

Smart specialisation thematic platform on Agri-Food

Sub-platform on Traceability and Big Data

Lead Region: Andalucía (Spain)

Summary of the workshop proceedings 7 December 2016, Florence (Italy)

Introduction

As part of the European Commission's S3 Platform's Kick-off event for the thematic platform on Agri-Food¹, the Regional Government of Andalucía hosted a parallel session to discuss a scoping paper on the sub-platform for the topic of traceability and big-data in the agri-food chain. The list of participants at the parallel session is appended to this note.

The scoping paper reviewed the state of the art and rationale for the platform and proposed four topics on which the platform's future activities could be based. The scoping paper underlined that:

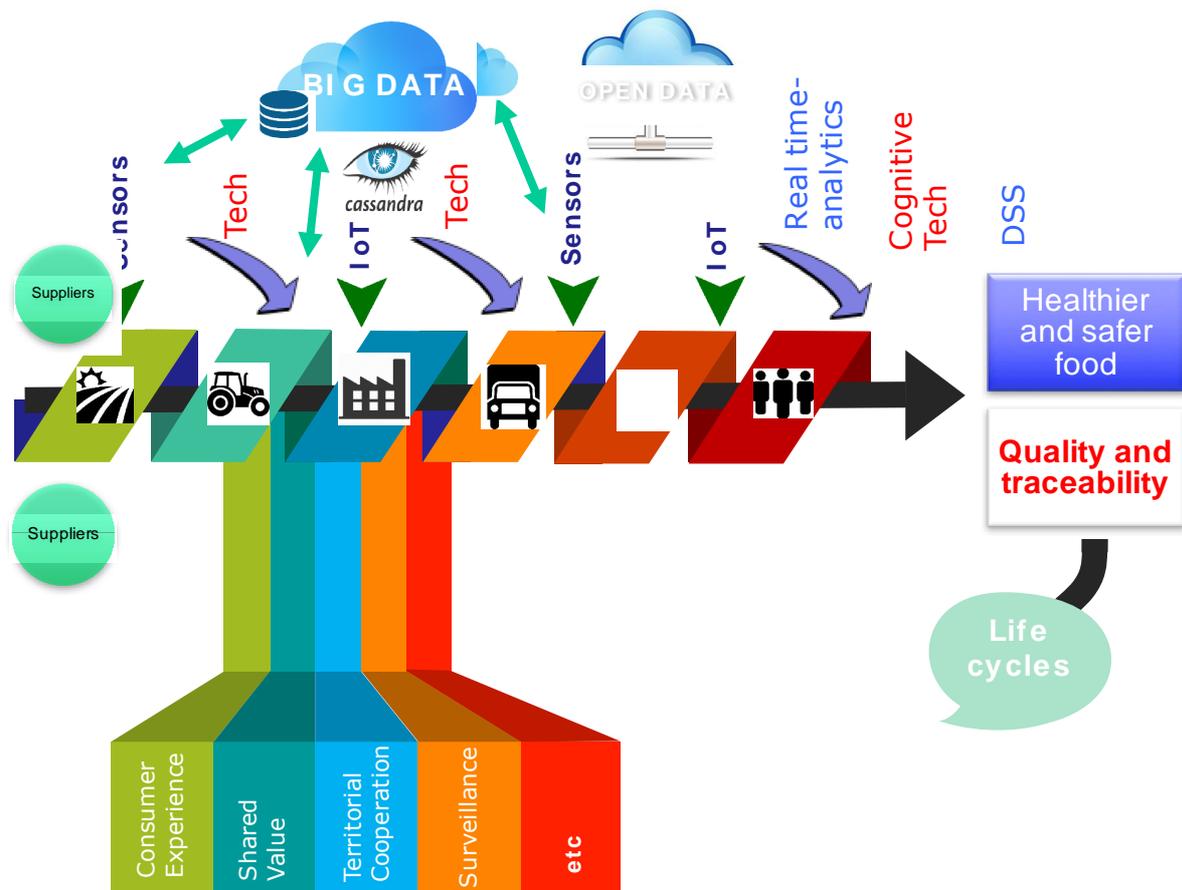
- Agri-food is a key sector for employment and future growth in many regions
- Boosting quality and productivity (value) along the whole food chain is a smart specialisation priority for regions across the EU:
- Agri-food innovation should help resolve societal challenges: health and ageing, resource efficiency and climate change mitigation;
- Enhancing food traceability is an identified challenge and 'opportunity' that can be supported applying ICT based systems in food production, safety, processing, decision-making, automation and distribution.

The initial mapping of initiatives in the field of traceability and big data in the agri-food chain underlines that there is a good basis for inter-regional co-operation:

- There are about 50 food related clusters in Europe with a number working specifically in agri-food ICT and data fields. There is therefore, significant scope to link up know-how and expertise in traceability, digital technologies and data-driven business models
- At European level, there are various complementary initiatives working 'upstream' on research and prototyping on key technologies for agri-sector, etc.. These include ERA-NET ICT AGRI 2, European Innovation Partnership (EIP-AGRI), IOT Food, etc.
- The newly approved EIT-KIC on Food will develop a business-research-education platform at pan-European level and is driven by major industry players. A number of the regions interested in joining the platform are involved in the KIC Food and this will help foster synergies.

Compared to these existing initiatives, the S3 sub-platform's value proposition or 'unique selling point' (USP) will be: **to develop inter-regional co-operation on the application of data-driven business models to boost the competitiveness of regional agri-food chains.** The intervention logic of the sub-platform is illustrated in the diagram below

¹ <http://s3platform.jrc.ec.europa.eu/-/kick-off-event-of-the-smart-specialisation-platform-on-agri-food?inheritRedirect=true>



Building on the analysis in the scoping note and the sub-platform model, the four topics proposed for the sub-platform are:

- TOPIC 1. Traceability and Big Data in the lifecycles of the value chain.
- TOPIC 2. Traceability and big Data in the “Smart monitoring of the value chain (production, agri-food industry, logistics, distribution and consumers) aiming to improve the competitiveness in the agri-food sector”
- TOPIC 3. Traceability and Big Data to incorporate the experience of consumers and of different operators in the value chain in decision-making processes
- Cross-cutting Topic: Open data, interoperability, data governance and information security, cyber security.

The objectives of the parallel session were

- To assess the suitability of the proposed topics and/or propose alternative topics, where appropriate.
- To deepen understanding of each thematic area and define concrete work themes to be developed in the sub-platform.
- Identification of and / or proposals for pilot and demonstration actions.
- Detect regional / sectoral barriers to sub-platform development
- Detect regional / sectoral opportunities for sub-platform development
- Next steps to be taken and agreement on proposed work schedule

The session was structured in two parts. The morning session focused on reaching agreement on the thematic topics and was opened by a short presentation (see appendix) by Alasdair

Reid (expert appointed by the European Commission) who also moderated the session. The discussion was structured around three key questions and participants were invited to contribute their ideas both during the discussion and by noting their ideas on post-its. The three key questions were:

- What are the key challenges for the adoption of data-driven business models in agri-food value chains?
- In which agri-food sector and/or value chain segment is there the most need or opportunity for inter-regional co-operation on traceability and big data?
- How can inter-regional co-operation build on and complement regional (RIS3) priorities related to agri-food and data-driven innovation ?

During the morning, the participants raised a number of points for consideration in the design and development of the sub-platform, these included:

- The sub-platform's activities should extend across the various food chains including not only agriculturally based foods but also seafoods.
- The relevant technologies supporting traceability extend beyond ICT applications and include 'molecular' traceability (genetics, etc.) and the platform should examine the relevance of data from multiple sources and how this can be used to enhance traceability and add value in the food chain.
- One objective should be to simplify and harmonise data collection processes for all food chain actors but especially producers (farmers, etc.) and small and medium sized food processing firms. Currently these actors are obliged to provide a lot of data to multiple 'registers' and one challenge is to combine existing proprietary and open data to reduce the burden of data provision (e.g. to food safety or environmental agencies, etc.).
- A related point raised was the need to distinguish between mandatory versus voluntary data collection to avoid the cost of collecting data with 'less value'. Data for data's sake should not be an aim and this implies a pre-identification of the types of existing data that can be used and how it adds value to traceability, quality and safety, etc. in the food chain.
- Enhancing consumer confidence in food traceability and food safety (e.g. temperature control during transport of foodstuffs) was raised as a critical element in securing the future competitive position of regional food chains on European and international markets.

The importance of the cross-cutting topic was underlined by many of the points raised during the morning discussion which related to data ownership and a balanced 'playing field' for all actors in the food chain (e.g. the risk that multinational companies like 'John Deere' end up controlling data relating to agricultural production or that supermarkets monopolise data on consumer preferences and trends to increase their 'influence' over the chain).

The afternoon session began with a summary, by Alasdair Reid, of the results of the 'post-its' session. The responses to the first question on the key challenges were largely in line with the morning session discussions and included:

- Improving understanding and developing a framework for data ownership / protection / security as a foundation for new applications;
- Ensuring that all actors in the value chain have access to data and avoid that 'downstream' players accumulate even more power over data.

- Help to overcome cultural and capability barriers to the adoption of data driven models in the agri-food sector, such as traditional thinking, language, consumer psychology, etc.
- Developing data standardisation and inter-operability to encourage and facilitate the exchange and analysis of data along the value chain
- Creating incentives and business models that foster data-sharing.

On the issue of whether the sub-platform should focus on specific food chains or segments of the ‘generic’ food chain, the participants underlined the need to cover the entire food chain but an emphasis on the two ends of the food chain:

- Farmers to enhance use of data in decision making related to markets, resource use, etc.. Suggestions made included enhancing traceability back to individual farms and ensuring protection of designated origin
- Consumers: incorporating consumer experience data as key part of food chain traceability, improving information on packaging for consumers to respond to consumers’ needs and improve awareness on food origin, etc.

It was also suggested to focus on traceability in transport/logistic chains and to help develop synergies between IT companies and food clusters.

The participants identified a number of specific food chains which could be of interest when developing pilot applications, these included: livestock (meat and dairy), fruit and vegetables (perishable products) olive oil and seafoods. The majority view was that the platform should not pre-select specific food chains at this stage and that the applications or pilot projects developed should seek to address the use of data for traceability relevant for all food chains.

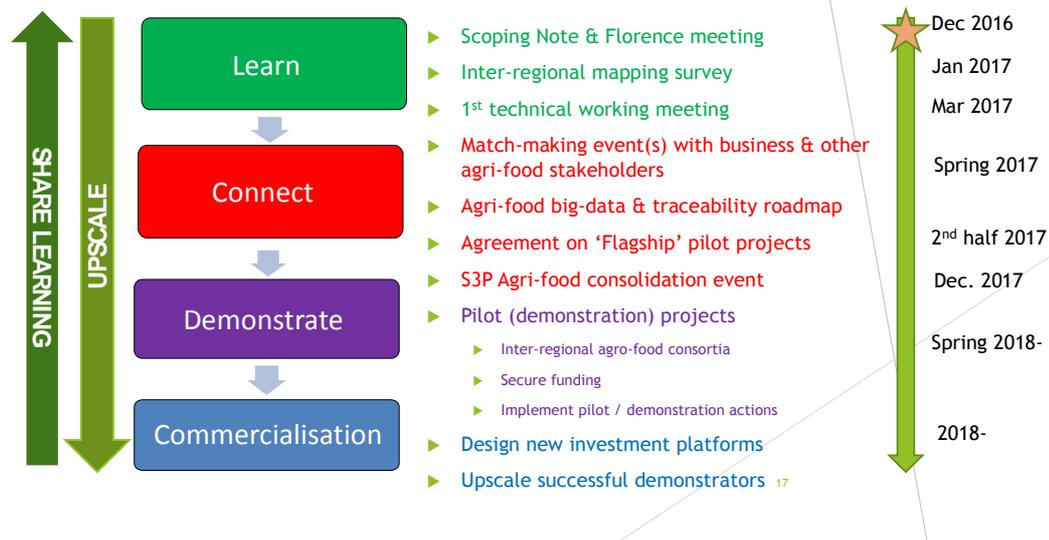
On the four proposed topics, broadly speaking these were viewed as providing a good framework for the development of the platform. The feedback from the participants stressed the importance of:

- Creating common standards for sharing data and systems
- Joint testing of new data applications and creating ‘demonstration hubs’ (e.g. via Internet of things applications).
- Enhancing the quality of information provided to consumers based on improved food traceability.

José Luis Molina (HISPATEC, Spain) then presented a business view of how data-driven business models can be applied to the agri-food chain (see presentation in annex). This sparked a lively discussion on how to further refine the agreed four topics of the sub-platform and develop pilot projects at inter-regional level.

In closing, the discussion turned to the next steps to take with a presentation of the proposed timeline of activities for 2017 as well as identification of regions that could be invited to join the sub-platform as illustrated in the diagram below.

Process: Learn – Connect – Demonstrate – Commercialise



The participants agreed to the proposed timetable of activities and asked for an early confirmation of the data of the next meeting scheduled for March 2017 which will be hosted by the Regional Government of Andalucía. Based on requests from the participants, it was agreed that a guidance note for the mapping survey will be provided including hints on how to organise a consultation with relevant 'food cluster' actors in each region.