOODER; Local2Local Talents
NL2-A3	A3: Provision of practice-oriented, individual, and group training focusing on innovative solutions. Avoiding communication gaps between the farmers and professionals and reducing the lack of knowledge with education. Development of training programs (face-to-face and distance learning), which also include practical group training. Group hands-on training can provide an opportunity for producers/producers to share their experiences. TRAINING AND EDUCATION	T2.6.11 Collection of rules and regulations, Guidelines and Good Practices
NL2-A4	A4: Building up a long-term relationship between the members in the association based on the appropriate interest. Developing a long-term marketing strategy with the participation of members and employees of the organization, with the involvement of external experts. LONG TERM STRATEGY	T2.5.2 D Multi-channel sale; T2.5.3 Producer's shop; T2.5.7 Demand-driven supply chain; Voedsel in de buurt application
NL2-A5	A5: Reviewing the operation of each farmer/producers/members of Local2Local for the protection of Coronavirus pandemic, introducing measures to reduce the risk of SARS-CoV-2 contamination: REDUCING THE RISK OF CORONAVIRUS CONTAMINATION	T2.2.5 Risk Assessment on the infection of the consumers by SARS-CoV-2 during purchasing in different types of SFSCs
NL2-A6	A6: Using an effective IT- system for improving the efficiency of the product flow: To replace the communication system built on daily calls on the amount of offer and demand, a more effective communication system, and a data-based system with IT tools can be built up. The system should collect, archive, and process the daily data from the farmers/producers and the HORECA customers, so the system could predict the meeting offer and demand online. E.g. using an application for meeting offer and demand, using a database for analyzing the data in an effective system with the use of IT tools. IT DEMAND FORECAST AND SUPPLY RECORDING	T2.5.29D CHERRY; T2.6.2D Platform for Short Food Supply Chains; T2.7.1D Social media marketing - Biofruits; T2.9.3D Smart label
NL2-A7	A7: Use the social aspect as the content of PR activities: using compostable packaging and working with disabled people have a strong social aspect which can be an attractive added value for those consumers who try to follow sustainable, fair products. These activities need to be highlighted and show as an exploratory plant. ORGANISATION OF PERFORMANCE OPEN DAY FOR CONSUMERS TO SHARE "SECRETS OF SUSTAINABILITY"	T2.4.14D Biodegradable active packaging; T2.4.15 Biodegradable packaging; T2.4.18 New ways to sell "too ripe" fruit; T2.5.9 LANDPACK – Green packaging solutions from grain fields;
NL2-A8	A8: Use the local products to attract local consumers: As NAIA wishes to build on local consumers and the national consciousness that's why targeted marketing tools are needed in local restaurants, HORECA, shops to communicate that they are local, Basque products. USING MARKETING METHODS	T2.5.13 Farmers' market "Liliomkert"; T2.5.18 All-in-one packaging; Operation Food Freedom
NL2-A9	A9: To organize faster and more effective logistics for perishable products: On conventional food supply chains numerous IT and now AI is available for suppliers and producers to ensure their logistics issues. For better scoping,	T2.3.6 Biosensor system (lactate biosensor) that ensures quality and efficiency in the fruit juice industry;

	it should be analyzed what kind of IT solutions would fit better to the special needs of salads. APPLICATION OF TECHNOLOGICAL INNOVATIONS	
SRB1 ASSOCIATION		
Number of the Activity	Proposed additional activities, tools, and methods for developing the activity of the case study using innovative solutions	Reference and title from the Inventory
SRB1-A1	Strengthening the staff capabilities by organizing seminars, workshops, meetings about negotiating power, the common use of the resources, product development, broader use of the IT technologies, social media, advertising campaigns, etc. (A1)	T2.5.22D Involvement of the consumers; T2.5.23 Agro-tourism chain; T2.7.1D Social media marketing (Biofruits); T2.7.2 Lead user approach (Alce Nero); T2.7.15 Storytelling; T2.8.2D Hermeneus Marketplace Platform; T2.9.4D AgroNET platform for digital farming solutions; T2.8.12D Platform in collaboration; T2.5.3 Producer's shop; T2.6.11 Collection of rules and regulations, Guidelines and Good Practices; T2.5.15 Naaber online marketplace
SRB1-A2	Involving the enthusiastic young generation into the work. Inspiring and working with the young generation, application the added value of their innovative ideas. INVOLVEMENT OF THE YOUNG GENERATION (A2)	T2.6.11 Collection of rules and regulations, Guidelines and Good Practices
SRB1-A3	Ensuring a potential place to educate the young generation, to learn about farming, food production, about nature through play. E.g. looking for and cooperate with an entrepreneur, who has the skills for the education of the children and who introduces the children to the farm. SKILLS AND KNOWLEDGE, EDUCATION (A3)	T2.5.34 Open farm tours; T2.7.16 Local product tasting tours;
SRB1-A4	Reviewing the operation of each farmer/producers/members of CALS for the protection of Coronavirus pandemic, introducing measures to reduce the risk of SARS-CoV-2 contamination: REDUCING THE RISK OF CORONAVIRUS CONTAMINATION (A4)	T2.2.5 Risk Assessment on the infection of the consumers by SARS-CoV-2 during purchasing in different types of SFSCs
SRB1-A5	To strengthen the competitiveness of companies that are members of the Association, both in the domestic and foreign markets. (A5)	T2.7.16. Method to find common goals
SRB1-A6	Support for the members to increase production, conquering new markets, strengthening bargaining power (A6)	
SRB2 POLO CACAK		
SRB2-A1	Increasing transparency.	T2.7.15 Storytelling; T2.6.3 Participatory Guarantee Systems as a mechanism for building the trust of parties, T2.9.3D Smart Label; T2.9.9D Agri Aware
SRB2-A2	Strengthening human resources to successfully apply for national and EU supports.	T2.7.16 Method to find common goals; T2.5.8 Shared production facilities for the preservation and packaging of primary agricultural production;
SRB2-A3	Marketing actions for the promotion of the tradition of the family company and the products, offering added value to the product. Differentiation in the products and increase accessibility.	2.5.24 Moving outlets; T.2.4.14D Biodegradable active packaging; T.2.4.15 Biodegradable packaging; T2.4.18 New ways to sell "too ripe" fruit; T2.5.9 LANDPACK – Green packaging solutions from grain fields; T2.7.1D Social media marketing -(Biofruits); T2.7.3D Marketing tools – Alce Nero; T2.9.1D Sales on webshop - Natuurlijk Vleespakket BV (NV); T2.7.16 Local product tasting tours; T2.8.12D Platform in collaboration; T2.5.5D Diverse direct sale; T2.5.2D Multi-channel sale; T2.5.13 Farmers' market "Liliomkert"; T2.5.15 Naaber online marketplace; T2.7.15 Storytelling; T2.5.24 Moving outlets; T2.6.3 Participatory Guarantee Systems as a mechanism for building the trust of parties; T2.2.5 Risk Assessment on the infection of the consumers by SARS-CoV-2 during purchasing in different types of SFSCs; T2.6.2 Platform for Short Food Supply Chains;
SRB2-A4	Introduction of new packaging of the products	T2.9.3 Smart label; T2.6.2D Platform for Short Food Supply Chains; T2.8.12D Platform in collaboration; T2.6.11 Collection of rules and regulations, Guidelines and Good Practices
SRB2-A5	Development of new products	T2.6.9 Austrian Small Farm Taxation; T2.6.11 Collection of rules and regulations, Guidelines and Good Practices;
SRB2-A6	Development of organic products.	T2.2.4 High Hydrostatic Pressure processing (HHP) technology for food production; T2.3.7D Food radar system for the detection of foreign objects with low density in foods; T2.3.8D Portable NIR scanner, T2.3.11D Temperature Monitoring Labels; T2.3.13D Food labelling and nutritional analyses without lab tests; T2.4.5 Freeze-drying for food products; T2.4.6 Modified Atmosphere Packaging (MAP); T2.4.11 Ultrasound application: Homogenization and pasteurization; T2.4.16 Biodegradable packaging2; T2.7.12D turn2bio; T2.8.8 OrganicNet

SRB2-A7	Producing high quality, traditional products	T2.5.18 All-in-one packaging; T2.5.19 Regional corner in the supermarket and the point of sales; T2.6.11 Collection of rules and regulations, Guidelines and Good Practices; T2.7.16. Method to find common goals
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Annex II

The proposition of a list of SFSC channels (taken from WP2 and WP7 initial lists)

- Restaurants
- Supermarkets, retail shop
- Community Supported Agriculture
- Farm shop (own or collective)
- Open-air markets, farmers' markets, local markets, market on the farm
- Consumer groups, AMAP
- Vending machines
- Pick your own
- Speciality retailers
- Physical shop (own or cooperative)
- Online shop (own or selling platform of third parties)
- Door-to-door delivery (by phone or web)
- Associative intermediary
- Cooperative intermediary
- Private intermediary
- Collectivities (schools, hospitals, ...)

Annex III

Annex IIIa. T2.14D Biodegradable active packaging

Innovations	Technological feasibility					Financial feasibility			Organizational aspects		
	a) To apply the innovation		b) Does the innovation need...			Does the SFSC have enough financial resources such as cash and other financial resources?	Does the innovation need low, medium or high investment from the firm point of view?	Does the innovation need access to own financial means or external financial means?	Does the innovation induce changes in the product flow? (yes/no) <i>Please specify</i>	Does the innovation induce changes in the services flow? (yes/no) <i>Please specify</i>	Does the innovation need additional skills and competencies to be implemented? <i>Please specify (e.g. labour force: size, knowledge and skills (production, technical, marketing, managerial, ICT, financial, etc.))</i>
	Does the innovation need new resources? <i>Please specify (e.g. raw materials, ingredients, packaging materials)</i>	Does the innovation need new infrastructure to be implemented? <i>Please specify (e.g. equipment, facilities, size, the minimum volume of production/packaging/sales, IT infrastructure, access to infrastructure, ability to use existing own infrastructure)</i>	to outsource or subcontract to the processing and/or packaging?	to combine it with complementary infrastructures of other SFSC actors?	patterns, know-how, patent? <i>Please specify</i>						
T2.14D Biodegradable active packaging	Yes: new packaging materials (e.g. interactive packaging using barcodes or Radio Frequency Identification (RFID), sensors, indicators provide visual information)	A new machine that can use the biodegradable active packaging to pack the food products	no	no	Knowledge about the interpretation of the data that the packaging can provide; know-how to use the packaging (e.g. incorporation of certain components into the packaging systems)	ask the case study	ask the case study	ask the case study	Yes: increase of shelf life and reduction of waste and losses	Yes: provide useful data about the food product that is packed (colour change as a freshness indicator, pH as an indicator of spoilage, time-temperature sensors providing temperature history of the product during storage and distribution)	Yes: knowledge about the interpretation of the data that the packaging can provide; know-how to use the packaging (e.g. incorporation of certain components into the packaging systems)
T2.4.14D Biodegradable active packaging	Yes, biodegradable packaging materials are needed, and sensors and active components to keep food from degrading.	Yes, packaging infrastructure would need to be implemented.	No, but it is possible.	No	Yes, the knowledge of which materials and which sensors to use.	Maybe	The level of investment is medium to high.	No.	Yes, the packaging method is changed.	Yes, the extra services that the packaging provides should be supported. E.g. support for data extracted from RFIDs in the packaging.	Yes, additional technical, production and ICT knowledge could be needed.

T2.4.14D Biodegradable active packaging	It needs bio-plastic material such as vegetable fats and oils, corn starch, straw, woodchips, sawdust, recycled food waste	It can be commissioned to an external supplier who already has the technology for the production of these materials. It might need a more specific storage capacity that does not deteriorate the characteristics of the materials from which the package is made of	Subcontract external suppliers	It is a bit difficult since it can be very specific to the case study	No. It needs good suppliers though;				No	Yes, more sustainable packaging, with an extended (possible) shelf life for the product. In addition, more information for the consumer with the RFID tag.	No, since it will be produced by external suppliers.
T2.4.14D Biodegradable active packaging	The packaging material that fits the product well must be selected.	Special packaging equipment, which can handle the biodegradable active packaging material, set to the different physical, chemical properties of the raw material. IT system to apply RFID.	Who provides the technical background (IT).	The IT systems.	Product-specific packaging technology	<i>The case study will give the financial level of the investments into the machinery and related materials</i>			Yes, the shelf life can be extended.	Yes. The product is safe for a longer period of time, depending on the packaged product.	Staff for the packaging technology.
T2.4.14D Biodegradable active packaging	Yes	The required resources must be determined in each specific situation as such resources depend on the already available structure, data. and type of products to be packed in new packaging.	Possibility to jointly use the innovation if other producers from Association required new innovative packaging	Possible If other SFSC actors are processors.	Yes, technological knowledge to implement the packaging system, Human resources to select which type of bio-packaging can be suitable for each food product. This required expert in food technology, food safety.	<i>The case study will give the financial level of the investments into the machinery and related materials</i>			Yes, the quality and shelf life of food products can be improved, losses are reduced. Better communication with consumers can increase trust between them and SFSC actors.	Yes, If the equipment is available for competitors/other SFSC.	Yes, technical knowledge to use packaging line and technological knowledge for selection of appropriate bio packaging for food products.

Annex IIIb. T2.14D Biodegradable active packaging

Innovations	Social suitability: environmental, ethical, economic			Practical applicability			
	Does the innovation induce...			Applicable without any changes	With minor adjustments	After major adjustments	Not applicable
	positive changes? <i>Please specify if possible</i>	neutral changes? <i>Please specify if possible</i>	negative changes? <i>Please specify if possible</i>	Yes/No	Yes/No <i>Please describe the adjustments</i>	Yes/No <i>Please describe the adjustments</i>	Yes/No

T2.4.14D Biodegradable active packaging	Yes: increase of product shelf life and reduction of waste and losses					Yes: acquisition of the packaging materials (packaging and machine)	
T2.4.14D Biodegradable active packaging	Yes, the packaging is environment friendly and food freshness is extended or better tracked.					Yes, but there are many details still needed to specify a concrete implementation.	
T2.4.14D Biodegradable active packaging	Yes, environmentally friendly materials, good practices since they can increase recycling				Yes, the process of packaging should be made differently. However, the production is external.		
T2.4.14D Biodegradable active packaging	Yes, development from sustainability, economical firm image aspects	-	No	No	Minor adjustments are required, depending on the organization and the quantity and quality of the product.	Major adjustments are required, depending on the organization and the quantity and quality of the product.	No
T2.4.14D Biodegradable active packaging	Yes, the product shelf-life is extended, losses are reduced, increase trust among food chain actors.					Yes, acquisition of a bio-packaging line	

Annex IIIc. T2.14D Biodegradable active packaging

Innovations	Competitiveness impact				
	Does the innovation result in improvement of the organization or firm competitiveness?				
	0: no change	1: limited improvement	2: moderated improvement	3: major improvement	4: significant improvement

T2.4.14D Biodegradable active packaging			moderated impact in the sense that the sales may not increase but the product losses and waste can be reduced		
T2.4.14D Biodegradable active packaging				Yes, the packaging could lead to better sales and less waste.	
T2.4.14D Biodegradable active packaging			Improvement of the image of the company		
T2.4.14D Biodegradable active packaging	-	-	-	-	Yes, thanks for the added value and the extended shelf life of the products, and the development in sustainable and economical aspects
T2.4.14D Biodegradable active packaging				yes, thanks to extended shelf life, reduction of food losses, increase trust between consumers food chain actors.	

Annex III d. T2.6.11. Collection of rules and regulations, Guidelines and Good Practices

Innovations	Technological feasibility					Financial feasibility			Organizational aspects		
	a) To apply the innovation		b) Does the innovation need...			Does the SFSC have enough financial resources such as cash and other financial resources?	Does the innovation need low, medium or high investment from the firm point of view?	Does the innovation need access to own financial means or external financial means?	Does the innovation induce changes in the product flow? (yes/no) <i>Please specify</i>	Does the innovation induce changes in the services flow? (yes/no) <i>Please specify</i>	Does the innovation need additional skills and competences to be implemented? <i>Please specify</i>
	Does the innovation need new resources ? <i>Please specify</i>	Does the innovation need new infrastructure to be implemented? <i>Please specify</i>	to outsource or subcontract to the processing and/or packaging?	to combine it with complementary infrastructures of other SFSC actors?	patterns, know-how, patents? <i>Please specify</i>	Some investment may be necessary to achieve compliance with regulations.	Some investment may be necessary to achieve compliance with regulations.	Some investment may be necessary to achieve compliance with regulations.	Yes, it makes the product flow more in compliance with regulations.	Yes, it makes the services flow more compliant with relevant regulations.	No
T2.6.11. Collection of rules and regulations, Guidelines and Good Practices	No	No	No	No	Yes, human skills, management adapted						

T2.6.11 Collection of rules and regulations, Guidelines and Good Practices”	No	No	Yes, it needs to be implemented in the government administration and authorities	The innovation could affect the whole distribution channel by creating greater cooperation between actors.	Yes, it needs good management knowledge				It depends on the case study	It depends on the case study	Yes, it needs management /networking and financial skills
T2.6.11 Collection of rules and regulations, Guidelines and Good Practices	Employee(s) of the organization should have the appropriate knowledge and competencies to apply the relevant legislation and good practices	IT background and competent staff/professional to operate it so that good practices can be adapted to the processes of the organization.	Involvement of an advisory organization, cooperation with an organization engaged in similar activities	Cooperation with an organization engaged in similar activities	Human resources	<i>The case study will give the financial level of the investments into the machinery and related materials</i>			The application of good practices may require changes to be introduced	The application of good practices may require changes to be introduced	The application of good practices may require changes to be introduced
T2.6.11 Collection of rules and regulations, Guidelines and Good Practices	Yes, human resources at least to collect this information	Depends on the collected information. For the implementation of new technological innovation, it can be required new infrastructure.	Depends on the collected information and its implementation.			<i>The case study will give the financial level of the investments into the machinery and related materials</i>			Yes, it can be because much valuable information can be collected reflecting all distribution channel	Yes, it can be because much valuable information can be collected reflecting all distribution channel	Yes, food law and food technology knowledge

Annex IIIe. T2.6.11.Collection of rules and regulations, Guidelines and Good Practices

Innovations	Social suitability: environmental, ethical, economic	Practical applicability			
	Does the innovation induce...	Applicable without any changes	With minor adjustments	After major adjustments	Not applicable

	positive changes? <i>Please specify if possible</i>	neutral changes? <i>Please specify if possible</i>	negative changes? <i>Please specify if possible</i>	Yes/No	Yes/No <i>Please describe the adjustments</i>	Yes/No <i>Please describe the adjustments</i>	Yes/No
T2.6.11.Collection of rules and regulations, Guidelines and Good Practices	Yes, it makes achieving regulations compliance easier.			Yes			
T2.6.11 Collection of rules and regulations, Guidelines and Good Practices”	Yes. An easy-to-read guide makes it easier for small farmers to better comply with standards(e.g food safety), better use of resources and allows farmers to focus more on farming activity				Implemented farmer training programs to share guidelines and good practices		
T2.6.11 Collection of rules and regulations, Guidelines and Good Practices	Good practices should be applied which will have positive effects.			the practical applicability of each good practice should be analyzed			
T2.6.11 Collection of rules and regulations, Guidelines and Good Practices	Yes, financial, social, environmental depending on collected information and its implementation			Applicability depends on collected information and its implementation. Can be with or without changes. If the information refers to some guideline for diversification of the product portfolio the investment can be significant.			

Annex IIIf. T2.6.11.Collection of rules and regulations, Guidelines and Good Practices

Innovations	Competitiveness impact				
	Does the innovation result in improvement of the organization or firm competitiveness?				
	0: no change	1: limited improvement	2: moderated improvement	3: major improvement	4: significant improvement

T2.6.11. Collection of rules and regulations, Guidelines and Good Practices		Yes, as regulations compliance is more or less mandatory, but it does not have to align with the organization's bottom line.			
T2.6.11 Collection of rules and regulations, Guidelines and Good Practices”			Improvements in compliance, competitiveness and increased opportunities		
T2.6.11 Collection of rules and regulations, Guidelines and Good Practices	Each good practice should be analyzed in terms of competitiveness impact.				
T2.6.11 Collection of rules and regulations, Guidelines and Good Practices	The level of improvement depends on collected information and its implementation. If the information refers to some guideline for diversification of the product portfolio the competitiveness of the firm can be significantly improved.				

Annex IIIg: T2.7.1D Social media marketing

Innovations	Technological feasibility					Financial feasibility			Organizational aspects		
	a) To apply the innovation		b) Does the innovation need...			Does the SFSC have enough financial resources such as cash and other financial resources?	Does the innovation need low, medium or high investment from the firm point of view?	Does the innovation need access to own financial means or external financial means?	Does the innovation induce changes in the product flow? (yes/no) <i>Please specify</i>	Does the innovation induce changes in the services flow? (yes/no) <i>Please specify</i>	Does the innovation need additional skills and competencies to be implemented? <i>Please specify</i>
	Does the innovation need new resources ? <i>Please specify</i>	Does the innovation need new infrastructure to be implemented? <i>Please specify</i>	to outsource or subcontract to the processing and/or packaging?	to combine it with complementary infrastructures of other SFSC actors?	patterns, know-how, final? <i>Please specify</i>						

T2.7.1.D Social media marketing	No	No	it can do it: subcontract the monitoring of the social media content, promoting the products, etc. by an external partner	no	<p>The same as 3c) Yes</p> <ul style="list-style-type: none"> - No paper advertising (positive environmental impact) - A high number of consumers can be reached at a cost-efficient price - Advertising opportunities with full cost control - even for small budgets - Increase the awareness of the company and its brands - The interaction with the customer can enhance the relationship between the customer and the company 	ask the case study	<p>Low investment: Social media marketing can be performed easily and cost-efficiently. A business can start even with a small marketing budget and increase social media activities successively when the budget raises.</p>	Own financial means	No	Yes. Visibility increase, firm image promoted, construction of a relationship with customers	<p>Yes: marketing skills</p> <p>Human: At least one person should be responsible for maintaining the social media accounts. It will be helpful to mandate an agency, which is specialized in social media marketing, at least for a successful start of the social media engagement.</p> <ul style="list-style-type: none"> - Basic IT knowledge. Knowledge about marketing and advertising will increase the likelihood of success: - Ability to understand consumers' needs. - Effective promotion, customer service, efficient and innovative sales methods - Knowledge about how to create advertising messages and how to communicate over time to build a recognisable brand
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T2.7.1.D Social media marketing	No	No	No	No	Yes. Basic IT knowledge is required and know-how of social media marketing is recommended.	Yes. Some level of investment is needed to pay for the social media ads, but it scales with the marketing budget, no matter how small.	The level of investment scales with the desired reach on social networks.	No.	No	No	Yes, social network marketing expertise is needed.
T2.7.1.D Social media marketing	No	It needs a PC and an internet connection. Probably these means are already in possession of the company.	No	No	Yes, it needs a good social media manager				No	Probably it might support the marketing and sales department. It can be used also for e-commerce.	Yes, it needs some IT and selling skills.
T2.7.1D Social media marketing	IT tools	IT background and competent staff /professional to operate social marketing tools.	Marketing specialist, agency	Cooperation with an organization engaged in similar activities. Joint programs, events. Partly a common website.	Marketing tools. Logos, design elements etc... Human resources.	<i>The case study will give the financial level of the investments into the machinery and related materials</i>			No	It depends on the purpose of marketing actions and specific channels to reach the specific target consumer groups.	Marketing and IT knowledge and competence.

T2.7.1D Social media marketing	Yes, human resources, IT and marketing experts	No	No	No	IT and marketing skills	<i>The case study will give the financial level of the investments into the machinery and related materials</i>	Yes, with new social media strategy the company promote its products and increase sale.	Yes, additional distribution channels, better communication with customers	Yes, IT and marketing skills
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Annex IIIh: T2.7.1D Social media marketing

Innovations	Social suitability: environmental, ethical, economic			Practical applicability			
	Does the innovation induce...			Applicable without any changes	With minor adjustments	After major adjustments	Not applicable
	positive changes? <i>Please specify if possible</i>	neutral changes? <i>Please specify if possible</i>	negative changes? <i>Please specify if possible</i>	Yes/No	Yes/No <i>Please describe the adjustments</i>	Yes/No <i>Please describe the adjustments</i>	Yes/No
T2.7.1.D Social media marketing	Yes - No paper advertising (positive environmental impact) - A high number of consumers can be reached at a cost-efficient price - Advertising opportunities with full cost control - even for small budgets - Increase the awareness of the company and its brands - The interaction with the customer can enhance the relationship between the customer and the company				Yes: adjustment of the firm message and image		
T2.7.1.D Social media marketing	Yes, it raises the awareness of organizations products and services.			Yes			
T2.7.1.D Social media marketing	Yes, less printed marketing materials.				Yes, changes in the organisation of the work and also assign a person to deal with virtual marketing.		
T2.7.1D Social media marketing	Social marketing should focus on one or more elements of social suitability.	Social marketing should focus on one or more elements of social suitability.	Social marketing should focus on one or more elements of social suitability.				

T2.7.1D Social media marketing	Yes, due to communication with a broad audience, promotion of company increase can the trust				Yes, IT equipment		
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Annex IIIi: T2.7.1D Social media marketing

Innovations	Competitiveness impact					
	Does the innovation result in improvement of the organization or firm competitiveness?					
	0: no change	1: limited improvement	2: moderated improvement	3: major improvement	4: significant improvement	
T2.7.1.D Social media marketing				Increase of firm visibility through social media (potential impact of sales, word of mouth, events); Addressing of the target group with various targeting possibilities		
T2.7.1.D Social media marketing				Yes, it can significantly boost an organization's marketing effectiveness.		
T2.7.1.D Social media marketing			Improvements in the visibility of the company			
T2.7.1D Social media marketing			Increasing of sales, improvement of firm visibility			
T2.7.1D Social media marketing				Yes, company image or brand can be significantly improved, social media marketing can reach a high number of consumers, target groups.		

Annex IV

List of innovations assessed as successful implementation

Innovations	Technological feasibility	Financial feasibility	Organizational aspects	Social suitability	Practical applicability	Successful implementation of innovations in another context
<i>Cultural Capital Counts methodology</i>	Yes	Yes (with adapted investments)	Yes	Yes	With minor adjustments	Yes
<i>Kuh-Aktien (financing model already applied by Solawi)</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Profit participation certificates (financing model already applied by Solawi)</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Quality assurance system: product specifications, jointly agreed quality requirements.</i>	Yes	Yes, Involving a limited external source may be necessary	Minor organization changes	Yes, economic	Yes, small or medium changes	Yes
<i>Short supply chain animator training</i>	Yes	Yes (with adapted investments)	Yes	Yes	With minor adjustments	Yes
<i>T2.2.3 Regulation of the SFSCs</i>	Yes	Yes. Depends on the implementation level (chamber or member) and public funding	Yes	Yes	Yes	Yes

<i>T2.2.5 Risk Assessment on the infection of the consumers</i>	Yes	Yes	Yes	Yes, but there may also be some negative impacts to consider	Yes	Yes
<i>T2.2.5 Risk Assessment on the infection of the consumers by SARS-CoV-2 during purchasing</i>	Yes	depends on the long-term strategy for SARS-CoV-2	depends on the long-term strategy for SARS-CoV-2	depends on the long-term strategy for SARS-CoV-2	depends on the long-term strategy for SARS-CoV-2	Yes
<i>T2.3.13D Food labelling and nutritional analyses without lab tests</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>T2.3.6 Biosensor system (lactate biosensor) that ensures quality and efficiency in the fruit juice industry</i>	Yes	?	Yes	Yes	Yes	The case study currently applies this innovation.
<i>T2.4.14D Biodegradable active packaging</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>T2.4.15 Biodegradable packaging</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>T2.4.15 Biodegradable packaging / T2.4.14D Biodegradable active packaging</i>	Yes	Involving an external source	Minor organization changes	Yes, environmental	Yes, medium changes	It may depend on the quantity of goods/sales
<i>T2.4.15D Biodegradable packaging;</i>	Yes	Yes	Yes	Yes	Yes	The case study currently use biodegradable packaging

T2.4.16 Biodegradable packaging	Yes	Yes	Yes	Yes	Yes	Yes
T2.4.16D Biodegradable packaging	Yes	Yes	Yes	Yes	Yes	The case study currently use biodegradable packaging
T2.4.5 Freez-frying for food products;	Yes	Yes	Yes	Yes	Yes (in progress, not fully implemented)	Yes
T2.4.6 Modified Atmosphere Packaging (MAP)	Yes	Yes	Yes	Yes	Yes (minor adjustments)	Yes
T2.4.6 Modified Atmosphere Packaging (MAP);	Yes	Yes	Yes	Yes	Yes	The case study currently applies this innovation.
T2.5.1 Vending Machines, Automatic distributors of farm products	Yes	Yes (low-med estimated cost)	Yes	Yes	Yes (it is needed a cost/benefit study, a marketing-consumer study)	Yes
T2.5.10 Refrigerated pickup station – cool lockers, Temperature-controlled lockers for groceries	Yes	Yes (low-med estimated cost)	Yes	Yes	Yes (it is needed a cost/benefit study, a marketing-consumer study)	Yes
T2.5.10 Refrigerated pickup station – cool lockers, Temperature-controlled	Yes	Yes	Yes	Yes	Yes (major adjustments)	Yes

lockers for groceries

T2.5.10 Refrigerated pickup station – cool lockers, Temperature-controlled lockers for groceries
 T2.5.11 Predictive analytics of orders
 T2.5.15 Online Marketplace for local and fresh products (Naaber)
 T2.5.15 Online Marketplace for local and fresh products (Naaber)
 T2.5.18 All-in-one packaging;
 T2.5.21 Joint distribution
 T2.5.22 Involvement of the consumers
 T2.5.22D Involvement of the consumers

Yes	Yes (low-med estimated cost)	Yes	Yes	Yes (it is needed a cost/benefit study, a marketing-consumer study)	Yes
Yes	Yes	Minor organization changes	Yes, economic	Yes	Yes
Yes	depends on the implementation level (network or member) and the size of the farm	Yes	Yes, but there may also be some negative impacts to consider	Yes	Yes
Yes	depends on the implementation level (chamber or member) and public funding	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes
depends on what services/facilities are intended to be joined	depends on what services/facilities are intended to be joined	depends on what services/facilities are intended to be joined	depends on what services/facilities are intended to be joined	Yes	Yes
Yes	Yes (with adapted investments)	Yes	Yes	After major adjustments	Yes
Yes	Yes	Yes	Yes	Yes (minor adjustments)	Yes

T2.5.23 <i>Agrotourism one day</i>	Yes	No investment is needed	Yes	Yes	Yes	Yes
T2.5.23 <i>Agrotourism several days</i>	Yes	Low investment, external help	Yes	Yes	Yes (with minor investments)	Yes
T2.5.24 <i>Moving outlets</i>	Yes	Medium investment, external help	Yes	Yes	Yes (with medium investments)	Yes
T2.5.3 <i>Producer's shop</i>	Yes	Low investment, external help	Yes	Yes	Yes (with minor investments)	Yes
T2.5.34 <i>Open farm Sunday - Scottish farmers</i>	Yes	Yes (with adapted investments)	Yes	Yes	With minor adjustments	Yes
T2.5.34 <i>Open farm tours</i>	Yes	Yes	Yes	Yes	Yes	Yes
T2.5.34 <i>Open farms tours</i>	Yes	Yes (low estimated cost)	Yes	Yes	Yes (it is needed a cost/benefit study)	Yes
T2.5.34 <i>Open farms tours</i>	Yes	Yes (low estimated cost)	Yes	Yes	Yes (it is needed a cost/benefit study)	Yes
T2.5.6 <i>Post service cold chain</i>	Yes	Yes	Yes	Yes	Yes (Applicable if there is a similar company in Spain, it is needed a cost/benefit study)	Yes
T2.5.6 <i>Post service cold chain</i>	Yes	Yes	Yes	Yes	Yes	The case study currently applies this innovation.

<p>T2.5.8 Shared production facilities for the small-scaled preservation and packaging of primary agricultural production Case No. 1: Small cannery in a truck</p>	Yes	Yes	Yes	Yes	Yes	Yes
<p>T2.5.8 Shared production facilities</p>	Yes	High investment, external help	Yes	Yes	Yes (with major investments)	Yes
<p>T2.5.9 LANDPACK – Green packaging solutions from grain fields;</p>	Yes	Yes	Yes	Yes	Yes	Yes
<p>T2.6.10 Collective selling points (PVC)</p>	Yes	Yes	Yes	Yes	Yes	The case study currently applies this innovation.
<p>T2.6.11 Collection of rules and regulations, Guidelines and Good Practices</p>	Yes	Yes	Yes	Yes, demand on the good practices applied.	Yes	Yes
<p>T2.6.11 Collection of rules and regulations, Guidelines and Good Practices</p>	Yes	Yes	Yes	Yes	Yes	Yes
<p>T2.6.11 Collection of rules and regulations,</p>	Yes	Yes	Yes	Yes, but there may also be some negative impacts to consider	Yes	Yes

<i>guidelines and good practices</i>							
<i>T2.6.11 Collection of rules and regulations, guidelines and good practices</i>	Yes	depends on the implementation level (chamber or member) and public funding	Yes	Yes	Yes	Yes	Yes
<i>T2.6.11 Collection of rules and regulations, Guidelines and Good Practices</i>	Yes	Yes	Yes	Yes	Yes (minor adjustments)	Yes	Yes
<i>T2.6.2 PDO and PGI certification or transparency supported by digital tools</i>							
<i>T2.6.2D Platform for Short Food Supply Chains</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>T2.6.3 Participatory Guarantee Systems</i>	Yes	Yes	Yes	Yes, but there may also be negative impacts to consider	Yes, it depends on the quality of data and the significance for CSA* Some minor adjustments may be necessary to cover specific requirements of CSA*	Yes	Yes

T2.6.3 Participatory Guarantee Systems - building trust	Yes	Yes	Yes	Yes	Yes	Yes
T2.7.10 Exposition of products	Yes	No investment is needed	Yes	Yes	Yes	Yes
T2.7.10 Exposition of products	No	No (too expensive)	Yes	Yes	Yes	Yes
T2.7.12 turn2bio	Yes	Yes (low estimated cost)	Yes	no clear (the marketplace is for all Europe? Is it SFSC?)	Yes (it is needed a cost/benefit study, a marketing- consumer study)	Yes
T2.7.12 turn2bio	Yes	Yes	Yes	Yes	Yes	Yes
T2.7.15 Storytelling	Yes	No investment is needed	Yes	Yes	Yes	Yes
T2.7.15 Storytelling	Yes	Yes	Yes	Yes	Yes	Yes
T2.7.15 Storytelling	Yes	depends on the implementation level (network or member) and the availability of resources (outsourcing)	depends on the implementation level (network or member) and the availability of resources (outsourcing)	Yes	Yes	Yes
T2.7.15 Storytelling	Yes	Yes	Yes	Yes	Yes	Yes
T2.7.16 Local product tasting tours	Yes	Yes	Yes	Yes	Yes	Yes
T2.7.16 Method to find common goals (Truefood)	Yes, depends on the common goal identified	Yes, depends on the common goal identified	Yes, depends on the common goal identified	Yes, depends on the common goal identified	Yes	Yes

<i>T2.7.16 Method to find common goals (Truefood)</i>	Yes, depends on the common goal identified	Yes, depends on the common goal identified	Yes, depends on the common goal identified	Yes, depends on the common goal identified	Yes	Yes
<i>T2.7.1D Social marketing</i>	Yes	Yes (low-med estimated cost)	Yes	Yes	Yes (it is needed a cost/benefit study)	Yes
<i>T2.7.1D Social media marketing (Biofruits); T2.7.2 Lead user approach - Alce Nero</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>T2.7.3 Marketing tools</i>	Yes	Yes (low-med estimated cost)	Yes	Yes	Yes (it is needed a cost/benefit study)	Yes
<i>T2.7.4 Crowdfunding</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>T2.8.1 Community-supported agriculture (Solidarische Landwirtschaft)</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>T2.8.1 Community-supported agriculture (Solidarische Landwirtschaft)</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>T2.8.11 Implementation of the vending machine;</i>	Yes	Yes (low-med estimated cost)	Yes	Yes	Yes (it is needed a cost/benefit study, a marketing-consumer study)	Yes

T2.8.2 <i>Hermeneus Marketplace</i>	Yes	depends on the implementation level (network or member) and the size of the farm	Yes	Yes, but there may also be some negative impacts to consider	Yes	Yes
T2.8.2 <i>Hermeneus Marketplace</i>	Yes	depends on the implementation level (chamber or member) and public fundings	Yes	Yes	Yes	Yes
T2.8.3 <i>Cooperative Supermarket</i>	Yes	depends on the resources available (staff, buildings)	Yes	Yes	Yes	Yes
T2.8.8 <i>OrganicNet</i>	Yes	Yes	Yes	Yes	Yes	Yes
T2.9.1D Sales on the webshop (<i>Natuurlijk Vleespakket BV (NV)</i>)	Yes	Yes	Yes	Yes	Yes	The case study currently applies this innovation.
T2.9.2 D Virtual market platform for farmers	Yes	Yes, Involving an external source	Minor organization changes	Yes, economic	Yes	Yes
T2.9.7D Fresh Produce Trade App	Yes	Yes (low-med estimated cost)	Yes	no clear (new market opportunities. is it for all Europe? Is it only in English? Is it SFSC?)	Yes (it is needed a cost/benefit study, a marketing-consumer study)	Yes
T2.9.7D Fresh Produce Trade App	Yes	Yes (low-med estimated cost)	Yes	no clear (new market opportunities. is it for all Europe? Is it only in English? Is it SFSC?)	Yes (it is needed a cost/benefit study, a marketing-consumer study)	Yes

<i>T2.9.8 FOODER</i>	Yes	Yes (low estimated cost)	Yes	no clear (new market opportunities. is it for all Europe? Is it only in English? Is it SFSC?)	Yes (it is needed a cost/benefit study, a marketing-consumer study)	Yes
<i>T2.9.8D FOODER</i>	Yes	Yes (low estimated cost)	Yes	no clear (new market opportunities. is it for all Europe? Is it only in English? Is it SFSC?)	Yes (it is needed a cost/benefit study, a marketing-consumer study)	Yes
<i>Tierpatenschaften (financing model already applied by Solawi)</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>T2.5.1 Vending machines</i>	Yes	Medium investment, external help	Yes	Yes	Yes (with medium investments)	Yes

Annex V. List of innovations assessed as no implementable by the case studies

<i>Innovations</i>	<i>Technological feasibility</i>	<i>Financial feasibility</i>	<i>Organizational aspects</i>	<i>Social suitability</i>	<i>Practical applicability</i>	<i>Successful implementation of innovations in another context</i>
<i>T2.3.4 Hydro Cooler for loose produce</i>	Yes	No (currently no economic resources)	Yes	No clear	no (major investment needed, it is needed a cost/benefit study)	No
<i>T2.5.10 Refrigerated pickup station – cool lockers, Temperature-controlled lockers for groceries</i>	Yes	???	Yes	Yes	Yes	No
<i>T2.1.4D Weather monitoring for agriculture</i>	Yes	No (currently no economic resources)	Yes	Yes	no (major investment needed, it is needed a cost/benefit study)	No
<i>T2.2.2 E.coli detection in goat milk</i>	Yes	Yes	No	No	No	No
<i>T2.2.2D Multi-channel sale</i>	It does not apply (according to pdf, a french association for only french companies)					No
<i>T2.2.2D Multi-channel sale</i>	It does not apply (according to pdf, a french association for only french companies)					No
<i>T2.2.5 Risk Assessment on the infection of the consumers by SARS-CoV-2 during purchasing in different types of SFSCs</i>	The company does not have particular problems in their selling channels regarding the SARS-CoV-2 pandemic					No
<i>T2.3.13D Food labelling and nutritional analyses without lab tests</i>	No (too much information about legal requirements to collect)	Adjustment	Yes (no need for a label in direct sales)	Yes	Yes	No

<i>T2.3.2D Invivo PS PP</i>	Yes	No (currently no economic resources)	Yes	Yes	no (major investment needed, it is needed a cost/benefit study)	No
<i>T2.3.4 Hydro Cooler for loose produce</i>	Yes (with major investment)	No (currently no economic resources)	Yes (with major adjustment)	no clear	no (major investment needed)	No
<i>T2.4.1 Vacuum cooling solutions for food products</i>	Yes (with major investment)	No (currently no economic resources)	Yes (with major adjustment)	no clear	no (major investment needed)	No
<i>T2.4.1 Vacuum cooling solutions for food products</i>	Yes (with major investment)	No (currently no economic resources)	Yes (with major adjustment)	no clear	no (major investment needed)	No
<i>T2.4.11 Ultrasound application: Homogenization and pasteurization</i>	Yes	No (too expensive)	Yes	?	Yes	No
<i>T2.4.14D Biodegradable active packaging</i>	Yes (with major investment)	No (currently no economic resources)	Yes (with major adjustment)	Yes	no (major investment needed, it is needed a cost/benefit study)	No
<i>T2.4.5 Freeze-drying for food products</i>	Yes (with major investment)	No (currently no economic resources)	Yes (with major adjustment)	Yes	no (major investment needed, a completely new business)	No
<i>T2.4.6 Modified Atmosphere Packaging (MAP)</i>	Yes	No (currently no economic resources)	Yes	Yes	no (major investment needed, it is needed a cost/benefit study)	No

<i>T2.4.7 Vacuum-microwave drying technology for food products</i>	Yes	No (currently no economic resources)	Yes	Yes	no (major investment needed, it is needed a cost/benefit study)	No
<i>T2.4.7 Vacuum-microwave drying technology for food products</i>	Yes (with major investment)	No (currently no economic resources)	Yes (with major adjustment)	Yes	no (major investment needed, a completely new business)	No
<i>T2.5.11 Predictive analytics of orders</i>	Yes	No (currently no economic resources)	Yes	Yes	No (currently no economic resources, it is needed a cost/benefit study)	No
<i>T2.5.11 Predictive analytics of orders</i>	Yes	No (currently no economic resources)	Yes	Yes	No (currently no economic resources, it is needed a cost/benefit study)	No
<i>T2.5.12 Logistic based on the regional network</i>	Yes	No (currently no economic resources)	Yes	Yes	No (currently no economic resources, it is needed a cost/benefit study)	No
<i>T2.5.12 Logistic based on the regional network</i>	Yes	No (currently no economic resources)	Yes	Yes	No (currently no economic resources, it is needed a cost/benefit study)	No
<i>T2.5.16 YouTyúk</i>	Yes	No (currently no economic resources)	Yes	Yes	No (major investment needed, a complete change of Business, it is needed a cost/benefit study)	No
<i>T2.5.16 YouTyúk</i>	Yes	No (currently no economic resources)	Yes	Yes	no (major investment needed, a complete change of Business, it is needed a cost/benefit study)	No

	Yes	?	No	Yes	No	No
<i>T2.5.23 Agrotourism chain</i>						
<i>T2.5.3 Producers' shop</i>	Yes (with major investment)	No (currently no economic resources)	Yes (with major adjustment)	Yes	No (major investment needed, is needed a cost/benefit study, as the product is very specific and seasonal (truffle), it has not too much sense (only could works if the shop is shared with other producers of other foods)	No
<i>T2.5.3 Producers' shop</i>	Yes (with major investment)	No (currently no economic resources)	Yes (with major adjustment)	Yes	No (major investment needed, it is needed a cost/benefit study)	No
<i>T2.5.5D Divers direct marketing</i>	Yes (with major investment)	No (currently no economic resources)	Yes (with major adjustment)	Yes	No (major investment needed, they use currently different ways of selling, it is needed a cost/benefit study)	No
<i>T2.5.5D Divers direct marketing</i>	Yes (with major investment)	No (currently no economic resources)	Yes (with major adjustment)	Yes	No (major investment needed, they use currently different ways of selling, it is needed a cost/benefit study)	No
<i>T2.6.2D Platform for Short Food Supply Chains</i>	No	No (too expensive)	Yes	Yes	Yes	No
<i>T2.6.3 Participatory Guarantee Systems as a mechanism for building the trust of parties</i>	No (not applicable for small farms not engaged in groups of producers)	No	No (not applicable for small farms not engaged in groups of producers)	Yes	No	No
<i>T2.6.9 Austrian Small farm taxation</i>	It does not apply to this company (Spain). Anyway, something similar in Spain could be useful.					No
<i>T2.7.17 Summer and winter seasonal offers</i>	It does not apply since the company only produce one type of product					No

<i>T2.7.17 Summer and winter seasonal offers</i>	The company does not have seasonal products (this innovation does not apply)					No
<i>T2.7.1D Social media marketing (Biofruits)</i>	Yes	No (recruitment of skilled staff)	Yes	Yes	No (too time-consuming)	No
<i>T2.7.3D Marketing tools (Alice Nero)</i>	Yes	No (recruitment of skilled staff, marketing activities)	No (new staff)	Yes	No (not for independent farms)	No
<i>T2.7.9 QUALIVITA</i>	Yes (with major investment for obtaining the certificates)	No (currently no economic resources)	Yes (with major adjustment)	Yes	no (no possible now since products have not the required certificates)	No
<i>T2.8.6 Farm diversification Tekerés-valley</i>	No	No (too expensive)	No	Yes	Yes	No
<i>T2.9.10D PerishABLE</i>	Yes	No (currently no economic resources)	Yes	Yes	no (major investment needed, it is needed a cost/benefit study)	No
<i>T2.9.3D Smart label</i>	No	No	No (not for independent farms)	Yes	Yes	No
<i>T2.9.9D AgriAware</i>	Yes	No (currently no economic resources)	Yes	Yes	no (major investment needed, it is needed a cost/benefit study)	No
<i>T2.8.1 Community Supported Agriculture (CSA)</i>	Yes	Yes	Yes	Yes	no	Seems difficult to apply because of French regulations
<i>Cooperative supermarket T2.8.3D</i>	Yes	Yes	Yes	no	no	no

T2.8.8 OrganicNet						No
T2.3.1 Quality programs						No
T2.7.2 Main user approach						No
T2.7.6D "Éltető Balaton-felvidék" brand system	Yes	Yes	no	no	no	no
T2.5.22D Consumer involvement						No
T2.9.9D AgriAware						No
T2.3.11D temperature monitoring labels	Yes	Yes	Yes	No	Yes	No, because not interesting for the producer
T2.3.13D Food labelling and nutritional analyzes without laboratory tests	Yes	Yes	Yes	Yes	Yes	No, because not interesting for the producer
T2.6.11 Collection of rules and regulations, Guidelines and Good Practices	No	No	No	No	No	Restructuring rules and regulations making them more friendly for SFSCs
T2.9.7D Fresh Produce Trade App	Yes	No	No	No	No	No
T2.8.2 Hermeneus Marketplace Platform	Yes	Yes	Yes	Yes	No	No
T2.5.31D FRISBEE Tool	Yes	Yes	Yes	Yes	No	No
T2.4.12 Ultrasound application: Meat pickling/curing	Yes	Yes	No	Yes	No	No
T2.6.3 Participatory Guarantee Systems as a mechanism for building the trust of parties	Yes	Yes	No	No	Yes	No

Annex VI Recommended innovations for each case study as positively assessed

Innovations	Technological feasibility	Financial feasibility	Organizational aspects	Social aptitude	Practical applicability	Successfully implementing innovations in another context	Case studies
T2.3.13D Food labelling and nutritional analyses without lab tests	ok	ok	ok	ok	ok	Yes	Alce Nero, IT
T.2.4.14D Biodegradable active packaging	ok	ok	ok	ok	ok	Yes	Alce Nero, IT
T.2.4.15 Biodegradable packaging	ok	ok	ok	ok	ok	Yes	Alce Nero, IT
T.2.4.16 Biodegradable packaging ²	ok	ok	ok	ok	ok	Yes	Alce Nero, IT
T2.5.9 LANDPACK – Green packaging solutions from grain fields;	ok	ok	ok	ok	ok	Yes	Alce Nero, IT
T2.5.18 All-in-one packaging;	ok	ok	ok	ok	ok	Yes	Alce Nero, IT
T2.6.2D Platform for Short Food Supply Chains	ok	ok	ok	ok	ok	Yes	Alce Nero, IT
T2.7.1D Social media marketing (Biofruits);	ok	ok	ok	ok	ok	Yes	Alce Nero, IT
T2.7.2 Lead user approach - Alce Nero	ok	ok	ok	ok	ok	Yes	Alce Nero, IT
T2.7.12 turn2bio	ok	ok	ok	ok	ok	Yes	Alce Nero, IT

T2.8.8 OrganicNet	ok	ok	ok	ok	ok	Yes	Alce Nero, IT
T2.4.6 Modified Atmosphere Packaging (MAP)	ok	ok	ok	ok	Ok (minor adjustments)	Yes	Arvaia, IT
T2.5.10 Refrigerated pickup station – cool lockers, Temperature-controlled lockers for groceries	ok	ok	ok	ok	Ok (major adjustments)	Yes	Arvaia, IT
T2.5.22D Involvement of the consumers	ok	ok	ok	ok	Ok (minor adjustments)	Yes	Arvaia, IT
T2.6.11 Collection of rules and regulations, Guidelines and Good Practices	ok	ok	ok	ok	Ok (minor adjustments)	Yes	Arvaia, IT
T2.8.1 Community-supported agriculture (Solidarische Landwirtschaft)	ok	ok	ok	ok	Ok	Yes	Arvaia, IT
T2.7.15 Storytelling	ok	ok	ok	ok	Ok	Yes	Arvaia, IT
T2.8.1 Community-supported agriculture (Solidarische Landwirtschaft)	ok	ok	ok	ok	Ok	Yes	Arvaia, IT
T2.2.3 Regulation of the SFSCs	Yes	depends on the implementation level (chamber or member) and public fundings	Yes	Yes	Yes	Yes	CALS, DE

T2.6.11 Collection of rules and regulations, guidelines and good practices	Yes	depends on the implementation level (chamber or member) and public fundings	Yes	Yes	Yes	Yes	CALS, DE
T2.5.8 Shared production facilities for the small-scaled preservation and packaging of primary agricultural production Case No. 1: Small cannery in a truck	Yes	Yes	Yes	Yes	Yes	Yes	CALS, DE
T2.5.21 Joint distribution	depends on what services/facilities are intended to be joined	depends on what services/facilities are intended to be joined	depends on what services/facilities are intended to be joined	depends on what services/facilities are intended to be joined	Yes	Yes	CALS, DE
T2.8.3 Cooperative Supermarket	Yes	depends on the resources available (staff, buildings)	Yes	Yes	Yes	Yes	CALS, DE
T2.6.3 Participatory Guarantee Systems - building trust	Yes	Yes	Yes	Yes	Yes	Yes	CALS, DE
T2.8.2 Hermeneus Marketplace	Yes	depends on the implementation level (chamber or member) and public fundings	Yes	Yes	Yes	Yes	CALS, DE

T2.5.15 Online Marketplace for local and fresh products (Naaber)	Yes	depends on the implementation level (chamber or member) and public fundings	Yes	Yes	Yes	Yes	CALS, DE
T2.2.5 Risk Assessment on the infection of the consumers by SARS-CoV-2 during purchasing	Yes	depends on the long-term strategy for SARS-CoV-2	depends on the long-term strategy for SARS-CoV-2	depends on the long-term strategy for SARS-CoV-2	depends on the long-term strategy for SARS-CoV-2	Yes	CALS, DE
T2.5.34 Open farm tours	Yes	Yes	Yes	Yes	Yes	Yes	CALS, DE
T2.7.16 Local product tasting tours	Yes	Yes	Yes	Yes	Yes	Yes	CALS, DE
T2.7.16 Method to find common goals (Truefood)	Yes, depends on the common goal identified	Yes, depends on the common goal identified	Yes, depends on the common goal identified	Yes, depends on the common goal identified	Yes	Yes	CALS, DE
Innovation 1 - T2.3.11D temperature monitoring labels	Yes	Yes	no	no	Yes	yes, but little interest from Couleurs Paysannes	Couleurs Paysannes, FR
Innovation 2 - T2.8.1 Community Supported Agriculture (CSA)	Yes	Yes	Yes	Yes	no	Seems difficult to apply because of French regulations	Couleurs Paysannes, FR
Innovation 3 - T2.3.13D Labeling of foodstuffs and nutritional analyzes without laboratory tests;	Yes	Yes	Yes	Yes	Yes	Yes	Couleurs Paysannes, FR
Innovation 4 - T2.5.15 Online marketplace for local and fresh products (Naaber)	Yes	Yes	Yes	Yes	Yes	Yes	Couleurs Paysannes, FR

Innovation 5 - T2.7.1D Marketing on social networks -	Yes	Yes	Yes	Yes	Yes	Yes	Couleurs Paysannes, FR
Innovation 6 - T2.7.15 Storytelling;						Yes	Couleurs Paysannes, FR
Innovation 7 - Cooperative supermarket T2.8.3D;	Yes	Yes	Yes	no	no	no	Couleurs Paysannes, FR
Innovation 8 - T2.8.8 OrganicNet;						No	Couleurs Paysannes, FR
Innovation 9 - T2.3.1 Quality programs						No	Couleurs Paysannes, FR
Innovation 10 - T2.7.2 Main user approach						No	Couleurs Paysannes, FR
Innovation 11 - T2.7.6D “Éltető Balaton-felvidék” brand system	Yes	Yes	no	no	no	no	Couleurs Paysannes, FR
Innovation 12 - T2.5.22D Consumer involvement						No	Couleurs Paysannes, FR
Innovation 13 - T2.9.3D smart label	Yes	Yes	Yes	Yes	Yes	Yes	Couleurs Paysannes, FR
Innovation 14 - T2.9.9D AgriAware						No	Couleurs Paysannes, FR
Innovation 1 - T2.7.3D marketing tools	Yes	Yes	Training need	Yes	No	Yes but need more precise technology and training	Foie gras, FR

Innovation 2 - T2.3.11D temperature monitoring labels	Yes	Yes	Yes	No	Yes	No, because not interesting for the producer	Foie gras, FR
Innovation 3 - T2.3.13D Food labelling and nutritional analyzes without laboratory tests	Yes	Yes	Yes	Yes	Yes	No, because not interesting for the producer	Foie gras, FR
Innovation 4 - T2.5.15 Online marketplace for local and fresh products	Yes	Yes	Change in delivery management	Yes	No	Yes but need more information on the platform and see if it is adaptable to small volumes	Foie gras, FR
Innovation 5 - T2.5.5D Diversified direct sales; Collaborative platform;	Already set up	Already set up	Already set up	Already set up	Already set up	Already set up	Foie gras, FR
Innovation 6 - T2.5.4D Purchasing via collaboration	Already set up	Already set up	Already set up	Already set up	Already set up	Already set up	Foie gras, FR
T2.4.15 Biodegradable packaging / T2.4.14D Biodegradable active packaging	Yes	Involving an external source	Minor organization changes	Yes, environmental	Yes, medium changes	It may depend on the quantity of goods/sales	FOODHUB, HU
Quality assurance system: product specifications, jointly agreed quality requirements.	Yes	Yes, Involving a limited external source may be necessary	Minor organization changes	Yes, economic	Yes, small or medium changes	Yes	FOODHUB, HU
T2.6.11 Collection of rules and regulations, Guidelines and Good Practices	Yes	Yes	Yes	Yes, demand on the good practices applied.	Yes	Yes	FOODHUB, HU

T2.9.2 D Virtual market platform for farmers	Yes	Yes, Involving an external source	Minor organization changes	Yes, economic	Yes	Yes	FOODHUB, HU
T2.5.11 Predictive analytics of orders	Yes	Yes	Minor organization changes	Yes, economic	Yes	Yes	FOODHUB, HU
T2.4.5 Freeze-drying for food products;	ok (with major investment)	No (currently no economic resources)	ok (with major adjustment)	ok	no (major investment needed, a completely new business)	?	Lantegi, ES
T2.4.6 Modified Atmosphere Packaging (MAP);	ok	ok	ok	ok	ok	They currently apply this innovation.	Lantegi, ES
T2.4.7 Vacuum-microwave drying technology for food products;	ok (with major investment)	No (currently no economic resources)	ok (with major adjustment)	ok	no (major investment needed, a completely new business)	?	Lantegi, ES
T2.5.10 Refrigerated pickup station – cool lockers, Temperature-controlled lockers for groceries	ok	ok (low-med estimated cost)	ok	ok	ok (it is needed a cost/benefit study, a marketing-consumer study)	?	Lantegi, ES
T2.5.11 Predictive analysis of orders	ok	No (currently no economic resources)	ok	ok	No (currently no economic resources, it is needed a cost/benefit study)	?	Lantegi, ES
T2.5.12 Logistic based on the regional network	ok	No (currently no economic resources)	ok	ok	No (currently no economic resources, it is needed a cost/benefit study)	?	Lantegi, ES
T2.5.16 YouTyúk	ok	No (currently no economic resources)	ok	ok	no (major investment needed, a complete change of Business, it is needed a cost/benefit study)	?	Lantegi, ES
T2.5.3 Producers' shop	ok (with major investment)	No (currently no economic resources)	ok (with major adjustment)	ok	No (major investment needed, it is needed a cost/benefit study)	?	Lantegi, ES

T2.5.34 Open farms tours	ok	ok (low estimated cost)	ok	ok	ok (it is needed a cost/benefit study)	?	Lantegi, ES
T2.5.5D Divers direct marketing	We do not find this innovation in the online inventory						Lantegi, ES
T2.5.6 Post service cold chain	ok	ok	ok	ok	ok	They currently apply this innovation.	Lantegi, ES
T2.7.12 turn2bio	ok	ok (low estimated cost)	ok	no clear (the marketplace is for all Europe? Is it SFSC?)	ok (it is needed a cost/benefit study, a marketing-consumer study)	?	Lantegi, ES
T2.7.17 Summer and winter seasonal offers	The company does not have seasonal products (this innovation does not apply)						Lantegi, ES
T2.7.1D Social marketing	ok	ok (low-med estimated cost)	ok	nok	ok (it is needed a cost/benefit study)	?	Lantegi, ES
T2.7.3 Marketing tools	ok	ok (low-med estimated cost)	ok	ok	ok (it is needed a cost/benefit study)	?	Lantegi, ES
T2.7.9 QUALIVITA	ok (with major investment for obtaining the certificates)	No (currently no economic resources)	ok (with major adjustment)	ok	no (no possible now since products have not the required certificates)	?	Lantegi, ES
T2.8.11 Implementation of the vending machine;	ok	ok (low-med estimated cost)	ok	ok	ok (it is needed a cost/benefit study, a marketing-consumer study)	?	Lantegi, ES
T2.9.10D PerishABLE	ok	No (currently no economic resources)	ok	ok	no (major investment needed, it is needed a cost/benefit study)	?	Lantegi, ES

T2.9.7D Fresh Produce Trade App	ok	ok (low-med estimated cost)	ok	no clear (new market opportunities. is it for all Europe? Is it only in English? Is it SFSC?)	ok (it is needed a cost/benefit study, a marketing-consumer study)	?	Lantegi, ES
T2.9.8 FOODER	ok	ok (low estimated cost)	ok	no clear (new market opportunities. is it for all Europe? Is it only in English? Is it SFSC?)	ok (it is needed a cost/benefit study, a marketing-consumer study)	?	Lantegi, ES
T2.9.9D AgriAware	ok	No (currently no economic resources)	ok	ok	no (major investment needed, it is needed a cost/benefit study)	?	Lantegi, ES
T2.7.4 Crowdfunding	Yes	Yes	Yes	Yes	Yes	Yes**	Solawi, DE
Kuh-Aktien (financing model already applied by Solawi)	Yes	Yes	Yes	Yes	Yes	Yes	Solawi, DE
Tierpatenschaften (financing model already applied by Solawi)	Yes	Yes	Yes	Yes	Yes	Yes	Solawi, DE
Profit participation certificates (financing model already applied by Solawi)	Yes	Yes	Yes	Yes	Yes	Yes	Solawi, DE

T2.7.15 Storytelling	Yes	depends on the implementation level (network or member) and the availability of resources (outsourcing)	depends on the implementation level (network or member) and the availability of resources (outsourcing)	Yes	Yes	Yes**	Solawi, DE
T2.6.3 Participatory Guarantee Systems	Yes	Yes	Yes	Yes, but there may also be negative impacts to consider	Yes, it depends on the quality of data and the significance for CSA* Some minor adjustments may be necessary to cover specific requirements of CSA*	Yes**	Solawi, DE
T2.6.11 Collection of rules and regulations, guidelines and good practices	Yes	Yes	Yes	Yes, but there may also be some negative impacts to consider	Yes	Yes**	Solawi, DE
T2.8.2 Hermeneus Marketplace	Yes	depends on the implementation level (network or member) and the size of the farm	Yes	Yes, but there may also be some negative impacts to consider	Yes	Yes**	Solawi, DE
T2.5.15 Online Marketplace for local and fresh products (Naaber)	Yes	depends on the implementation level (network or member) and the size of the farm	Yes	Yes, but there may also be some negative impacts to consider	Yes	Yes**	Solawi, DE
T.2.2.5 Risk Assessment on the infection of the consumers	Yes	Yes	Yes	Yes, but there may also be some negative	Yes	Yes**	Solawi, DE

				impacts to consider			
T2.7.16 Method to find common goals (Truefood)	Yes, depends on the common goal identified	Yes, depends on the common goal identified	Yes, depends on the common goal identified	Yes, depends on the common goal identified	Yes	Yes**	Solawi, DE
Agro-turism one day	ok	No investment is needed	ok	ok	ok	YES	UoB, SR
Agro-tourism several days	ok	Low investment, external help	ok	ok	ok (with minor investments)	YES with adjustments	UoB, SR
Exposition of products	ok	No investment is needed	ok	ok	ok	YES	UoB, SR
Storytelling	ok	No investment is needed	ok	ok	ok	YES	UoB, SR
Producer's shop	ok	Low investment, external help	ok	ok	ok (with minor investments)	YES with adjustments	UoB, SR
Shared production facilities	ok	High investment, external help	ok	ok	ok (with major investments)	YES with adjustments	UoB, SR
Vending machines	ok	Medium investment, external help	ok	ok	ok (with medium investments)	YES with adjustments	UoB, SR
Moving outlets	ok	Medium investment, external help	ok	ok	ok (with medium investments)	YES with adjustments	UoB, SR
T2.5.22 Involvement of the consumers	ok	ok (with adapted investments)	ok	ok	After major adjustments	YES with adjustments	Zala Thermal Valley-HU
Cultural Capital Counts methodology	ok	ok (with adapted investments)	ok	ok	With minor adjustments	YES with adjustments	Zala Thermal Valley-HU

Open farm Sunday - Scottish farmers	ok	ok (with adapted investments)	ok	ok	With minor adjustments	YES with adjustments	Zala Thermal Valley-HU
Short supply chain animator training	ok	ok (with adapted investments)	ok	ok	With minor adjustments	YES with adjustments	Zala Thermal Valley-HU
T2.6.3 IT-supported demand forecast and supply recording	yes	no (investments)	no	yes	yes	Yes	Biofruits, CH
T2.3.6 Biosensor system (lactate biosensor) that ensures quality and efficiency in the fruit juice industry	Yes	?	yes	yes	yes	Yes	Biofruits, CH
T2.4.11 Ultrasound application: Homogenization and pasteurization	Yes	No (too expensive)	Yes	No (need of differentiation of products)	Yes	No for Biofruits (more applicable for sensitive fruits like berries)	Biofruits, CH
T2.5.11. Predictive analytics of orders	yes	no	yes	yes	?	Yes	Biofruits, CH
T2.5.15 Naaber online market place	Yes	Yes	Yes	Yes	No	Yes	Biofruits, CH
T2.5.19 Regional corner at the supermarket and in point of sales	ok	ok	Biofruits is not concerned by this innovation, as the shop is small enough to valorize the products	ok	No	Not applicable for Biofruits	Biofruits, CH
T2.5.28 IntelliFood	yes with minor adjustments	yes	yes	yes	yes	Already in use by Biofruits ("vitamine locale")	Biofruits, CH

T2.5.29 Cherry	Yes	No	Yes	Yes	No (Interesting but major adjustments to be done)	No (already used by Biofruits with a similar system)	Biofruits, CH
T2.5.32 Small depots for the personalized supply of perishable foods	ok	ok	no (applicable for sensitive fruits only)	ok	more applicable for bigger firms with dedicated staff	?	Biofruits, CH
T2.5.5. Diverse direct sale (Gaia)	no	No	ok	ok	ok	No	Biofruits, CH
T2.5.7 Demand-driven supply chain (Local2Local)	yes	?	yes	yes	yes	already used by Biofruits	Biofruits, CH
T2.6.1 Internal Control System	Biofruits already applies this system	ok	ok	ok	Already in place in Biofruits	No (for distributors and not SMEs)	Biofruits, CH
T2.6.2 PDO and PGI certification or transparency supported by digital tools						Already in place in Biofruits	Biofruits, CH
T2.6.2DPlatform for Short Food Supply Chains	No	No (too expensive)	Yes	Yes	Yes	Already in place in Biofruits with a similar innovation	Biofruits, CH
T2.7.1 Social media marketing	ok	ok	ok	ok	ok	They currently apply this innovation.	Biofruits, CH
T2.7.12 turn2bio online market and library tool	ok	ok with major adjustments	ok	ok	No	No	Biofruits, CH
T2.7.2 Lead user approach (Alce Nero)	no	no	yes	yes	no	no	Biofruits, CH
T2.7.3 Marketing tools (Alce Nero)	ok	ok	ok	ok	ok	OK	Biofruits, CH
T2.2.2 E.coli detection in goat milk	Yes	Yes	No	No	No	No	Chèvement Bon, CH

T2.3.13D Food labelling and nutritional analyses without lab tests	No (too much information about legal requirements to collect)	Adjustment	Yes	Yes	No (no need of label in direct sales)	No	Chèvrement Bon, CH
T2.5.23 Agro-tourism chain	Yes	No (medium investment if the staff has to be recruited, low instead)	No	Yes	No	No (More applicable in a European context)	Chèvrement Bon, CH
T2.6.3 Participatory Guarantee Systems as a mechanism for building the trust of parties	No	No	No	Yes	No (not applicable for small farms not engaged in groups of producers)	No	Chèvrement Bon, CH
T2.7.10 Exposition of products	No	No (too expensive)	Yes	Yes	Yes	Yes with adjustments	Chèvrement Bon, CH
T2.7.15 Storytelling	Yes	Yes	Yes	Yes	Yes	Yes	Chèvrement Bon, CH
T2.7.1D Social media marketing (Biofruits)	Yes	No (recruitment of skilled staff)	Yes	Yes	No (too time-consuming)	No	Chèvrement Bon, CH
T2.7.3D Marketing tools (Alce Nero)	Yes	No (recruitment of skilled staff, marketing activities)	No (new staff)	Yes	No (not for independent farms)	No	Chèvrement Bon, CH
T2.8.10 New packaging for fruit juices	ok	with minor adjustments	ok	ok	ok	targeting the most relevant fairs (local for small farmers)	Chèvrement Bon, CH
T2.8.6 Farm diversification Tekeress-valley	No	No (too expensive)	No	Yes	Yes	No	Chèvrement Bon, CH
T2.8.8 OrganiNet	ok	ok with minor adjustments	ok	ok	ok	Not for small farms	Chèvrement Bon, CH

T2.9.1D Sales on the webshop (Natuurlijk Vleespakket BV (NV))	Yes	Yes	Yes	Yes	Yes	Already in use by Chevrement Bon (with webshop "culture food")	Chèvrement Bon, CH	
T2.9.3D Smart label	No	No	No (not for independent farms)	Yes	Yes	No	Chèvrement Bon, CH	
T2.6.9 Austrian Small farm taxation	It does not apply to this company (Spain). Anyway, something similar in Spain could be useful.							La Trufa, ES
T2.6.10 Collective selling points (PVC)	ok	ok	ok	ok	ok	They currently apply this innovation.	La Trufa, ES	
T2.6.11 Collection of rules and regulations, Guidelines and Good Practices	ok	ok	ok	ok	ok	?	La Trufa, ES	
T2.5.11 Predictive analytics of orders	ok	No (currently no economic resources)	ok	ok	No (currently no economic resources, it is needed a cost/benefit study)	?	La Trufa, ES	
T2.5.12 Logistic based on the regional network;	ok	No (currently no economic resources)	ok	ok	No (currently no economic resources, it is needed a cost/benefit study)	?	La Trufa, ES	
T2.5.16 YouTyúk	ok	No (currently no economic resources)	ok	ok	No (major investment needed, a complete change of Business, it is needed a cost/benefit study)	?	La Trufa, ES	

T2.9.7D Fresh Produce Trade App	ok	ok (low-med estimated cost)	ok	no clear (new market opportunities. is it for all Europe? Is it only in English? Is it SFSC?)	ok (it is needed a cost/benefit study, a marketing-consumer study)	?	La Trufa, ES
T2.2.2D Multi-channel sale	It does not apply (according to pdf, a french association for only french companies)						La Trufa, ES
T2.5.3 Producers' shop	ok (with major investment)	No (currently no economic resources)	ok (with major adjustment)	ok	No (major investment needed, is needed a cost/benefit study, as the product is very specific and seasonal (truffle), it has not too much sense (only could works if the shop is shared with other producers of other foods)	?	La Trufa, ES
T2.5.5D Divers direct marketing;	We do not find this innovation in the online inventory						La Trufa, ES
T2.5.10 Refrigerated pickup station – cool lockers, Temperature-controlled lockers for groceries;	ok	ok (low-med estimated cost)	ok	ok	ok (it is needed a cost/benefit study, a marketing-consumer study)	?	La Trufa, ES
T2.5.1 Vending Machines, Automatic	ok	ok (low-med estimated cost)	ok	ok	ok (it is needed a cost/benefit study, a	?	La Trufa, ES

distributors of farm products					marketing-consumer study)		
T2.9.8D FOODER	ok	ok (low estimated cost)	ok	no clear (new market opportunities. is it for all Europe? Is it only in English? Is it SFSC?)	ok (it is needed a cost/benefit study, a marketing-consumer study)	?	La Trufa, ES
T2.5.34 Open farms tours	ok	ok (low estimated cost)	ok	ok	ok (it is needed a cost/benefit study)	?	La Trufa, ES
T2.7.17 Sommer and winter seasonal offers	It does not apply since the company only produce one type of product						La Trufa, ES
T2.4.1 Vacuum cooling solutions for food products;	ok (with major investment)	No (currently no economic resources)	ok (with major adjustment)	no clear	no (major investment needed)	?	La Trufa, ES
T2.4.5 Freez-frying for food products;	ok	ok	ok	ok	ok (in progress, not fully implemented)	?	La Trufa, ES
T2.4.6 Modified Atmosphere Packaging (MAP);	ok	No (currently no economic resources)	ok	ok	no (major investment needed, it is needed a cost/benefit study)	?	La Trufa, ES
T2.4.7 Vacuum-microwave drying technology for food products;	ok	No (currently no economic resources)	ok	ok	no (major investment needed, it is needed a cost/benefit study)	?	La Trufa, ES
T2.5.6 Post service cold chain	ok	ok	ok	ok	ok (Applicable if there is a similar company in Spain, it is needed a cost/benefit study)	?	La Trufa, ES

T2.5.10 Refrigerated pickup station – cool lockers, Temperature-controlled lockers for groceries	ok	???	ok	ok	ok		La Trufa, ES
T2.3.4 Hydro Cooler for loose produce	ok	No (currently no economic resources)	ok	No clear	no (major investment needed, it is needed a cost/benefit study)	?	La Trufa, ES
T2.6.3 Participatory Guarantee Systems as a mechanism for building the trust of parties	yes	yes	no	no	yes	No	V&Co, NL
T2.3.11D Temperature Monitoring Labels	yes	yes	yes	yes	no	Yes	V&Co, NL
T2.4.12 Ultrasound application: Meat pickling/curing;	yes	yes	no	yes	no	No	V&Co, NL
T2.5.9 LANDPACK – Green packaging solutions from grain fields	yes	yes	yes	yes	yes	Yes	V&Co, NL
T2.6.8D fTRACE	yes	yes	yes	yes	yes	Yes	V&Co, NL
T2.7.6D “Éltető Balaton-felvidék” brand system	yes	yes	yes	yes	yes	Yes	V&Co, NL
T2.5.31D FRISBEE Tool	yes	yes	yes	yes	no	No	V&Co, NL
T2.8.2 Hermeneus Marketplace Platform	yes	yes	yes	yes	yes	No	V&Co, NL
T2.9.7D Fresh Produce Trade App	yes	no	no	no	no	No	V&Co, NL
T2.5.3 Producer’s shop	yes	yes	yes	yes	yes	currently, apply	V&Co, NL
T2.5.29 CHERRY	yes	no	yes	yes	yes	Yes	L2L, NL

T2.9.8 FOODER	yes	maybe (subscription base yes/ self- development no)	yes	yes	yes	Yes	L2L, NL
T2.9.3D Smart label	yes	no	yes	no	yes	Yes	L2L, NL
T2.5.9 LANDPACK – Green packaging solutions from grain fields	yes	yes	yes	yes	yes	Yes	L2L, NL
T2.5.13 Farmers’ market “Liliomkert”	yes	maybe (collective SFSC initiative investment yes/ one cooperative no)	yes	yes	yes	Yes	L2L, NL
Local2Local Food Distribution Software (FDS)	yes	yes	yes	yes	yes	Yes	L2L, NL
Dapper Texel	yes	yes	yes	yes	yes	Yes	L2L, NL
Local2Local Talents	yes	yes	yes	yes	yes	Yes	L2L, NL
Voedsel in de buurt application	yes	yes	yes	yes	yes	Yes	L2L, NL
Operation Food Freedom	yes	maybe (governmental support yes / SFSC initiatives themselves no)	yes	yes	yes	Yes	L2L, NL
T2.3.1 Quality schemes	No	No	No	Yes	No	Yes but necessary adjustments	Allotropon, GR
T2.5.5D Diverse direct sale	No	Yes	Yes	Yes	No	Yes but necessary adjustments	Allotropon, GR
T2.5.18 All-in-one packaging	No	No	Yes	Yes	Yes	Yes but necessary adjustments	Allotropon, GR

T2.7.15 Storytelling	Yes	No	Yes	Yes	No	Yes but necessary adjustments	Allotropon, GR
T2.7.12 turn2bio	Yes	No	Yes	Yes	No	Yes but necessary adjustments	Allotropon, GR
T2.6.1 Internal Control System	No	No	No	Yes	No	Yes but necessary adjustments	Allotropon, GR
T2.6.2D Platform for Short Food Supply Chains	Yes	No	Yes	Yes	Yes	Yes but necessary adjustments	Allotropon, GR
T2.6.3 Participatory Guarantee Systems as a mechanism for building the trust of parties	Yes	No	Yes	Yes	No	Yes but necessary adjustments	Allotropon, GR
T2.2.5 Risk Assessment on the infection of the consumers by SARS-CoV-2 during purchasing in different types of SFSCs	No	No	Yes	Yes	Yes	Yes but necessary adjustments	Allotropon, GR
T2.5.22D Involvement of the consumers	No	No	Yes	Yes	Yes	Yes but necessary adjustments	Allotropon, GR
T2.5.34 Open farm tours	No	No	Yes	Yes	Yes	Yes but necessary adjustments	Allotropon, GR
T2.6.11 Collection of rules and regulations, Guidelines and Good Practices	No	No	No	No	No	Restructuring rules and regulations making them more friendly for SFSCs	Allotropon, GR
T2.5.2D Multi-channel sale	Yes	No	No	Yes	Yes	Yes, but necessary adjustments	Gaia, GR
T2.6.3D Participatory Guarantee Systems as a mechanism for	No	No	No	Yes	No	Yes, but necessary adjustments	Gaia, GR

building the trust of parties							
T2.7.3D Marketing tools – Alce Nero;	No	No	No	Yes	No	Yes, but necessary adjustments	Gaia, GR
T2.5.23 Agro-tourism chain	Yes	No	No	Yes	Yes	Yes, but necessary adjustments	Gaia, GR
T2.7.1D Social media marketing (Biofruits	No	No	Yes	Yes	Yes	Yes, but necessary adjustments	Gaia, GR
T2.4.6 Modified Atmosphere Packaging (MAP)	Yes	No	Yes	Yes	No	Yes, but necessary adjustments	Gaia, GR