



AGRI-FOOD SMEs COLLABORATING FOR INNOVATION ALONG THE SUPPLY CHAIN

- WORKSHOP REPORT -

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Agri-Food SMEs collaborating for innovation along the supply chain

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**Agri-Food SMEs collaborating for innovation
along the supply chain**

What, who, how?

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1 Introduction to the workshop

1.1 Background

On 17 October 2017, DG Research and Innovation (RTD) and DG Agriculture and Rural Development (AGRI) of the European Commission, organised a participatory workshop on innovation in the Agri-Food sector, in cooperation with the strategic working groups (swg's) Agricultural Knowledge and Innovation Systems (AKIS) and Food Systems of the Standing Committee for Agricultural Research (SCAR). The workshop was linked to the European Commission conference 'Harnessing Research and Innovation for FOOD 2030: A Science Policy Dialogue' on 16 October 2017 in Brussels, Belgium.

Around 60 agri-food SMEs, innovation managers, intermediaries, experts, retailers, consumer representatives and policy makers had inspiring and interesting group discussions on best practices for collaborative innovation and sharing value along the supply chain. More than 20 Agri-food SMEs presented examples of collaboration on innovation. The workshop was professionally moderated by Mark Redman.

1.2 Objectives

The objectives of the workshop were to:

- highlight and discuss the main challenges and/or opportunities that agri-food SMES are confronted with, and the collaborative innovation approaches that have a potential to help to solve these problems or to develop the opportunities;
- describe and discuss knowledge flows/exchange among agri-food SMEs and along the supply chain, how these can lead to innovation, and how to support this;
- formulate recommendations and list best practices, with specific attention to:
 1. cross-fertilisation between agri-food SMEs and the various links in the chain from primary producer (e.g. farmer), agri-food SME, retailer, seller (baker, butcher, etc.) until consumer;
 2. consumer expectations (quality, local, organic, traditional food), environmental aspects and
 3. market opportunities and challenges (economic aspects).

1.3 Definition

When talking about collaboration and collaborating for innovation, we mean: two or more businesses working together towards a shared goal and common benefit. This implies a process of co-creation through co-operation and interaction. It is not about one business providing services for another business, for example. An important theme of the workshop was the “**sharing of value along the supply chain**”. Furthermore, agri-food SMEs exchanged best practices to build collective intelligence with regard to innovation along the supply chain and innovation policies on regional, national and EU level. The outcomes of the exchange and the discussions will be analysed for possible policy recommendations and possible follow-up actions.



2 Setting the Scene (part 1 of the workshop)

2.1 Introduction

The workshop was opened by Barend Verachtert, Head of Unit Agri-Food Chain - Bioeconomy, DG Research and Innovation and Rob Peters, Head of Unit Research and Innovation of DG Agriculture and Rural Development. In their speeches, they stressed the importance of agri-food SMEs in EU food systems from a EU policy perspective.

After the welcome, three key note speeches were presented. First, Anikó Juhász, Director-General, Research Institute of Agricultural Economics (AKI, Hungary) and co-chair of the SWG SCAR-AKIS presented challenges, drivers, needs and opportunities of agri-food SMEs that engage in knowledge exchange for innovation. Second, Cristina Mota Capitão, coordinator at INOVISA (Portugal) presented the cropUP initiative for innovation support to agri-food SMEs & start-ups in practice. Third, Inge Arents, Managing Director of Flanders FOOD (Belgium) presented their platform which stimulates collaboration on innovation along the supply chain.

2.2 The importance of agri-food SMEs in EU food systems from a EU policy perspective

Barend Verachtert (Directorate General Research & Innovation, Unit Agri-food chain) and Rob Peters (Directorate General Agriculture and Rural Development, Unit Research and Innovation) warmly welcomed all participants. They both stressed the importance of the food systems approach and the crucial role that agri-food SMEs play in initiating and realising innovation along the supply chain. DG RTD and DG AGRI joined their forces in the food systems approach, towards a more sustainable, circular bio-economy and society. 'Many new ideas come from SMEs and start-ups, and for that reason larger companies are interested to engage with them. That is why the Commission wants to learn from you. We want to listen to your ideas on how to collaborate. The name of the game is about sustainability. How we can better collaborate both downstream and upstream in the agri-food chain' (Barend Verachtert).



'We are thinking about how EU policies can support more innovation all along the supply chain. It is about mobilising the different actors towards common objectives and helping them in reaching their goals' (Rob Peters). Under the Common Agricultural Policy, since 2013, rural development programmes finance member states for co-innovation through

the instrument of Operational Groups¹. There are groups formed by - for instance - farmers, agri-food or other SMEs, supply chain actors, researchers, advisors, etc., that are able to receive funding for developing their ideas (preparing projects) and for co-operating in innovate projects which address problems and opportunities of end-users. At the same time, this collaborative approach was introduced in Horizon 2020 in so called 'multi-actor research and innovation projects'². A specific type of multi-actor projects are the thematic networks³ which collect existing scientific knowledge and best practices which are close to being put into practice and translate this knowledge into easily understandable end-user material such as short, informative recommendations and solutions ('practice abstracts'), leaflets, guidelines and audio-visual material (photos, video clips, etc.).

2.3 What are we talking about, when we talk about innovation and agri-food SMEs?

Innovation is always about change, according to Anikó Juhász (AKI, Hungary). It is complex like human nature. Innovation is not so much a brilliant idea coming from thin air, it is rather an answer to a problem. It is not so easy to involve SMEs in (external) innovation projects because they are more than busy with their daily routines. Also there is always the risk that the innovation process does not lead to successful results. To be successful it is important that we develop and learn from our mistakes.

SMEs play a big part in the agri-food chain (Eurostat SBS, 2014⁴). They represent 99% of the total number of businesses, 50% of the total turnover, and 63% of the total workforce in the agri-food chain. The smallest enterprises represent 81% of the 263 thousand food SMEs and employ 26% of the 2.5 million employees. Their share of total turnover amounts to 12% (of 463 billion € for all food SMEs).



Looking at the characteristics of *innovative* companies (Flash Eurobarometer 433⁵), retail (70%) and manufacturing companies (68%) are more likely to have innovative practices than industry (61%) or services (65%) (for SMEs not specific for the agri-food sector).

¹ <https://ec.europa.eu/eip/agriculture/en/publications/eip-agri-brochure-operational-groups-update-2016>

² <https://ec.europa.eu/eip/agriculture/en/publications/eip-agri-brochure-horizon-2020-multi-actor>

³ <https://ec.europa.eu/eip/agriculture/en/publications/eip-agri-brochure-thematic-networks-under-horizon>

⁴ https://www.campden.hu/dokutar/NFTPs_SRIA_final_clear.pdf

⁵ Flash Eurobarometer 433 - February 2016 'Innobarometer 2016 - EU business innovation trends'.

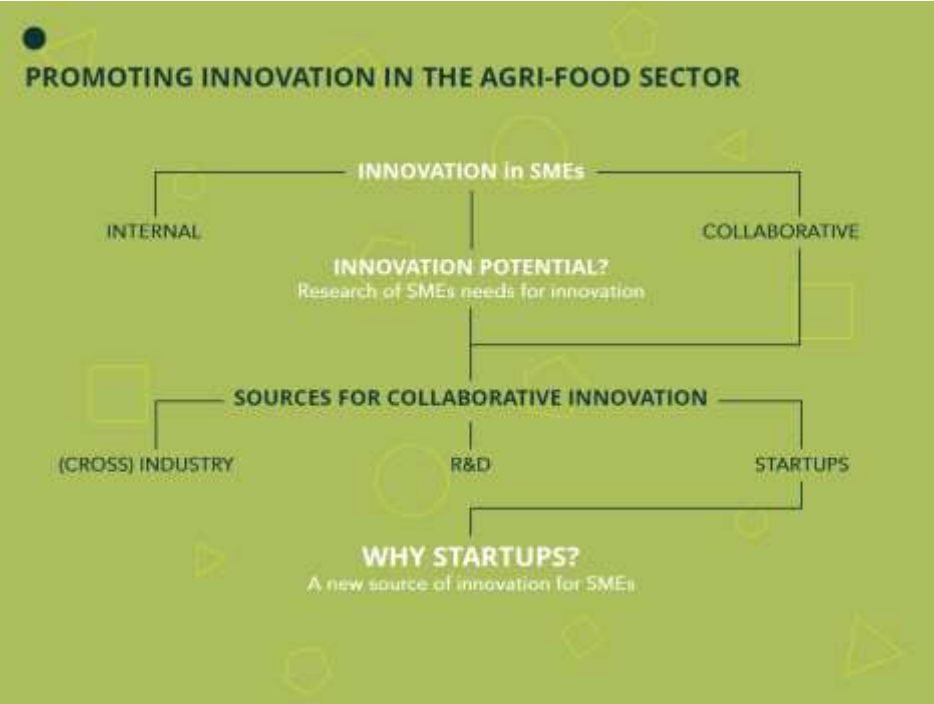
Larger companies with 250+ employees innovate more (96%) than companies with 1-9 employees (65%). Growing companies with a turnover that have risen by more than 5% since 2013, are more likely to have introduced innovation on the market (75%) compared to companies which did not have a turnover increase this high (60%). Finally, companies that cooperated with other parties are more likely to introduce innovation (80%) than companies that do not cooperate (65%).

In the EU there are still a lot of SMEs that do not innovate sufficiently, or who rely too much solely on in-house expertise to fuel their innovation. There are also indications that the extent to which SMEs innovate differs markedly between Member States. Nevertheless, successful innovation leads to economic growth, and collaborating on innovation seems to pay off. Therefore, stimulating collaboration on innovation between multiple actors, is essential. Large companies and retailers have most access to consumer knowledge and information and can be strong enablers for innovation through their actions, along the supply chain from farm to fork. They are also well positioned to stimulate SMEs and start-ups to innovate towards more sustainable, healthy, safe and tasty diets. Regulation also provides a very strong incentive for innovation from farm to fork, and is a strong enabler.

Finally, the speaker emphasized the important role played by specific innovation brokers and technical advisors. They facilitate innovation in SMEs to address specific problems or opportunities by making sure that communication on the innovation opportunities reaches the target groups and by providing financial support and training.

2.4 The role of start-ups in the agri-food chain, a Portuguese example

Inovisa is a Portuguese initiative that supports lecturers, researchers and students in the creation of their own business projects. Its aim is to lead the development of innovation and excellence in the agricultural, food and forestry sector in Portuguese speaking countries. In her presentation, Cristina Mota Capitão of Inovisa stated that start-ups form a new source for innovation in EU agri-food SMEs. She emphasized that it is important to support collaboration between start-ups and other links in the agri-food chain. She presented Inovisa's crop-UP programme which is specifically geared towards start-ups.



Technological developments change the lives of consumers and businesses at unprecedented speed across all sectors, including the agri-food sector. Those who do not follow this transformation run the risk of becoming rapidly obsolete. The agri-food sector has drawn special attention from start-ups that have changed it in several aspects,

bringing in technology to solve many of its challenges. Technology is changing the world and the most innovative new products are built by entrepreneurs. The traditional roads to innovation are now seen by established companies as outdated, slow, costly and often ineffective. Established companies are increasingly working with and investing in start-ups. In the more developed countries and sectors, this has become a main source of innovation and growth for many companies.

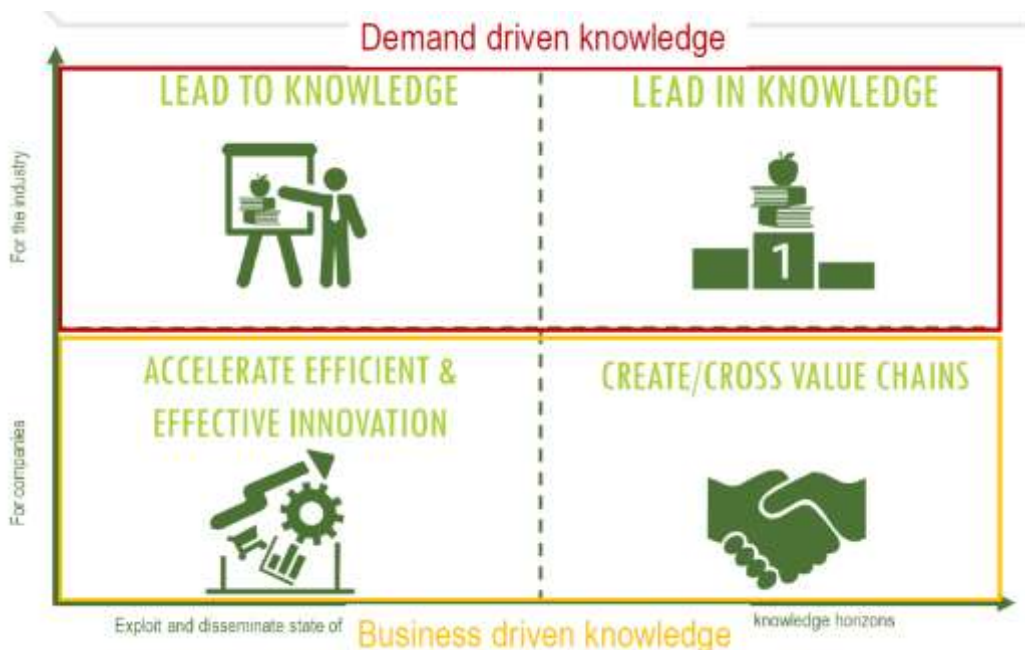
Compared to larger corporations, who are increasingly practicing the concept of open innovation, farmers and agri-food SMEs often use traditional approaches to innovation. Also, the potential for SMEs and farmers to learn from start-ups (and vice-versa) is not sufficiently used. That is why Inovisa developed the cropUP initiative in 2016, which aims at gathering a community of entrepreneurs, start-ups, mentors, investors, corporates and other organisations to contribute to the agri-food and forestry technology revolution on a global scale, and to collaborate for mutual benefit. The programme provides support to business model validation for start-ups, exclusive access to the agri-food and forestry R&D and industry, contact with investors and support in the internationalisation process, among others. With the cropUP program, entrepreneurs and startups that develop innovative products and services for the agri-food or forestry sector, have the opportunity to boost their businesses and to be part of a community which is linked to an agri-food and forestry innovation ecosystem. Entrepreneurs and start-up companies can also have a working space and access to sharing facilities at Inovisa’s headquarters.

2.5 A platform for agri-food innovation, a Flemish example

Inge Arents presented the initiative Flanders' FOOD, a strategy-driven platform that contributes to a more competitive, innovative and sustainable agro-food industry through innovation. Flanders' FOOD strengthens the innovation capacity by using an integrated approach to increase scientific and technological knowledge and by stimulating cross-border and cross-sectoral collaboration in the agri-food value chain, with all actors involved. The 3 economic drivers are:

1. to increase the international and local competitiveness;
2. societal and social responsibility;
3. implementing a connected and integrated agri-food system.

To realize the 3 economic drivers, Flanders’ FOOD defined the following four strategic aims.



Flanders’ Food also contributes to the agri-food industry 4.0 of big data, internet of things, simulation, augmented reality, cyber security, additive manufacturing, the cloud, integration and autonomous robots.

To achieve a resilient and sustainable agri-food system, all actors in the agri-food chain have to be involved, from feed to fork. Flanders FOOD requests the policy makers, among others to facilitate cooperation by adapting rules and regulation to stimulate more innovation. Flanders' Food has concrete projects that work on co-innovation along the chain. A few examples which illustrate their work: a cooperation between a farmer, an artisan butcher and processors linking the reintroduction of an old pig breed with the development of new products based on the meat of that breeding line; the reuse of food processing water by farmers, etc.

3 Collaboration on innovation in practice (part 2 of the workshop)

3.1 Presentations by SMEs and start-ups

In total 23 agri-food SMEs and start-ups presented examples of collaboration on innovation along the supply chain. The presentations were grouped along the following three themes:

1. Co-innovating distribution, value sharing and sales models (2 parallel sessions);
2. Co-innovating product and process;
3. Co-innovating technologies.

Co-innovating distribution, value sharing and sales models

Agri Marketplace

Agri Marketplace is a Portuguese start-up company that stands for fair trade in the food chain. It provides a business-2-business marketplace between farmers and retailers. It was created to raise better prospects for farmers and provide value in all of the food supply chain. They collaborate on innovation to disrupt the agricultural supply chain by providing more value for farmers, transparency in transactions, reduce high procurement costs, access to global markets and last but not least: lower consumption prices.

Smartfarmer

SmartFarmer (smartfarmer.pt) is a Portuguese national digital market for fresh and transformed fruit and vegetables, reducing the links of the value chain, connecting local farmers and consumers directly into value-based agri-food supply networks. Their market portal focusses on matching through a geo-referencing system, direct sales, quick delivery, facilitating aggregation, business and public procurement and innovative algorithms to balance proximity and mote of production and price.

La Ruche

La Ruche qui dit oui! is originally a French community initiative providing technology and support for people to start their online farmer's market. They collaborate on innovation by enabling the general public to purchase high-quality food, while supporting small-scale producers who create jobs and foster social well-being. Each Food Assembly within La Ruche is an independent and local project with a unique community spirit, while remaining part of The Food Assembly collective. Currently there are over 1.100 La Ruche service points in France and Europe, including 175.000 clients and 4.500 producers.

Cambridge Food Hub

In Cambridge (England) a sustainable food hub is being developed that acts as a multi-functional building from which food from local farms can be stored and distributed. It also provides food processing facilities to small food businesses and start-ups. It is a collaborative project which involves the Cambridge Sustainable Food initiative, local councils, many local producers and small food businesses. They collaborate on innovation to transform institutional food procurement and to address health inequality and food poverty, towards sustainable food cities.

Co-innovating distribution, value sharing and sales models

Clube de Produtores Continente

CdP Continente is an innovation supporting structure that brings Portuguese agriculture and food retail together by providing fresh quality products to the Continente (retail) store customers. This is realised through production planning with local producers based on customer consumption forecasts, guaranteeing and securing distribution for the annual Portuguese production. This contributes to the competitiveness in Portuguese agriculture, both in price and quality by creating clear advantages in all phases of the supply chain.

COVAP

COVAP is a farmer cooperative located in the southwest of Spain. They collaborate on improving the profitability of livestock farmers by decreasing costs and adding value to production. COVAP projects are oriented on improving supply chain efficiency. One example is 'Big Dairy' to monitor data and to enhance efficient decision making. Another example is 'Ibedroches' to detect and reduce mould for better quality ham.

Innovatiesteunpunt

The Innovation Support Centre for Agricultural and Rural Development is a Flemish initiative (Belgium) to inform and inspire farmers about new challenges, opportunities and to support them with the development and implementation of concrete projects. They presented the costs and benefits of different possibilities for farmers to create added value in the food chain: 1) direct sales, 2) smart joint logistics, 3) consumer associations and 4) joined web stores. Some lessons learned were that the advantages of supply chain innovation pay off but there are additional costs involved. A unique selling point is needed, volume is important and there is a need for entrepreneurial skills and support.

Ranchising

RANCHISING® is a Finnish agribusiness franchising model based on application of benchmarked techniques, software applications and practices towards a sustainable farming system. They collaborate on creating a sharing economy which will influence economies of scale, for example interaction between 2-4 farms by sharing tools, machines and equipment. Sharing is caring which creates new job categories and new RANCHISING® entrepreneurs.

Soil Association

The Soil Association is a British not-for-profit organisation promoting organic food and farming, which is currently working to apply block chain technology to the organic meat chain. They presented an experimental pilot project to explore ways of adding more credibility and consumer visibility to organic supply chains and to promote transparency and collaboration between actors in the chain. Some opportunities are: the consumer's demand for the information tends to be positive, building partnerships across the supply chain, significant scaling and engaging wider brands.

Oatly

Oatly is a Swedish medium-sized enterprise that produces oat-based, non-dairy products. Oatly focuses on innovation, sustainable nutrition, health and trust. They collaborate with farmers and scientists on oats as part of sustainable crop production, exploring possibilities for the future of sustainable farming and to investigate conversion effects from feed to food, to realise shared values and engagement.

Co-innovating distribution, value sharing and sales models

AKI

The Hungarian Research Institute of Agricultural Economics (AKI) presented a case entitled 'Integrated social development and innovative entrepreneurship aiming to develop humanity-focused initiatives, efforts and products.' The innovation focuses on social enterprise development in a rural area with a marginalized economic situation, negative demographic trends, a serious lack of resources and a broken structure of the local community by building a social cooperative.

TPorganics

TPorganics is the EU technology platform for organic agriculture and food. They presented an operational group (OG), formed by a plant breeder, four organic farmers, two organic farm associations and 2 processing companies in Lower Saxony Germany. The OG is working on solutions towards wheat varieties that are adapted to low nitrogen availability and with high baking quality despite lower protein contents. Second, they focus on new baking tests to assess the baking quality of wheat varieties with lower protein contents.

Co-innovating product and process

Agromais

Agromais is the largest Portuguese grain cooperative that focuses on collaboration for innovation in the value chain, with regard to the testing and dissemination of new corn varieties for popcorn, that is being sold in cinemas. Popcorn maize was 100% imported in Portugal until 2012 while the country has good soil, climate conditions, a strong tradition and knowledge on maize production. Producing maize for popcorn has led to a better price for the farmers involved.

We Deliver Taste

We Deliver Taste is an Italian, Greek and Czech initiative that connects agriculture with gastronomy, by developing products and services that promote innovation and direct interaction between food producers, businesses and consumers. They presented the EU funded project CAPSELLA which aims to develop a technical platform to support community based initiatives, produce new datasets for sustainable food systems, build upon existing datasets on agrobiodiversity and food supply chains, develop community driven ICT solutions, run community pilots, including incubation activities.

Arla Foods – scaling Arla's networks with SMEs globally

Arla Foods is an international cooperative based in Denmark and the fourth largest dairy company in the world with respect to milk volume. They work collaboratively with SMEs because they are an important source of ideas, inspiration, disruptive technologies and agile working. Arla Foods promotes and stimulates open innovation practices in the whole dairy food chain via the innovation challenges approach, by testing new ways of partnering with SMEs and shared risk via multi-party accelerators and a start-up pitching day at the Arla Foods Innovation centre.

Stevia Hellas

The agricultural cooperative Stevia Hellas, based in Central Greece, is an innovative cooperative that cultivates and processes the plant species, stevia. The coop cultivates locally and serves globally. It was a unique economic opportunity after the Greek crisis. The initiative is 100% crowdfunded by farmers. The coop contributes to fighting diabetes through replacing sugar by stevia.

Co-innovating product and process

Házikó

Házikó is a Hungarian food network that profiles itself as a healthy food factory and service. It represents different actors that want to link rural development and farmer production to city consumers. All ingredients come from 48 partner farms, they collaborated on developing their own quality assurance system and farms are indicated on product labels. Furthermore, Házikó does not use any artificial additives, the packaging is reusable and biodegradable and the delivery is preferably done by cargo bikes.

Co-innovating technologies

Black Block

BLACK BLOCK® is a Portuguese start-up company that has created a hybrid solar drying system, designed to dehydrate food and other products, such as aromatic herbs, fruits, vegetables, mushrooms or industrial products such as cork and wood. The drying system aims at ensuring the conservation of product quality and adding value. Black block was designed in comparison to conventional drying systems, to save energy costs in comparison to, to come up with a multiple-solution process and to allow remote access.

Buggypower

BUGGYPOWER is a Portuguese/Spanish biotech company that focuses on producing high quality marine microalgae biomass with high nutritional properties as PUFAs, pigments, vitamins, essential amino acids and minerals. Their innovation challenge is to introduce marine micro algae as food, feed or cosmetic ingredient on the market. To be successful they take into account consumer habits, regulation, standardisation and price.

Novolyze

Novolyze is a French start-up company that developed an innovative solution to enhance food safety at different stages of the agri-food chain, especially during the production phase. The idea was born when food processors requested validation when the founder was working for an equipment manufacturer in steam pasteurising. Their challenge to improve food safety, is based on public health issues, limits of technical approaches and increasing regulations.

Gold and Green Foods

Gold and Green Foods is a Finnish start-up company that is successful in oat-based new proteins. They understand the importance of design and consumer interaction. It forms a platform for the 'perfect protein food' that is 100% plant-based, nutritionally complete and ecologically produced. Their first product, a new kind of plant protein food that can be cooked which is called Pulled Oats, has an amino-acid profile and is rich of protein.

FWEE

FWEE is a French agro food SME that transforms fruit surplus in fruit leather which can be further processed as candies or as raw material for food designers, bakers or cooks. FWEE is working on an open source prototype of a solar dehydrator with the initiative 'Make Sense - Future of waste'. Furthermore they train people to be able to safely transform surplus fruits and vegetables through dehydration.

Co-innovating technologies

Jimini's

Jimini's is a French agri-food SME that sells a range of whole edible insect and cricket flour based products. Their innovation challenge is to introduce insects on European plates. They also focus on educating consumers about the importance of alternative protein ingredients for sustainable food production and consumption. Jimini's produces two types of products: whole ready-to-eat insects and energy bars made with cricket flour. The range of whole insects includes grasshoppers, mealworms and crickets.

3.2 *Discussing best practices on collaboration for innovation*

The presentations provided inspiration for the following parallel group discussion in which the following question was answered:

- **What** forms of collaboration are successful for the co-creation of innovation, **who** should be involved and **how** is co-creation of innovation being supported?

3.2.1. Successful forms of collaboration for the co-creation of innovation and involvement of actors

For successful co-creation it is important to bring together diverse expertise, knowledge and develop a clear workplan. This means joint efforts of for instance academia, the industry, innovation experts, (representatives of) consumers and civil society, NGOs networks, etc. All parties in the value chain that are related to the innovation being developed, have to be involved from the beginning. Therefore an actor- and network analyses are required and the partners involved need to develop a clear and common vision on the objectives to tackle (problem/opportunity). Collaboration on innovation may start from a personal level initially but this personal strategy has to fit with the strategy of the other partners involved in co-creation. An urgent common need to solve a problem is often the main reason to co-innovate. Selecting the right partners is crucial. To guarantee financial support, a network of SMEs and larger companies could be formed, possibly facilitated by venture capital depending on the context of the innovation. Innovation clusters could be used. These are groups of independent companies, innovative start-ups, small, medium and large companies as well as research organisations that operate in a particular sector and region. Innovation clusters are designed to stimulate innovative activity by promoting intensive interactions, sharing facilities, exchanging knowledge and expertise in order to contribute effectively to technology transfer, networking and information dissemination amongst the companies involved.

Another main challenge relating to 'what' and 'who', is to better connect farmers to the other partners in the food chain which are closer to the final consumers, or support them in more direct connections with the end-consumers of their products. The gap is still too big. This means there should be more focus on both the attitudes of farmers to better understand the process towards consumption, as well as the attitudes of the other links in the food industry that farmers are the pivot in the agri-food production process. However, co-creating innovation in agri-food is not only about better connections between the different links in the chain. It could also be about involving local and regional communities. Local agri-food chains play an important role in local economies and the socio-economic development in rural areas. Also connections between rural and urban areas are relevant in this regard.

Innovative approaches to small scale food processing should be promoted, as well as small scale commercialisation and distribution. SMEs and start-up entrepreneurs can play an important role in developing new paradigms and innovative approaches. Additional research may be necessary but in order to stimulate innovation, there should be focus on instruments and actions by public and private actors that enhance the innovation

ecosystem (like the EIP AGRI, EIT Food, public procurement, innovation brokers, innovation prizes, financial incentives, etc.). The partners in the co-creation process need to have synergetic ideas and have to be willing to exchange internal expertise and combine this with external (technical) expertise where useful.

3.2.2. How co-creation of innovation needs to be supported

Funding is important to support innovation processes, however, the search for the right knowledge, developing skills, expertise and competence are equally important aspects that require support. Both in the preparation phase and in the project phase. Regarding public funding for the projects itself, some participants claimed that innovation can only be realised if it is combined with funding from private partners. This does not need to be on a 50-50 basis, it depends on the funding capacity of the partners involved. They claimed that for co-creative innovation to be successful, all parties have to contribute in kind or in cash which reflects the necessary commitment to establish a level public-private playing field. However, in cases where societal issues or public goods are involved, private funding is not always adequate to incentivise the innovation process. There always needs to be a will amongst the SMEs involved to invest in the partnership, with or without financial input. The partners involved need to look for and convince peers to join their co-creative network, to be able to combine and multiply finances. Next to involving financial partners. Crowd funding could also be an alternative source for funding.

The co-creation process has to be supported professionally by an innovation broker such as an advisor, an association, a cluster, a technology transfer centre or a university e.g. for applied research. The broker acts as an objective supporter based on the trust of all committed parties involved. The SMEs have to be supported in:

- 1) finding the right partners such as researchers, engineers, marketers, communication partners to co-create and valorise knowledge for innovation;
- 2) developing skills and competence for innovation processes.

Some countries have good experience with utilising vouchers as financial instrument to fund such innovation support.

More innovation support infrastructures such as Inovisa and Flanders FOOD could be developed at regional, national and EU level. SMEs, including start-ups, expressed their need for help or guidance in their development process and in the different innovation phases, including the search for appropriate public and/or private funding opportunities. Support and facilitation in funding are key needs. Costs and benefits of the potential innovation need to be calculated. In particular start-ups ask their selves what the consequences are if the company that invests in their business, wants to buy them out.

Other key focus concerns are how to anticipate that the right products are being developed that solve the innovation problem, that meet the consumer/customer's demand and that can be actually implemented or marketed, reduction of costs, safety and quality control. SMEs look for different niches and marketing strategies than the larger enterprises in their value chain, rather than searching for connections. Next to existing incubator programmes, more accelerator programmes should be stimulated in agri-food chains, including mentoring from different, possibly larger companies, network activities and public-private funding opportunities.

Furthermore, SMEs mentioned the importance of networking, events and workshops that are organised to demonstrate the latest technology and to exchange best practices, at regional, national and EU-level. Focus on exchanging experiences at EU level should be on the possibilities of replicating examples and mechanisms in one region to another. However, regarding exchanging experiences, some agri-food SMEs expressed their restraint because of language barriers. This is an important aspect that needs to be taken into account when organising events for exchange on EU level. The enhancement of communication, demonstration and networking for exchanging knowledge and innovation experiences, could be organised in specific programmes. Depending on the context, these programmes could for example be part of a living lab, a user-centred, open-innovation ecosystem that often operates in a territorial context that integrates

concurrent research and innovation processes within a public-private-people partnership (wikipedia.org). However, attention should be paid to the maintenance of learning networks after the end of these projects when there is no more financial support.

Finally it was emphasized that it is important to involve consumers and communities in co-innovation, where useful.



The challenge of agri-food distribution mechanisms

One major challenge for agri-food chains is to develop well-functioning distribution mechanisms. This topic was discussed in detail during the parallel session on co-innovating distribution, value sharing and sales models.

'Regular' supply chains are often not suited to the specific challenges of smaller scale rural agri-food producers, independent of whether they service local markets (e.g. nearby towns/cities) or are engaged in direct sales of local specialities through the internet and over larger distances. The latter is becoming a growing market and an opportunity for small companies, especially those engaged in more expensive products such as spirits and wine.

The distribution of agri-food products –often in smaller quantities - needs to become more cost-effective (especially if cooled or frozen). Specific ideas to alleviate this problem exist such as the sharing of pallets between different agri-food SMEs. Another solution could be to organise one central storage space for different SME agri-food products. In the United States there is the example of Amazon Fresh, and maybe there is a possibility to replicate this model to smaller scale local production.

Workshop participants also discussed a lack of availability and willingness to share logistical data, not only horizontally between distribution companies but also vertically in the chain. Research is necessary on improved logistics, and incentives are needed to collaborate on distribution. Research on logistical data can provide evidence based advice how food is being transported and how we can come up with more efficient and sustainable distribution flows. Such initiatives should be supported by policy makers.

Policy makers should also pay more attention to CO2 reduction in distribution of local agri-food products. There are a lot of trucks that drive back empty after delivery. More contracts with different farmers or combinations between agri-food supplies and other services could resolve these logistical problems to make the distribution more efficient and sustainable. Also restaurants or other food buyers could be incentivised to serve local agri-food products.

Another problem relates to the different regulations between EU countries regarding the distribution and delivery methods of agri-food products.

Positive examples were given. In Ireland Soul Bia is the first shop entirely dedicated to locally produced artisan and *Free-From* foods. The shop has a range of local products from all over Ireland such as artisan cheeses and chocolates, gluten-free cakes and breads, probiotic yoghurts and vegan burgers. The consumer can either shop online or in the physical shop.

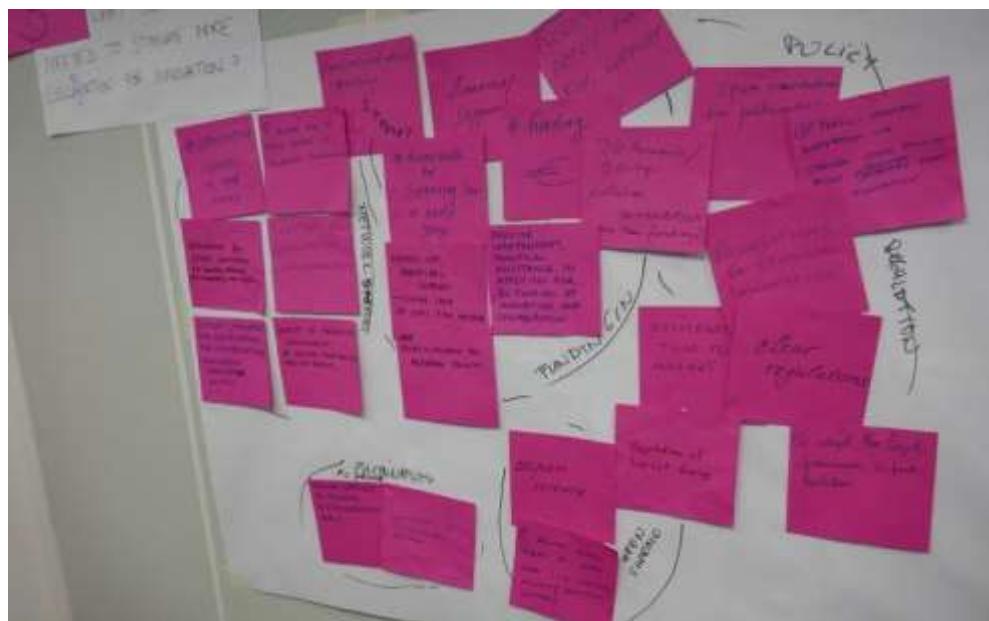
It was stated that a lot of distribution initiatives are being developed. Participants suggested to create a better overview (a catalogue) of different initiatives to create synergy. Also this way agri-food producers can join the initiative that suits them best.

4 Learnings on collaborative innovation (part 3 of the workshop)

4.1 Introduction

The participants reflected on the best practices that were shown in the presentations and the discussions during the parallel sessions (workshop part 2). The following questions were discussed in a 'world café' setting:

1. What are your 'tips and tricks' (do's and don'ts) for successful collaboration on innovation in the agri-food supply chain?
2. What potential do you see for future collaboration on innovation to solve the main challenges and/or develop the opportunities that confront SMEs in the agri-food supply chain?
3. From your practical SME perspective, what types of support (including policies) are needed to stimulate collaboration for innovation in the agri-food supply chain?



4.2 Tips for successful collaboration on innovation

In the concluding world cafe of the workshop, the following tips for successful collaboration were mentioned.

Tip 1: Trust, transparency and expectations

The partners involved in the collaboration on innovation have to trust each other in the collaboration, otherwise there is no solid basis for commitment. Trust means transparency, clarification and understanding of each other's interests and finding (agreement on) common goals. It is the main driver in collaboration on innovation. To create a transparent environment, information is to be exchanged openly. Furthermore, the expectations of the collaboration need to be clear.

Tip 2: Team facilitation

The collaborating network needs a facilitator, 'a spider in the web', who has the trust of all partners involved, who guides them in realising the common aim while keeping the individual stakes into account and managing the different expectations. This also means the capability of clarifying the individual interests of the different actors involved in the process in relation to the common aim, distilling and discussing unforeseen stakes. The different actors could for instance be private partners in the agri-food chains, researchers, advisors and education actors, representatives of consumers and citizens, such as NGOs etc. The facilitator is able to empower the team and acts on an equal hierarchical level as the other actors involved. He/she makes sure that the partners have complementary competences and may suggest to involve other actors that can support the innovating group when required.

Tip 3: Win-win for impact

Major drivers of innovation for companies are to stay competitive, to reduce costs, to get new customers, to live up to (new) regulation, etc. There has to be a story that serves a higher purpose to first create believers in the concept, second to gain supporters for the innovation that is being developed and finally to get customers interested in your product. Public-private innovation has to be both citizen and impact driven. Do not undersell innovation. The collaboration has to create value for all partners involved, which should be clear from the start. Innovation does not commence with focus on profit (only) but it is an important aspect which also contributes to societal socio-economic aims. The other way around, one can be passionate but without the proper funding, one does not get far. Hence the partnership has to develop a win-win framework to reach impact, including market awareness and sharing both costs and benefits.

More tips

Furthermore it is important that the partners in the collaboration process:

- are not afraid to fail and learn from their mistakes ('failing forward');
- are flexible in changing the process whenever needed;
- avoid isolation as a group and exchange with other partners or networks;
- create synergy in the agri-food chain;
- establish disruptive collaboration if disruptive innovation is envisaged.

4.3 Potential solutions for future collaboration on innovation

Participants were asked which specific solutions can be boosted by improving collaboration on innovation along the supply chain.

Solution 1: Improve possibilities for exchange of information

There is a common need for better exchange of information and data in the agri-food chain. The topics are diverse but one interesting idea is to develop a google map of nutrition, related to health systems, to better inform consumers about the nutritious value of their food. 'We live in the 21st century but when it comes to food and drinks, we hide in a cave and listen to the next guru.' Consumers need to know where their food comes from and how it was made. We should develop common language and patterns in the EU which make it easier for all to communicate in a common manner. This makes it also easier to collect the knowledge and data in a European database. We should find consensus on the standardisation and governance of these data so that multiple actors are able to utilise it for different purposes, while building trust through respecting ownership of data. Sharing information and data can help establish a level playing field.

Solution 2: Support for finding funding opportunities

SMEs need support to find funding possibilities. One main challenge is the ability to engage the right funders/investors at the right phases in the innovation process. In particular support in the crucial phase of the development process from prototype to commercial launch. This could be started by improving the possibilities and opportunities for combining public and private financial resources, creating synergies between different funding instruments and better accessibility of funds for SMEs. There are many possibilities for funding and support on regional, national and European level. The problem is the missing overview. A European guide in the form of a website may contribute to solving this. Furthermore, there should be more communication and emphasis on the attractiveness to invest in the agri-food among more potential investors. This could be stimulated by making cross-over with other sectors such as ICT and health. Funding should be agile and allow failures and disruption in the process. It is beneficial to invest in SME agri-food innovation because they have the capacity to implement and test innovation rapidly. However, they often do not have the financial means to do so. Lower or no contribution rates can help in such cases. Larger organisations can afford financial investment in innovation but they are hampered by decision making process and size.

More solutions

More potential solutions for future collaboration on innovation are:

- To enforce the 'multi-actor approach'⁶ when funding collaboration on innovation, to form an optimal combination of equipment and skills and to have a focus on end-user objectives;
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⁶ Requirements for multi-actor approach, see page 9 of H2020 WP 2018-2020: http://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-food_en.pdf

More solutions

- To promote open and interregional collaboration and networking through establishing more connections between countries, regions, municipalities, projects and people, but also rural-urban relations. H2020 thematic network projects support interregional collaboration. Language barriers should be overcome and standardised to share knowledge, experiences, good practices but also bad practices to learn from. Rural EIP networks can support this sharing and have means to translate knowledge material in the local language;
- The focus in agri-food innovation should be on sustainable production and consumption of agri-food products of good quality and finding solutions for societal problems like food waste;
- The need to come up with better or new distribution channels from seed to fork which are cost effective, reliable, convenient and distribute the products efficiently and fast.

4.4 What is needed to stimulate collaboration for innovation in the agri-food supply chain

The following types of support were discussed in the world cafe to stimulate collaboration for innovation in the agri-food supply chain.

Types of support (1): Towards innovation ecosystems

We need to develop a mature innovation ecosystem in which innovation brokers, innovation support services, networks, incubators and accelerator programmes support the innovation process and which provides sufficient space and possibilities to network and experiment. Create collaborative spaces in rural areas. Vouchers could be introduced as instruments to support SMEs in co-funding schemes for co-innovation in innovation eco-systems. Innovation support services also stimulate new collaborations and should make cross-connections with other industrial sectors for example. Furthermore, innovation ecosystems should encourage demand driven science and better access to knowledge where it is needed.

Types of support (2): Policy and regulation

Many SMEs in the food sector are insecure concerning the relevant legislation, e.g. labelling. Governments can play a bigger role in fostering innovation amongst others by stimulating more connections. Continue developing a relationship between DGs AGRI and RTD, the EU member states and the relevant stakeholders. It is a good thing they are working more together on agri-food chains. Adopt a legal framework in food legislation: regulation can stimulate a better level playing field in sharing benefits along the food supply chain and focus on accelerating the time to market. Politicians need to be open minded. With regard to innovation that is driven by societal challenges, change state procurement practices and tendering that limit innovation. Finally, there were and are a lot of relevant projects which are funded by the EU and the member states. The networks and knowledge which were generated should be further supported and communicated to speed up things and create synergy with new projects and networks.

Types of support (3): Funding mechanisms

A framework should be developed for financially supporting SMEs at an early stage in the innovation process, in particular for the funding for the preparation of projects. This helps to clarify the common objectives, to involve the right actors with complementary knowledge and to get activities well organised. We need more independent, hands-on practical support to apply for funding for innovation and collaboration.

Concluding remarks

The workshop was a unique opportunity for the many agri-food SMEs to meet colleagues and experts from other countries, to share and learn from best practices, and to discuss with policy makers. We thank everybody for their active participation, in particular the agri-food SMEs which made the efforts to prepare and present their innovation stories. A special thanks also to Mark Redman, the workshop's moderator, for his professional enthusiasm and guidance of the workshop.

We took note of the participants' request for DG AGRI, DG RTD and the SCAR-SWGs AKIS and Food Systems to keep collaborating on this topic to incentivise more efficient, synergetic and effective innovation processes and results. We invite participating SMEs to join multi-actor projects, EIP Operational Groups and thematic networks on specific topics that fit their needs and help their organisation. Furthermore we invite them to exchange and learn more from other actors along the supply chain.



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Overview

On 17 October 2017, DG RTD and DG AGRI organised the participatory workshop 'Agri-Food SMEs collaborating for innovation along the supply chain', in collaboration with the SCAR strategic working groups AKIS and Food Systems.



Around 60 agri-food SMEs, along with innovation managers, intermediaries, experts, retailers, consumer representatives and policy makers shared inspiring ideas and had lively discussions on:

- the main challenges and/or opportunities that agri-food SMES are confronted with, and the collaborative innovation approaches that have a potential to help to solve these problems or to develop the opportunities;
- knowledge flows/exchange among agri-food SMEs and along the supply chain, how these can lead to innovation and how to support this;
- cross-fertilisation between agri-food SMEs and the various links in the chain from primary producer (e.g. farmer), agri-food SME, retailer, seller (baker, butcher, etc.) until consumer;
- consumer expectations (quality, local, organic, traditional food), environmental aspects and market opportunities and challenges (economic aspects).