

Contributions to the 2nd Report

Working Group:
Strengthening Leadership
in Digital Technologies and in Digital Industrial Platforms
across Value Chains
in all Sectors of the Economy

22nd February 2017

General reviews

We consider this 2nd report of the WG2 dated February 22, 2017 to be a very relevant contribution to the Digital Agenda for Europe. Launched in May 2010, the Digital Agenda for Europe is aimed at boosting Europe's economy by delivering sustainable economic and social benefits from a digital single market. It is also very useful for the Digital Single Market strategy (2015), the initiative to Digitising European Industry (2016) and particularly for moving forward the alignment of strategies and public and private action of EU Member States and Regions, the development of joint roadmaps, and the federation of initiatives. But above of this, it may be a significant step forward to open innovation, business opportunities and well-being within the EU and also to promote complementarity and synergies among different initiatives as it was already mentioned in relation to the 1st Report of the WG2.

Farmers and factories scope

Although the approach of the WG2 is organised around three “vertical” and two “horizontal” perspectives, we think digitisation involves all actors of the value chains. For example, in the agri-food industry, collection and use of data involves input suppliers, farmers, food processors, software providers, logistic solutions providers, retailers, and consumers (from farm to fork). It adds value to the data collection process by feeding the different algorithms (machine learning, artificial intelligence, predictive models...) with data from different sources, so they can be more accurate. Considering the relevance of the agri-food value chain within the EU (more than 10 million farmers and 290,000 agri-food factories, and the link with healthcare, environment, food security, energy, transport, territorial planning, etc), we believe that the reference made to different actors across the agri-food value chain is very appropriate. However, we think it could be interesting to point out with greater emphasis those approaches related to the whole agri-food value chain and the relations and synergies between actors.

One of the major challenges of the European agri-food sector is to overcome the value chain imbalances by providing agri-food value chain actors with mechanisms to contribute to their empowerment and to maintaining a sustainable and balanced relation among them. With that aim it is essential to collect and use information and

knowledge jointly and from a wide range of sources.

We should not forget that this sector produces food for consumers that are concerned about health, the environment, social responsibility, etc. Consumers, who are the last stage in the food chain, must be taken into account because they can be the weakest stage of the value chain if they do not have the appropriate information. It is therefore crucial to provide consumers with sufficient information so that they feel more confident relating to purchases of food. And it is also important to pay more attention to the experience of consumers and include this issue in the decision-making. These are major challenges of the EU agri-food value chain.

We should not forget logistics, which plays an important role in agri-food, particularly considering dependant areas such as monitoring traceability of the cold chain, and storage tanks, etc. Therefore, monitoring, control and traceability of each package is essential.

A bad decision of any link of the agri-food value chain can lead to food crises or taking wrong decisions with consequences for consumers, farmers and agro-industries, which means in any case a loss of efficiency.

The reference to the actual and future importance of cognitive technologies is quite appropriate. However, greater emphasis should be focus on making opportunities a reality, on a new paradigm resulting from IoT spectacular progress (connectivity standards, low power and low cost wireless sensors but with high connectivity, ESP, etc), open data, interconnectivity, supercomputing, and probably one of the technologies that may have a greater impact at a short term in the improvement of traceability and transactions, that is, Blockchain.

The impact of digitisation on the agri-food sector

Therefore, digitisation of the agri-food industry will have an impact not only in terms of farmers' decision-making but also in environmental, legal, social, territorial cohesion, health and economic terms. Digitisation faces challenges such as resource efficiency and low-carbon and sustainable economy (circular economy, Product Environmental Footprint-PEF, Lyfe Cycle Assessment-LCA), improving business competitiveness and redressing imbalances (new business models) and healthier and safer food for all citizens according to new life style and habits. That is, the Smart Agriculture strategy have an actual impact on many other issues beyond agriculture.

Considerations of the Working Group 2 seems quite appropriate and thought-provoking and will probably lead the way towards achieving and facing the major challenges of the agri-food value chain, that is, building bridges between consumers, the environment and innovation. The aim is to tackle issues such as:

- To ensure sustainable growth, based on a low-carbon and more efficient economy.
- To improve competitiveness and redress the imbalances in the agri-food value chain through innovation.
- To ensure healthier and safer food for all citizens and fitted to their new life style and habits.

The S3P Agri-food Thematic Partnership on Traceability and Big Data in the value chain is supported by four tasks groups, each one focused on one topic, closely aligned with WG2 reflections:

- Specific topic 1. Traceability and Big Data in the “Lifecycles of the value chain”
- Specific topic 2. Traceability and Big Data in the “Smart monitoring of the value chain (production, agrifood industry, logistics, distribution and consumer) aiming to improve the competitiveness in the agrifood sector”)
- Specific topic 3. Traceability and Big Data in order to “Incorporate consumer experience and of the various different operators of the food chain in decision-making processes”
- Cross-cutting topic. “Open data, interoperability, data governance and information security, cybersecurity”.

In short, we believe that it would be appropriate to go into partnerships and synergies issues related to the agri-food value chain and its links to external systems. It should always be considered as a complex and dynamic system and particular attention should be paid to those technologies, actions and strategies aiming at promoting real-time information in decision-making, to external systems, and experiences of consumers and key actors of the agri-food value chain.

We can share results and work carried out within the S3P Agri-food Thematic Partnership on Traceability and Big Data in the value chain if they are considered to be useful for WG2.

Specific Reviews

- The role of consumers

It should be stressed that one of the objectives of the agri-food sector is to guarantee a healthy and safe diet to all consumers. The European Union represents 500 million consumers and is the largest exporter and importer of foodstuffs.

With the aim to provide consumers with full guarantees there are applicable legal and regulatory requirements to comply with in relation to traceability and food security, such as the Regulation (EC) No 178/2002. It lays down the general principles and requirements of food law following an integrated approach to food safety "from farm to table". It stresses the "ability to trace and follow, through all stages of manufacture, processing and distribution, a food, feed, food producing, animal or substance that are

intended to be, or expected to be incorporated into a food or feed ".

Although traceability should also be understood as the need of consumers for product information such as origin, environmental footprint, etc.

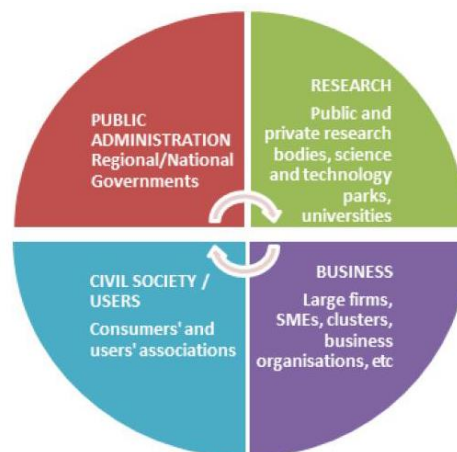
We could therefore conclude that it is difficult to separate agri-food from consumers. We should insist on the idea of a value chain approach.

- The role of Public-Private Partnerships (PPP)

With regard to PPP (Public-Private Partnerships) we would like to mention the S3P Agri-food Thematic Partnership on Traceability and Big Data in the value chain approach.

The partnership involves regions which in turn must set-up regional partnerships including four type of members:

- Public administrations
- Knowledge
- Agri-food and ICT businesses (including farmers)
- Social actors (consumers)



This approach allows us to connect needs, opportunities and political capacities. This is the governance model that has been proposed which is awaiting the partnership approval.

The Thematic Partnership would be a supporting ecosystem towards digitisation.

The major challenge is the lack of funds to offer faster support to those regional partnerships. European projects (H2020, Interreg, etc) create uncertainties (as they may not be approved). Additionally, regional operational programmes have already been planned which means that regions rely on different possibilities. Therefore, it is necessary to create some figure to financially support regions such as Andalusia to promote and coordinate the setting-up of those regional partnerships in other EU Regions. Sharing information leads to efficiency and additionally it has a multiplier effect.

It would be interesting to provide more precise information about the role PPP should play and coordination envisaged with other initiatives.

The need of federation / collaboration / coordination of platforms and initiatives is mentioned throughout the document but, it would probably be very useful to include more ideas about the way it could be implemented. The S3P Agri-food Thematic Partnership on Traceability and Big Data in the value chain could be a good example of a network of partnerships on digital innovation.

We should explore the vulnerability of all actors of the agri-food value chain in terms of lack of capacity and knowledge (farmers, industries, consumers, retailers, etc).

In the report it is mentioned that small farms have limited access to Internet. Maybe, we should consider factors such as culture and age (average farmers' age is over 55) and search new mechanisms to introduce ICTs. One of the objectives of agricultural policies is to encourage younger farmers, and maybe digitisation could support the generational change in the farming sector.

We believe it is important to count on small demo projects together with living labs and innovation hubs initiatives. Agri-food sector is experience-based and therefore, small pilot projects and the implementation of a transfer network are essential. The Thematic Partnership will address pilot projects for each of the four above-mentioned topics. But in addition, it may be necessary to work on small initiatives to fill the digital gap at a regional level.

However, we should bear in mind that in the Andalusian agri-food sector, as in many other EU regions, co-operatives play a key role in this sector transformation. Co-operatives are therefore a very important instrument to promote digitisation and coordinated decision-making as well as for the implementation of a smart model. This sector-specific approach should generate great added value.

- The Executive Summary of the 2nd report

To contribute to the comprehensive overview of opportunities in Member States, we would like to stress that the S3P Agri-Food Thematic Partnership on Traceability and Big Data has carried out a mapping of initiatives in the field of traceability and big data in the agri-food chain.

To avoid a further deepening of the digital divide is a very important issue for our thematic partnership. All agri-food value chain actors are facing a lack of skills/knowledge regarding digitisation.

In relation to facilitating comparison, joint roadmaps, etc, members of the Thematic Partnership have frequently discussed about standardisation which is one of the key issues to be tackled.

- The Strategy in Smart Agriculture

We believe the following remarks could be taken into account:

- The exhibition in Cordoba is an annual event called FIMART (Fair of Innovation and Technology for rural areas).
- Additionally to the Bratislava event, the EIP-AGRI seminar 'Digital Innovation Hubs: mainstreaming digital agriculture' on 1-2 June 2017 in Kilkenny, Ireland is worth mentioning.
- We would also like you to consider the REDIAM (Network of Environmental Information of Andalusia), the RAIF (Phytosanitary Alert and Information Network) and the Price and Market Observatory as examples of initiatives carried out in Andalusia.

<http://www.cma.junta-andalucia.es/medioambiente/site/rediam>

<http://www.cap.junta-andalucia.es/agriculturaypesca/raif/>

<http://www.cap.junta->

[andalucia.es/agriculturaypesca/observatorio/servlet/FrontController](http://www.cap.junta-andalucia.es/agriculturaypesca/observatorio/servlet/FrontController)

- Two large Andalusian cooperatives have developed advanced traceability solutions that could be included in section 4.2.4

COVAP: <https://www.covap.es/conocenos/nuestras-industrias/carnica>

UNICA GROUP:

<http://unicagroup.es/en/>

<http://soydeunica.com/>

- It should be stressed that the S3 Platform is an initiative of the European Commission, coordinated through the IPTS-JRC. Agri-food is a Thematic Platform with three Thematic Partnerships. Two of them are mentioned in the document: High Tech Farming and Traceability and Big Data. The first technical meeting of the later was held in Seville on March 28-29. Please find conclusions attached.
- With the aim of bridging the gaps and addressing the issues, we believe that information, dissemination and awareness raising about demo and pilot projects would increase all value chain actors' involvement in platforms.
- Digital skills should be promoted among all value chain actor, not just farmers and take into consideration issues such as culture, information, training, age...
- The co-operative model represents 40% of Andalusian fruit-and vegetable-producer organisations and fills many of the individual gaps in the farming industry.

Conclusions

In addition to what has been said previously, both in the contributions to the 1st report and in this document, we would like to highlight certain aspects that might be important from an agri-food chain approach:

- We suggest that more focus should be given to considering the agri-food

value chain from a systemic and dynamic approach. In the document, focus is on the parts and synergies are not fully emphasised. It could therefore be tackled differently and more bridges with digital transformation in health and care could be built.

- It should be important to pay more attention to traceability the relation with agri-food chain efficiency, technologies and particularly Blockchain and the integration with IoT.
- Although Open Data is mentioned, the scale of this approach would probably demand to go into it in a lot more detail.
- It is also necessary to stress the importance of digitisation contribution to include real-time information of the experience of different actors of the value chain, particularly consumers, to improve processes, products, and decision-making in general.
- It would also be very appropriate to move ahead with recommendations to improve governance, data ownership, particularly in relation to platforms cooperation and federation, and how this federation could be implemented and resources it may require, etc. More focus is also necessary on shared value and the role of the European Commission.
 - Although it was mentioned in our contribution to the 1st report, we did not find a clear reference in the 2nd report to the importance of communication strategies to remove or reduce reluctances to digitisation. However, reference to the importance of transparency about the benefits of digitisation processes is clear and constitutes a strong argument.
- We believe that it would be necessary to highlight the use of data from different sources within a context of variable geometry addressed to different users.
- The importance of partnerships among agri-food chain and ICT actors, both private and public, should be stressed.
- A small assessment of the strategy and international initiatives is mentioned, however we believe that the need to implement a real technological and scientific monitoring system, both at EU and international level, should be specifically pointed out.
- Considering the importance and complexity of this issue, we should probably mention the need for actors to integrate systems and platforms.