S3P Traceability and Big Data in the agrifood value chain

Linking the Partnership with the Sustainable Development Goals

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INTRODUCTION

The United Nations Sustainable Development Goals (SDGs) constitute a **global strategy for economic development, social inclusion and environmental sustainability**. They were established in 2015 as part of the 2030 Agenda for Sustainable Development of the United Nations (UN) to balance social, economic and environmental aspects, considering them interconnected.

The signatories adopted a policy framework with 17 goals, addressing issues such as poverty, hunger, health and well-being, education, gender equality, environment and climate, strong institutions, peace and justice.

This document examines the alignment of the S3P Traceability and Big Data Thematic Partnership in the agrifood value chain with the 2030 Agenda, and incorporates in its final part a series of recommendations to reinforce and make more visible its contribution to the SDGs.

The structure of the document is as follows:

- First, we present a context analysis about the role that interregional Smart Specialisation Partnerships can play in the implementation of the SDGs;
- Next, we analyse the alignment of the Partnership's documents and projects with the SDGs;
- Thirdly, we suggest the voluntary review model, which already exists at the national and local level, as a scheme that could inspire the monitoring of the Partnership's contribution to the SDGs;

- Lastly, we present some recommendations to reinforce the Partnership's commitment to the global Agenda, and to increase the visibility and communication of its contribution; together with some final key ideas for the implementation of an initial roadmap in this field.

THE S3P PARTNERSHIPS AND THE SDGs

The Sustainable Development Goals have brought into focus, at a global level, the need to advance towards new ways of doing politics integrating the economic, social and environmental aspects. They have generated the commitment of governments, public, private and social entities with its principles.

The 17 SDGs are accompanied by 169 targets and 231 indicators. Every year, a review process takes place at the High-Level Political Forum (HLPF) on sustainable development. During this conference, countries present their Voluntary National Reviews (VNR) and, in some cases, regional achievements as well.

The European Union (EU) is committed to fulfilling the 2030 Agenda through its internal and external policies, as described in the reflection paper 'Towards a sustainable Europe by 2030', the European Green Deal, the political priorities of the European Commission and its work program. EU member states, on their side, prepare voluntary national reviews, in accordance with UN guidelines. But in addition to the national level, the SDGs have also a regional dimension, called "localization", since it is estimated that around 65% of the objectives will require the participation of local and regional authorities.

Efforts to localize the SDGs are continuous and are taking place at different scales. The interregional European Partnerships belonging to the Smart Specialisation Platforms could also as well monitor and show their contribution linked to their potential to solve complex socio-economic and environmental challenges in each territory.

Smart Specialisation as a place-based innovation policy started before the adoption of the 2030 Agenda. However, Smart Specialisation is seen as a very suitable approach for authorities, at different levels of governance, to generate desirable changes. Smart Specialisation is a policy concept based on innovation, mobilization, co-creation, localization, co-investments and cooperation, which are aspects very relevant for both the S3 and SDGs agendas.

Although the SDGs are not mandatory in Smart Specialisation Strategies, many countries, sub-national entities and cities have decided to address them. In fact, the growing trend to include sustainability in the development, implementation and monitoring of Smart Specialisation to make it greener and more aligned with social needs is already underway, and the Commission is preparing to move from S3 towards the S4 (Smart Specialisation Strategies for Sustainability).

Interregional Partnerships for Smart Specialisation, on their side, are structures with great potential to contribute to the implementation of the SDGs:

- they work at a territorial scale;
- they connect actors of the quadruple helix in each region (governments, knowledge institutions, private sector and civil society);
- they develop a shared vision about challenges and priorities;
- and they integrate a (tacit or explicit) commitment with sustainability in their action plans.

Therefore, the existence of interregional ecosystems capable of committing to the SDGs and promoting an international flow of science, technology and innovation to achieve the global goals represents an optimal starting point to contribute to the 2030 Agenda.

DIAGNOSIS ON THE CURRENT CONTRIBUTION OF THE PARTNERSHIP TO THE SDGS

Innovation and technological Partnerships can play, as already mentioned above, a key role in achieving the 2030 vision. And, specifically, **technological innovation applied to the digitalisation of the agrifood sector can contribute to the implementation of the SDGs for several reasons:**

- ICTs have the potential to reshape not only agriculture, but also our food systems and our food security (according to a report by the World Economic Forum at the beginning of the year, technology has a very relevant impact on accelerating at least eleven of the SDGs: specifically, 5G is mentioned as crucial in aspects such as health, job creation or, precisely, the reduction of emissions and the fight against climate change).
- Establishing an ICT culture in rural regions is key to guaranteeing information and communication rights for all categories of rural population.

- Efforts in digitalisation make it possible to overcome the atomization suffered by the agrifood sector, as well as the digital divide that small farmers can suffer when accessing traceability solutions and big data.

On the other hand, the health crisis generated by COVID 19 has readjusted agendas and priorities at all levels, and has made more evident the need for the agrifood value chain to align with the Sustainable Development Goals: the pandemic has caused a big blow to supply chains; it has generated in producers and industry a greater awareness of the threat posed by not acting responsibly in relation to the environment and sustainability; and it has increased the consumers' demand for healthy and nature-friendly food systems. Along with this, the agrifood sector has been held a high esteem, due to the strategic role that the sector has been playing during the pandemic. In May 2020, due to the coronavirus crisis, the European Commission proposed a strengthened EU budget and a new emergency financial instrument ('Next Generation EU') for 2020-2024 from which important support is expected to emerge for the resilience and sustainability of the agrifood sector.

The interregional Partnership for Smart Specialisation in Traceability and Big Data in the agrifood value chain debated about the SDGs at the Technical Meeting held in Malaga in December 2019, as well as in the June 2020 (virtual) Technical Meeting. Partners discussed about the opportunity to join this collective commitment to sustainability in two ways:

- by making visible the contribution that is already being made to the principles advocated by the SDGs;
- by reinforcing its commitment to the global Goals in future lines of work.

The Partnership's mission is already aligned with the SDGs, since it is based on "establishing a collaborative framework for the digitalisation of the agrifood value chain through the adoption of digital technologies and the creation of value based on data, to contribute to greater efficiency, equity and transparency of the agrifood value chain" (in coherence with SDG 9).

In addition to this, an explicit reference to the value shared throughout the value chain is included among the common guidelines identified by the Action Plan to promote a data-based agrifood chain. This aspect is closely related to the spirit that informs the Sustainable Development Goals (SDGs 8.3 and 8.4).

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Complementary to the mission and guidelines informing the Partnership, the objectives established in the Action Plan are also potential contributors to different SDGs (SDGs 8, 9, 12, 17):

- Improvement of the competitiveness, resilience and sustainability of the agrifood sector.
- Achieve a transparent, collaborative and balanced agrifood value chain and promote an economy of shared value.
- Accelerate the adoption of ICT, improve data management and interoperability in the agrifood sector.
- Promote exponential innovation in all stages of the agrifood value chain.
- Develop new business models and market opportunities, which include, among others, the creation of quality employment.
- Establish creative designs for decision-making based on data management and the creation of ecosystems and decision support systems.
- Ensure inclusive governance of data and knowledge flows.
- Improve synergies between public institutions, knowledge agents, civil society, companies and farmers.
- Share best practices and develop standards and benchmarks in relation to the promotion of the agrifood value chain based on the digital economy.
- Encourage cooperation between different disciplines and areas, as well as between regions sharing common interests and niche market opportunities.
- Promote the incorporation of the agrifood sector to ICT and the digital economy.
- Facilitate the development of an economy linked to "open data".
- Improve coherence and strategic alliance with the Commission's objectives on the strategy for smart, sustainable and inclusive growth.

Finally, social challenges such as consumer participation, healthy lifestyles or food security; and environmental issues such as sustainable production or the life cycles of the value chain, are already being addressed in specific projects through which the Partnership potentially contributes to a series of SDGs (especially SDGs 2, 7, 8, 9, 12 and 17).

In the following table we have tried to categorize the contribution that the most recent projects of the Partnership are potentially making to the implementation of the 2030 Agenda:

PROJECTS	CONTRIBUTION TO SDGs and RELATED-TARGETS
REGIONS 4FOOD. This Interreg Europe project joins the efforts of 7 regions of the Partnership, interconnecting their regional innovation ecosystems and promoting an exchange of experiences and identification of good practices on public policy addressing digitalisation of the agrifood sector.	**9.4** By 2030, improve infrastructure and readjust industries to be sustainable, using resources more efficiently and promoting the adoption of clean and environmentally sound industrial technologies and processes (…). **12.7** Promote public procurement practices that are sustainable, in accordance with national policies and priorities. **17.16**: Improve regional and international North-South, South-South and triangular cooperation in science, technology and innovation and access to them and increase the exchange of knowledge under mutually agreed conditions (…).

PROJECTS	CONTRIBUTION TO SDGs and RELATED-TARGETS
SMARTAGRIHUBS. H2020 project in which around 160 entities (several partners from the Partnership included) are involved in order to build an extensive pan-European network of Digital Innovation Hubs (DIH) where there are currently more than 270 DIHs across Europe. This ecosystem will drive digital innovation from ideation to implementation to explore, test and scale new businesses and technology solutions that address global challenges in the agrifood sector.	**2.4** By 2030, ensure the sustainability of food production systems and apply resilient agricultural practices that increase productivity and production, contribute to the maintenance of ecosystems, strengthen the capacity to adapt to climate change, extreme weather events, droughts, floods and other disasters, and progressively improve the quality of land and soil. **17.7.** Promote the development of environmentally sound technologies and their transfer, dissemination and diffusion to developing countries under favourable conditions, including under concessionary and preferential conditions, by mutual agreement.
COMPLAT. Interregional project in which 5 European regions participate, aiming at promoting the traceability of agrifood products through smart labelling. It has a strong commitment to social issues such as the digitalisation of small producers, consumer participation or the promotion of healthy lifestyles throughout Europe. The project received support from the EU Pilot Action for interregional innovation investments.	**12.6** Encourage companies, especially large companies and transnational corporations, to adopt sustainable practices and incorporate sustainability information into their reporting cycle. **12.8** By 2030, ensure that people around the world have relevant information and knowledge for sustainable development and lifestyles in harmony with nature.

PROJECTS	CONTRIBUTION TO SDGs and RELATED-TARGETS
ICT-BIOCHAIN. H2020 project focused on promoting the use of biomass as a sustainable resource, working on the quantification of available resources for the creation of biorefineries and promoting the circular bioeconomy. This project was developed by 8 partners and finished at the end of May 2020.	**9.4** By 2030, improve infrastructure and readjust industries to be sustainable, using resources more efficiently and promoting the adoption of clean and environmentally sound industrial technologies and processes (...) **12.2** By 2030, achieve the sustainable management and efficient use of natural resources. **12.5** By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse policies.

PROJECTS	CONTRIBUTION TO SDGs and RELATED-TARGETS
NIVA Horizon 2020 project developed by a consortium of 27 partners around pilots and use cases related to geographic information systems and technologies applied to the modernization of farms making efficient use of digital solutions and electronic tools, creating reliable methodologies and data sets harmonized to monitor agricultural performance while reducing the administrative burden for farmers, paying agencies and other stakeholders. It is relevant the fact that among its partners, some Common Agriculture Policy paying agencies, and some coordinating bodies from 9 member states are participating, together with leading farmers' organizations and industrial innovation companies.	**9.4** By 2030, improve infrastructure and readjust industries to be sustainable, using resources more efficiently and promoting the adoption of clean and environmentally sound industrial technologies and processes (...) **12.6** Encourage companies, especially large companies and transnational corporations, to adopt sustainable practices and incorporate sustainability information into their reporting cycle. **17.16** Improve regional and international North-South, South-South and triangular cooperation in science, technology and innovation and access to them and increase the exchange of knowledge under mutually agreed conditions (…).

PROJECTS	CONTRIBUTION TO SDGs and RELATED-TARGETS
TRACKGROWING DATA. A COSME project already completed, which has had the participation of five European clusters linked to the Partnership. Its objective is to create an interregional ecosystem to stimulate innovative solutions for the agrifood chain and joint investments.	**9.3** Increase the access of small industrial and other businesses, particularly in developing countries, to financial services, including access to affordable credit, and their integration into value chains and markets. **9.4** By 2030, improve infrastructure and readjust industries to be sustainable, using resources more efficiently and promoting the adoption of clean and environmentally sound industrial technologies and processes (...) **17.16** Improve regional and international North-South, South-South and triangular cooperation in science, technology and innovation and access to them and increase the exchange of knowledge under mutually agreed conditions (…).

THE VOLUNTARY REVIEWS

An essential element of the 2030 Agenda is the follow-up and review mechanism through voluntary national reviews before the High-Level Political Forum held annually at the United Nations in New York.

A voluntary review is a tool that allows states to evaluate their achievements in relation to the SDGs, and their contribution to the 2030 Agenda. It is at the same time a tool that can help prioritize actions and increase awareness and commitment to all aspects of sustainability.

The proposal to carry out a voluntary review on the Partnership's contribution to the SDGs, although it has probably no precedents at the interregional level, would offer the

following benefits (according to Deininger et al. 2019, as mentioned in the European Handbook for SDGs Local Voluntary Reviews):

- Internal: reveal hidden connections, offer a common framework for action, link priorities and data, leave no one behind.
- External: responsibility, transparency, new intersectoral networks, leadership, participation in the global community, connecting priorities with global challenges, generating conversation with international actors.

The initiation of a voluntary review process by the Partnership could make it possible to address a **triple objective**:

1. prepare an inventory of projects with their corresponding SDGs alignment;
2. provide communication instruments to reinforce knowledge about the SDGs and their implementation in the agrifood value chain;
3. contribute to the implementation of technological solutions, and traceability and big data innovation projects for the agrifood sector, aligned with the implementation of the SDGs.

If the Partnership decides to undergo a voluntary review process, **some considerations should be taken into account:**

- The voluntary review, as an exercise of transparency and accountability, should be agreed by all partners, and once the periodic implementation of this mechanism is approved, it should be incorporated into the Action Plan.
- The voluntary review could focus, not on a review on the alignment with all the SDGs, but on a selection of them, which are the most relevant for the Partnership (SDGs 2, 4, 7, 12 and 17).
- The voluntary review could be established on an annual basis, and its results could be presented in various formats: a report published on the web and social networks; presentations at technical meetings with partners and at events and conferences; section of the semi-annual follow-up report to be sent to the JRC; infographics; content on social networks ...
- The Partnership could check each project's contribution to the SDGs prior to its launch. This contribution could eventually be extended to the Green Deal and the From Farm to Fork Strategy.
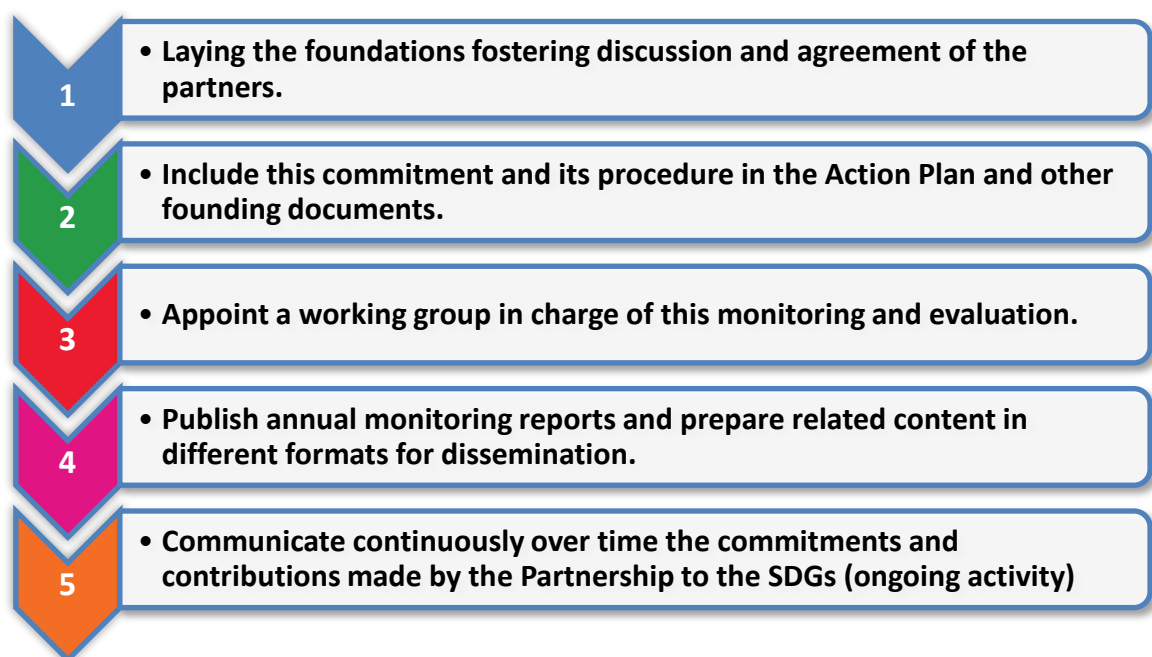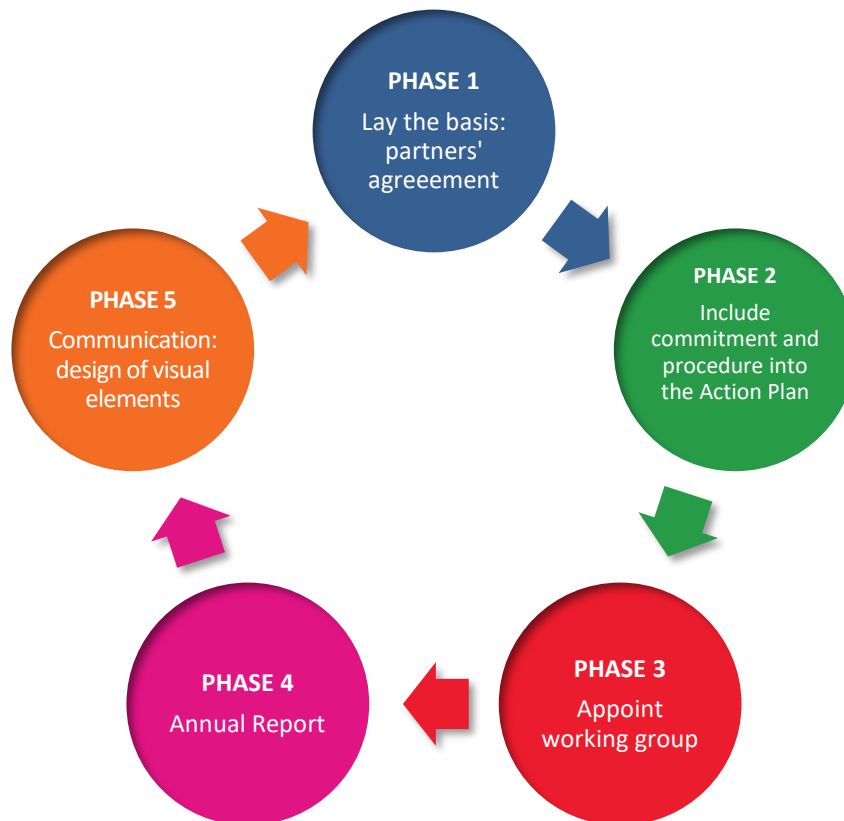
- The Working group responsible for this review could tentatively be created within the scope of the coordinating team in the lead region, and could be opened to other partners who express interest in participating in it.
- Since there are no official indicators or statistics at the level of interregional innovation Partnerships, the data collection process could be designed in a simple way, identifying for each project or intervention launched by the Partnership, to which SDG and Target it potentially contributes.

In general terms, the **voluntary review process** could therefore consist of the following steps:

1	• Laying the foundations fostering discussion and agreement of the partners.
2	• Include this commitment and its procedure in the Action Plan and other founding documents.
3	• Appoint a working group in charge of this monitoring and evaluation.
4	• Publish annual monitoring reports and prepare related content in different formats for dissemination.
5	• Communicate continuously over time the commitments and contributions made by the Partnership to the SDGs (ongoing activity)

OPPORTUNITIES AND BARRIERS FOR THE COMMUNICATION ABOUT SDGs

Communication about the commitment of organizations in relation with the SDGs has difficulties and opportunities:

Among the **DEFICITS** we can identify the following ones:

- The 2030 Agenda, with 17 goals and 169 targets, conceived in an integrated manner, is a document that represents a significant challenge in terms of communication.
- In a time of an overabundance of content, successfully transmitting a message of certain complexity has many difficulties.
- The SDGs can be vague if they are not translated into real action.
- The contribution of an interregional Partnership to the SDGs, given its scale of action, faces problems of objective measurement.

As **STRENGTHS** we can point out:

- The SDGs are aspirational: they synthesize daily needs and concerns and therefore it is easy to connect with them.
- By including a universal message of improving living conditions, communication in SDGs has the potential to generate empathy and emotional commitment.
- Civil society and companies have already begun to get involved and have shown interest in aligning their social and corporate strategies with the SDGs: they are privileged allies to take into account in any communication-related strategy that partners decide to initiate.
- International and interregional cooperation Partnerships and associations make it possible to localize the Objectives in real problems in their territories (in the case of the Partnership in those related to the agrifood sector and the digitalisation of the value chain).
- The fact that the European Commission has already paved the way for the contribution that Platforms and S3 Partnerships can make to the 2030 Agenda represents an opportunity to be pioneers in the measurement and visibility of that contribution.

STRATEGIC RECOMMENDATIONS

With the aim of guiding this new scope of work of the Partnership, it is suggested to take into considerations the following **questions for the discussion**:

- <u>What SDGs will the Partnership focus on and why</u>? Is there a priority objective among those to which the projects carried out contribute the most, and on which future efforts could focus?
- Given that the SDGs contain indicators that may not be applied inter-regionally, could some of them be adapted? <u>What could be the measurement indicators</u>
- How could the Partnership share its diagnosis and contribution to the SDGs with other S3 Partnerships? <u>Can be synergies developed in the framework of the Thematic S3 Platforms?</u>

Complementary, once the partners have given the green light to the proposal to incorporate this issue into the Partnership's agenda, the following activities could be considered **in relation with the visibility of this commitment**:

- Organization of <u>workshops, webinars and events</u> on this topic that help raise awareness about the SDGs in the agrifood sector.
- <u>Contribute to national and international fora</u>, visualizing the commitment and contribution in this area.
- <u>Design communication elements</u>, in different formats, to be disseminated on all communication channels of the Partnership (web, newsletter, Twitter or Youtube channels...).
- Specifically, on the Partnerhip's <u>website</u>, the following could be considered:
- Design a section on SDGs and include in it a benchmark on the commitment of the different regions with the SDGs, in relation with the agrifood sector;
- Include in this section of the web the institutional video of the UN;
- Design an SDG banner or some visual communication element in this regard;
- Design some SDG graphic element to "label" or categorize projects with their corresponding Sustainable Development Objective.

CONCLUSIONS

The S3P Traceability and Big Data Thematic Partnership represents a good example of how a diverse and large group of territorial actors (regions, universities, companies, clusters, technology centres, consumer associations, etc.) can play a relevant role in promoting changes. The fact that the Partnership focused its first steps on the creation of regional ecosystems, beyond the mere development of technological projects, already shows an orientation towards a more equitable and sustainable value chain.

The commitment to the three components of Sustainability, as we have seen through the Partnership's definition of its mission, its objectives and its projects, exists and the path has begun.

In our analysis, we have considered that the Partnership has the potential to contribute to the following Sustainable Development Goals:
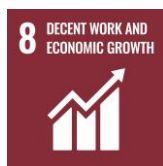
End hunger, achieve food security and better nutrition, and promote sustainable agriculture.

Ensure access to affordable, reliable, sustainable and modern energy for all.

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Guarantee sustainable production and consumption patterns

Strengthen the means of implementation and revitalize the Global Alliance for Sustainable Development

This alignment also coincides with the efforts that are already being carried out by industry leaders in digital technologies, sustainable development and agricultural innovation towards a sustainable digital transformation of the agrifood sector.

Finally, the fact that the Partnership was invited by the Joint Research Centre of the European Commission to present its contribution to the SDGs in an international Conference co-organized, in June 2020, by the European Commission and the United Nations, shows a strategic support in this process and a signal to advance in this challenging path in which all the contributions, at the global level, are required and welcomed.

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