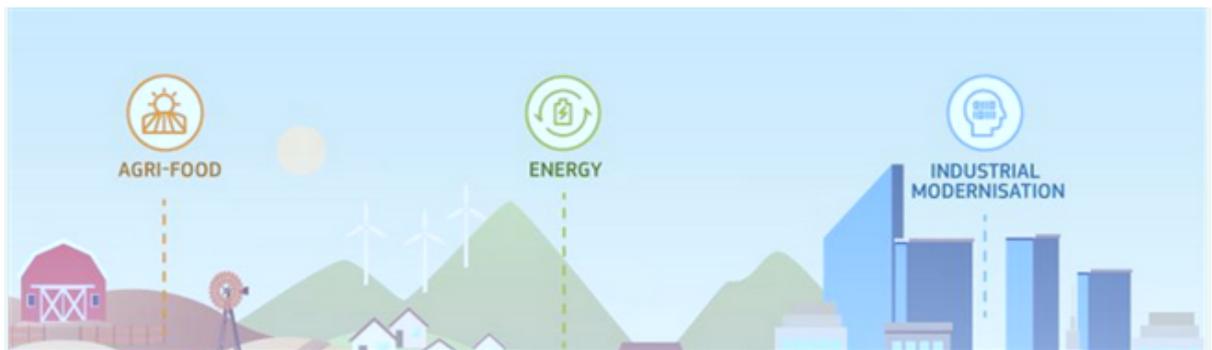


Thematic Smart Specialisation Platforms Monitoring Progress Report

Fields marked with * are mandatory.



Thematic Smart Specialisation Partnership Monitoring Progress Report

This report is presented to the relevant Working/Steering Committee.

The report is updated every six months.

Confidentiality:

The management report (section I) and progress report (section II) will be made available to the public via your Partnership's web page.

The part on self-assessment is confidential.

Based on the monitoring results, the European Commission will decide on the following term's support.

* Reporting period

July - December 2020

* Please select the name of your partnership

High Tech Farming

*** Start date of your partnership**

09/2016

*** Partnership's webpage**<http://s3platform.jrc.ec.europa.eu/high-tech-farming>

I. Management report

*** Please provide the executive summary and the objectives of your partnership**

S3 HIGH TECH FARMING Partnership is currently aggregating 36 Regional and National Administrations with a strong priority related with the innovation and adoption of new technologies in the agricultural sectors. The focus area relates with four Value Chains (VC): arables; horticulture; protected cultivations and livestock. They are segmented in the following technology areas: EYES and TOUCH (Meteo sensors, Soil sensors, Canopy sensors, Product sensors; On-board/proximal sensors), MIND (Data acquisition, Data analysis, Layers/images, DSS), INTELLIGENT ARMS (Machineries, Programming/Automation, Robotic), technology oriented SERVICES (Installing, Maintenance, Repairing), and educational oriented SERVICES (Training, Demo farms and sites). The Partnership was selected as one of the Pilot Partnerships under the DG REGIO support action launched in October 2017. Activities are currently developing towards two main directions:

1. Interregional Pilot Projects

The Partnership is developing a series of pilot projects based on shared priorities. Two Pilots have already been established (FreshFruit and Podur), other Pilots are under development.

2. A joint undertaking to support interregional shared services among regional innovation ecosystems

The Partnership is aiming at consolidating the Interregional collaboration through a specific governance model that can better connect and support the different Regional Innovation Ecosystems and joint funding operations.

*** Please provide the list of leading regions**

Tuscany Region (Partnership coordinator)
 Central Macedonia (Freshfruit Pilot coordinator)
 Regio Foodvalley (Podur Pilot coordinator)

*** Please provide the list of participating regions.**

*If possible, please follow this format: "Name of the region in English (Country abbreviation), NUTS code".
 e.g.: Lapland (FI), F11D7*

Tuscany (IT)
Galicia (ES)
Extremadura (ES)
Gelderland (NL)
Central Macedonia (GR)
Marche (IT)
West Macedonia (GR)
Weser-Ems (DE)
South Holland (NL)
Limburg (NL)
North East Romania (RO)
Emilia-Romagna (IT)
East Sweden (SE)
Norther Ireland (UK)
Estonia (EE)
North Holland (NL)
Regio Foodvalley (NL)
Pays de la Loire (FR)
South Ostrobothnia (FI)
Veneto (IT)
Noord Brabant (NL)
Basilicata (IT)
Flanders (BE)
Centro (PT)
Umbria (IT)
Bretagne (FR)
Norway (NO)
Friuli Venezia Giulia (IT)
Eastern Slovenia (SI)
Provincia Autonoma di Trento (IT)
Provincia Autonoma di Bolzano (IT)
Slavonia (HR)
Vestland County Municipality (Norway)
Oulu (FI)
Catalunya (ES)

Please provide the list of interested regions or other entities (other than national /regional authorities)

University of Donja Gorica (Montenegro)
Luxemburg Innovation
Università di Firenze (IT)
CEA Tech (FR)
INL (PT)
Industrial Institute of Agricultural Engineering - Poznan
INDRA (ES)
Amadori (IT)
ABACO Group (IT)
Dronebee (IT)
Green Projects (GR)
Copeeks (FR)
Leonardo Company (IT)
INOV (PT)
CNR IFAC (IT)
CNR IBE (IT)
American Farm School (GR)
CG Wireless (FR)
CENTRIA University of Applied Science (FI)
FuTOUR (IT)
AEDIT srl (IT)
Free University of Bolzano (IT)
Laimburg (IT)
Aristotle University (GR)
University of Western Macedonia (GR)

Please provide an overview of the **working areas** of your partnership

	Working area	Region in charge	Involved regions	Other actors
*1	Pilot Project FRESHFRUIT	Central Macedonia (American Farm School)	Tuscany, Bretagne, Extremadura, Centro	RTOs, Companies, Farms
*2	Pilot Project PODUR	East Netherlands	Östergötland, Bretagne, South Osthrobothnia, Extremadura, Emilia-Romagna	RTOs, Companies, Farms
*3	Pilot Project on early detection of pests and diseases	Under re-assignment	Tuscany, Bretagne, Flanders, PA Bolzano /SudTyrol, Extremadura	RTOs, Companies, Farms
*4	Prevention of large carnivores attacks on livestock	Tuscany	Extremadura, Central Macedonia, Castilla y Leon, Slovenia, Flanders, Romania	RTOs, Companies, Farms, NGOs
*5	Automated monitoring of field machineries	Provincia di Bolzano / Sud Tyrol (Free University of Bolzano)	Under definition	RTOs
*6	Protection systems to face climate changes in ornamental cultivations	Tuscany (Coldiretti)	Under definition	RTOs, Farms
*7	Precision animal husbandry in the organic sector	Friuli Venezia Giulia	Extremadura	RTOs, Companies, Farms

*8	..	..	..	..
*9	..	..	..	..
*10	..	..	..	..

Please provide information regarding past meetings, workshops and dissemination activities (six months prior to filling out the survey)

	Event	Date	Place	Any other information
1	Partnership Meeting	30/06 and 01/07 2020	Virtual event	The event aimed at discussing the Partnership governance model and establishing new working areas (Interregional Pilots)
2	Life+ project proposal - Working Area "Prevention of large carnivores attacks on livestock"	1 July - 16 July	Virtual meetings	Several project development meetings to submit a LIFE+ project proposal (submitted on 16 July)
3	PODUR Pilot Project	17/11/2020	Virtual meeting	Development of PODUR Business Plan
4	Early detection of pests and diseases - coordination meeting	23/11/2020	Virtual meeting	Development of implementation actions
5	Webinar: "Developing cross-border networks of ATI technology centres in the field of IoT precision farming: challenges and opportunities"	04/12/2020	Virtual event	Dissemination activity
6	AMA WEBINAR with Dragana Petkovic on agROBOfood Open Call for Industrial Challenges	09/11/2020	Webinar	Shared event on a relevant call for proposals
7	S3 Partnerships Joint Online Event	18/12/2020	Webinar	Participation of the S3 HTF Partnership to relevant S3 European activities

8	ICT-AGRI-FOOD Forum - Panel 1: Meet agrifood innovation actors	19/11/2020	Virtual event	Dissemination activity
9	ERIAFF Coordination meeting	20-21/10/2020	Virtual event	Dissemination activity
10	Various meeting of working areas and pilot projects coordinators	Several dates	Local and Virtual meetings	Several activities (scouting, coordination, promotion, awareness raising)

Please provide information regarding planned future meetings, workshops and dissemination activities

	Event	Date	Place	Any other information
1	Agri-food collaboration area meeting within EER phase II	26/01/2021	Virtual event	Dissemination activity
2	S3 HTF Partnership meeting	Spring 2021	Virtual event	Partnership meeting
3	DEMO Farm event	Summer 2021	Tuscany Region	Collaboration with H2020 NEFERTITI project
4	Development and launch of HTF laboratories and simulators for students	Several dates in 2021	FVG Region	Educational activity
5	On-site piloting activities	Several dates in 2021	Pilot Projects test sites	Activities connected with ongoing and new pilot projects
6				
7				
8				
9				
10				

II. Progress report

Innovative results

Please describe innovative results and achievements that could be attributed to the partnership (specific examples of results vs. objectives)

The Partnership has allowed regional actors to identify new cooperation opportunities in the target area of HTF. Several combinations of technologies provided by actors in partner Regions are currently tested and developed in interregional pilot projects (FRESHFRUIT & PODUR).

FRESHFRUIT has enabled an intense collaboration to scale up new solutions (photonics and ICT) to be integrated in Farm Management Information Systems. Thanks to the commitment of regional actors, the LoRa WAN rural IoT infrastructure in the area covered by FreshFruit is now complete and its planned expansion continues. Currently it consists of 65 gateways and can host over 60.000 sensors. The infrastructure can host sensors for piloting and demonstration purposes from tech providers in any region participating in S3 HTF. Presently it is utilised to evaluate sensors from TEKTELIC - Canada. AFS (the project coordinator) has been accepted as a member in the international LoRa Alliance (<https://lora-alliance.org/>), thereby increasing the infrastructure's visibility.

PODUR has enabled Regions to co-invest in the development of solutions to address the specific problem of dust production in poultry farms. It has enabled a multi-actor partnership to focus on specific innovative solutions to be deployed in pilot poultry farms.

Additional progresses have been made with the new pilot projects. Several working groups have been created to elaborate new innovative interregional projects.

The Partnership is continuing to promote pro-active collaboration among Regional Innovation Ecosystems and some pilot projects have resulted in proposals submitted under diverse funding initiatives:

- LIFE Programme call 2020;
- AGROBOFOOD H2020 call.

Tangible short- and medium-term socio-economic impacts achieved or expected (specific examples)

In the short-medium terms perspective the Partnership is expecting those Pilot projects to foster new valuechains and leverage the creation of new commercial opportunities, particularly through the development of a joint undertaking to provide new interregional services to Companies and Farmers. Each pilot case has a specific socio-economic value. The exact quantification is possible only after the completion of the pilots.

Expected impacts are the following: creation of new businesses; reduction of costs in farming operations; reduction of environmental impacts; reduction of time-to-market of new solutions; improving farming capabilities and uptake of new technologies by farmers.

Concerning the possibility of establishing a form of interregional joint undertaking, currently the partnership is studying the possibility of establishing an association of European value. This step would allow a strong socio-economic impact as, at the moment, there are no such form of initiatives devoted to integrate regional innovation ecosystems on this specific topic. The initiative could fill in this gap and generate important benefits (eg. bigger interregional projects, interregional alignment in expenditure, interconnections of regional initiatives, a broaden ecosystem for regional actors, etc.).

Inter-regional and inter-partnership collaborative results

Additional results obtained from working with other partnerships under the thematic S3 Platforms (specific examples)

The partnership is benefiting from regular exchanges with ERIAFF, a broad Network of European Regions active in promoting Innovation in agriculture, food and forestry (www.eriaff.com).

The Partnership has also established collaborations with European Projects and Initiatives:

- ERANET ICT-AGRI-FOOD - S3 HTF Partnership is actively involved in the ERANET Advisory Board
- H2020 NEFERTITI Project - Specific exchanges have been organised in the frame of the project.
- H2020 AGROBOFOOD Project - A joint event to promote the agrobofood call was organised on 9 November
- The FRESHFRUIT partnership initiated a collaboration with the TERMINET Horizon 2020 project.

The partnership is also in contact with the following initiatives:

- H2020 SMART-AGRI-HUBS Project
- EIT FOOD KIC
- H2020 IOF Project

The Partnership is affiliated to the S3 Industrial Modernization Platform.

Evaluation of the involvement of relevant business sector (clusters, SMEs, business associations, chambers of commerce, Digital Innovation Hubs (DIHs), etcetera) in the Partnership activities (specific examples)

The Partnership is relying on the participation of many actors from the business sector. The engagement of the businesses has to be considered satisfactory as it allows the generation of the current pilot projects.

Some examples

1. American Farm School in Central Macedonia is directly responsible of a pilot project on the development of new solutions for controlling and managing the quality of table grape, embedding Italian, Portuguese and French technologies.
2. ABACO Group (international software house) has established a cooperation with Alberese Farm in Tuscany to support the development of the Interregional Interface proposed in the DG REGIO Pilot Action.
3. The Poultry Cluster in Barneveld is mobilizing companies to test solutions in different European sites thanks to the cooperation within the S3 Pilot. The testing is about technical solutions to reduce fine dust in poultry houses and sensing technology to measure the amount of dust. Anses Brittany is interested in the relation between dust reduction and reduction of endo toxins. Copeeks SAS Lannion (France, Brittany) has signed an agreement with Poultry Expertise Centre (Regio Foodvalley) to do a pre-test on the applicability of their sensor in poultry houses.
4. Big companies such as AMADORI, INDRA and Leonardo Company are participating proactively to technical meetings.
5. New businesses are active in the new identified pilot projects (E.g. In Tuscany, Coldiretti Toscana (Farmers Association) is elaborating a specific innovation project on high technologies applied to greenhouses and ornamental plants production; In Extremadura, FUNDECYT-PCTEX carried out several activities focusing on satellites and drone technology with regional actors: CICYTEX, SKYDRONEX and GREENFIELD. In FVG there is a specific interest from the Marianis Farm to develop a pilot project with interregional dimension.

Evaluation of whether the level of inter-regional cooperation is sufficient to potentially provide practical and relevant socio-economic impacts (specific examples)

The pilot business cases have a strong potential to leverage impacts at socio-economic level. The cooperation at interregional level within the pilots is extremely relevant as in each pilot at least 3 regional actors are actively promoting the development of joint business-oriented actions.

The number of interregional pilots has been growing along 2020, indicating that the interest from partners is still strong. At level of each single pilot, there are some estimates related to potential impacts, which are expected at both economic and socio-environmental level.

New activities

Involvement of regions from EU13 Member States in the Partnership, in particular with respect to scoping, mapping and/or matchmaking. In addition, justification should be provided if no EU13 regions are involved

Slovenia, Romania, Estonia, Poland

Involvement of regions/countries from outside of EU28 Countries. (Number of participants from non-EU countries (specify their contribution))

Norway, Republic of Northern Macedonia, Montenegro

Advancement and promotion of the Partnership through publications and other communication/outreach activities (number of outreach activities that resulted from the partnership)

The partnership has promoted the activities with different means but it has not yet implemented a specific coordination for this kind of actions.

Partnership Coordinator has participated to at least 4 European sectoral initiatives and many local initiatives to promote the partnership and, broadly speaking, the opportunities linked with the S3 Platforms.

In general terms, each Pilot Project has adopted specific promotional actions.

The FRESHFRUIT pilot business case has created a Facebook page.

FRESHFRUIT will be also included in the partner section of the web site of Macedonian Vineyards.

Due to the pandemic, the Partnership could not be very active with external dissemination and networking events.

Activities and projects with partnerships working under other S3 Thematic Platforms (AgriFood, Energy and Industrial Modernisation)

S3 HTF Partnership has developed quite solid connections with the S3 Smart Sensors for Agrifood Partnership. The two partnerships have regular exchanges in terms of activities and methodologies.

Your Partnership and the UN 2030 Sustainable Development Goals (SDGs)

The EU has a strong position when it comes to sustainable development and is also fully committed to be a frontrunner in implementing the UN's 2030 Agenda, together with its member countries and regions. Many interregional partnerships under the thematic S3 Platforms contribute strongly to the attainment of these 17 goals.

Please indicate to which Sustainable Development Goals and to what extent your thematic Partnership contributes?

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Not applicable
Goal 1. End poverty in all its forms everywhere	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 2. End hunger, achieve food security and improved nutrition & promote sustainable agriculture	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 3. Ensure healthy lives & promote well-being for all at all ages	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 5. Achieve gender equality & empower all women and girls	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 6. Ensure availability and sustainable management of water and sanitation for all	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment & decent work for all	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 9. Build resilient infrastructure, promote	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

inclusive and sustainable industrialisation & foster innovation						
Goal 10. Reduce inequality within and among countries	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 11. Make cities & human settlements inclusive, safe, resilient and sustainable	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 12. Ensure sustainable consumption & production patterns	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 13. Take urgent action to combat climate change and its impacts	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 14. Conserve and sustainably use the oceans, seas & marine resources for sustainable development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal 16. Promote peaceful & inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Goal 17. Strengthen the means of implementation and revitalise the Global Partnership for Sustainable Development	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>