

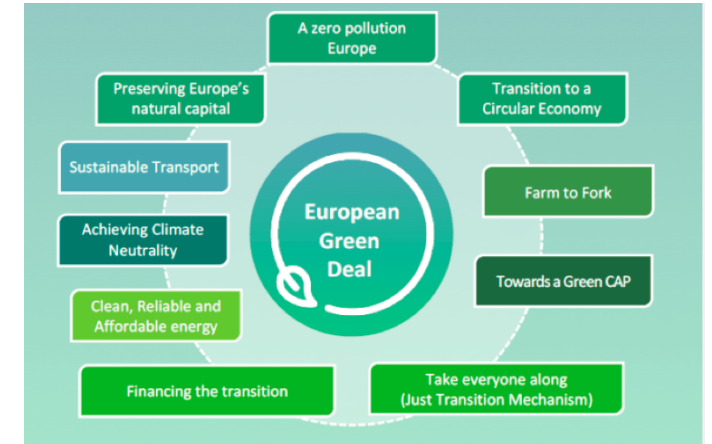
The European Commission's science and knowledge service

Joint Research Centre



Science Technology and Innovation for Sustainable Development Goals: Smart Specialisation and transnational partnerships

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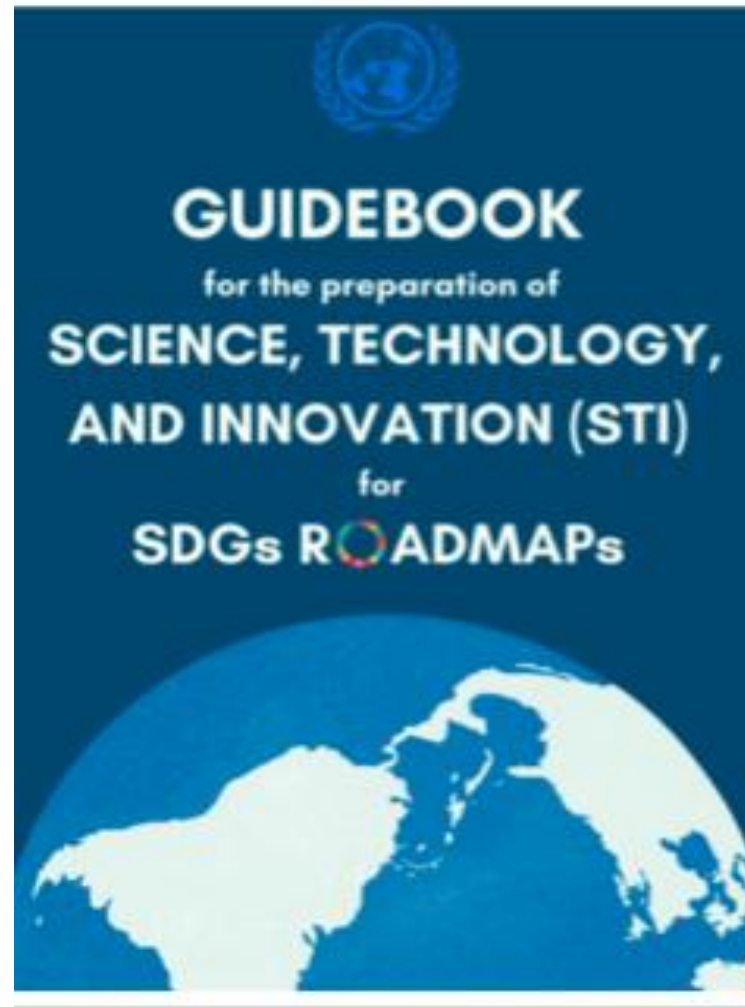
S3 for SDGs

Smart specialisation for sustainability is a place-based innovation-led transformation agenda for growth and sustainability.

Work towards an updated Smart Specialisation methodology that includes SDG mapping that allows to directly link the STI roadmapping process with the Agenda 2030.



STI for SDGs roadmapping: JRC contribution

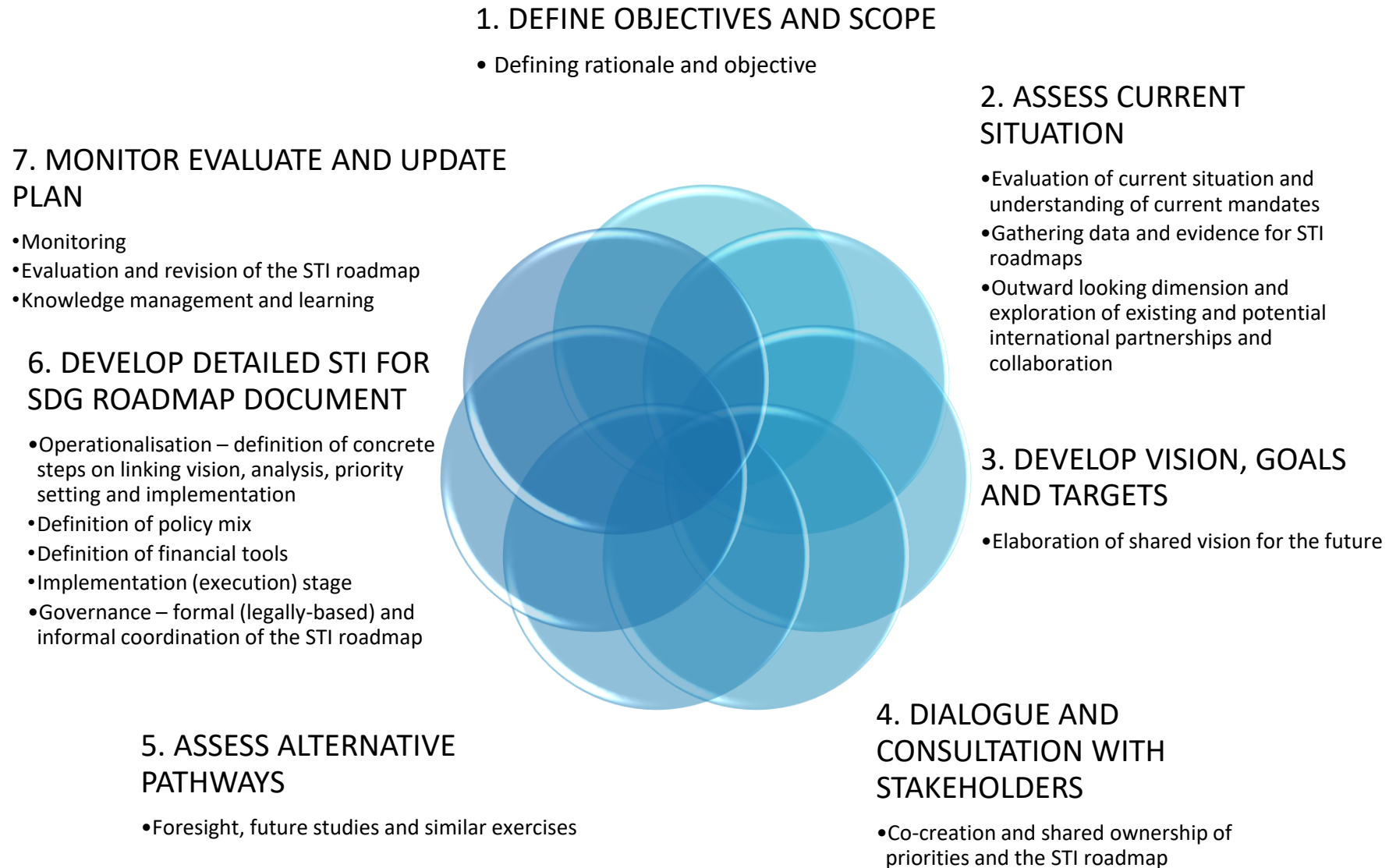


Question:

How can existing methodologies, tools and information sources be applied in designing, implementing and evaluating STI for the SDGs roadmaps?

<https://sustainabledevelopment.un.org/tfm#roadmaps>

Preparation of STI for SDGs Roadmap – key steps



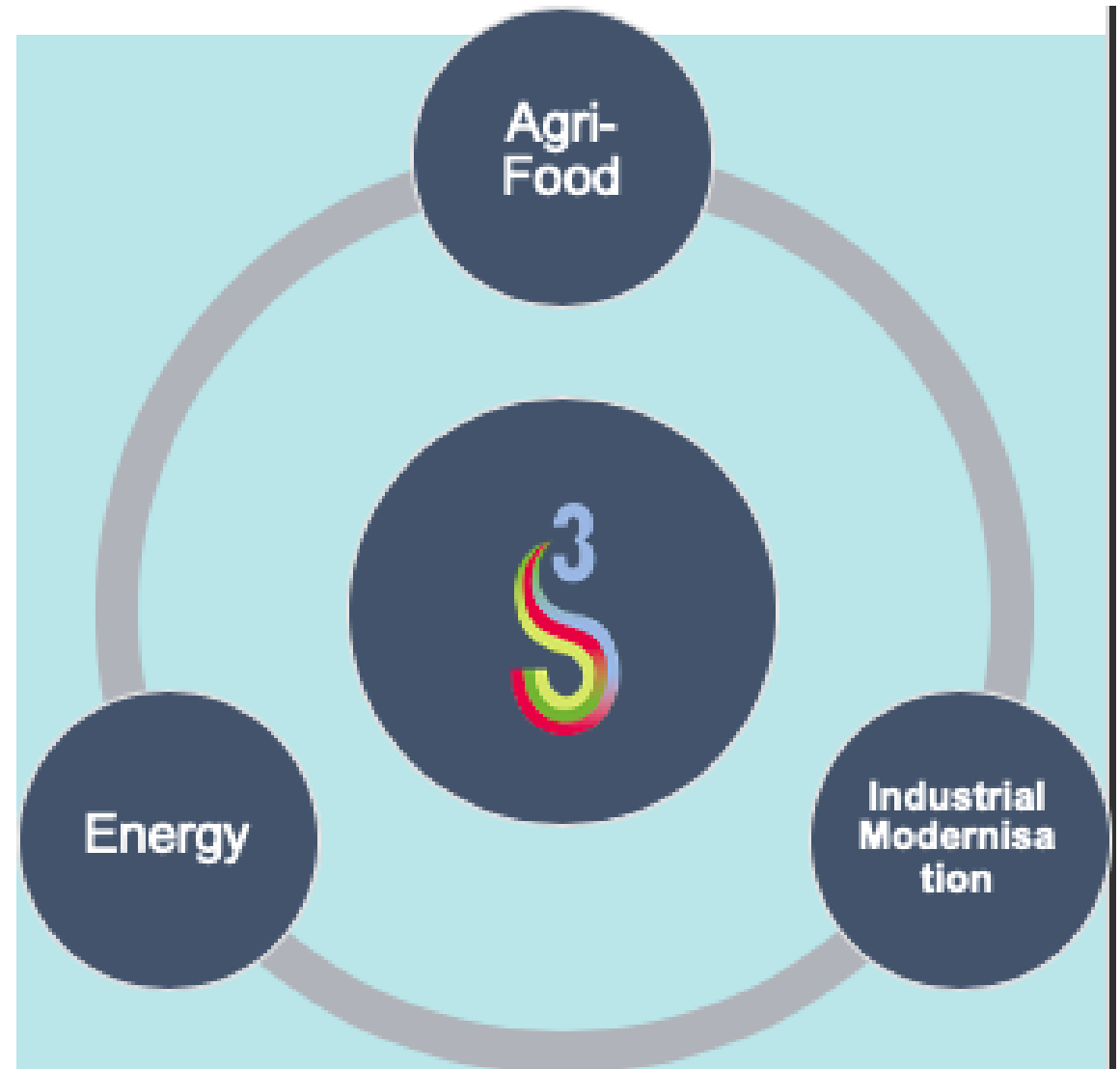
Methodological steps			
DEFINE OBJECTIVES AND SCOPE	Focus on STI policy	Focus on sectorial policy	Focus on social, economic and environmental challenges
ASSESS CURRENT SITUATION	<ul style="list-style-type: none"> • STI POLICY REVIEWS (OECD) • GO-SPIN (UNESCO) • PERs in STI (WB) 	<ul style="list-style-type: none"> • SIIG (UNIDO) 	<ul style="list-style-type: none"> • SMART SPECIALISATION (EC-JRC) • STIP (UNCTAD) • TIP (TIPC)
DEVELOP VISION, GOALS AND TARGETS			<ul style="list-style-type: none"> • SMART SPECIALISATION (EC-JRC) • STIP (UNCTAD) • TIP (TIPC)
DIALOGUE AND CONSULTATION WITH STAKEHOLDERS	<ul style="list-style-type: none"> • STI POLICY REVIEWS (OECD) • GO-SPIN (UNESCO) 	<ul style="list-style-type: none"> • SIIG (UNIDO) 	<ul style="list-style-type: none"> • SMART SPECIALISATION (EC-JRC) • STIP (UNCTAD) • TIP (TIPC)
ASSESS ALTERNATIVE PATHWAYS		<ul style="list-style-type: none"> • SIIG (UNIDO) 	<ul style="list-style-type: none"> • STIP (UNCTAD)
DEVELOP DETAILED STI FOR SDG ROADMAP DOCUMENT			<ul style="list-style-type: none"> • SMART SPECIALISATION (EC-JRC) • STIP (UNCTAD) • TIP (TIPC)
MONITOR EVALUATE AND UPDATE PLAN	<ul style="list-style-type: none"> • GO-SPIN (UNESCO) • PERs in STI (WB) 	<ul style="list-style-type: none"> • SIIG (UNIDO) 	<ul style="list-style-type: none"> • SMART SPECIALISATION (EC-JRC) • STIP (UNCTAD) • TIP (TIPC)

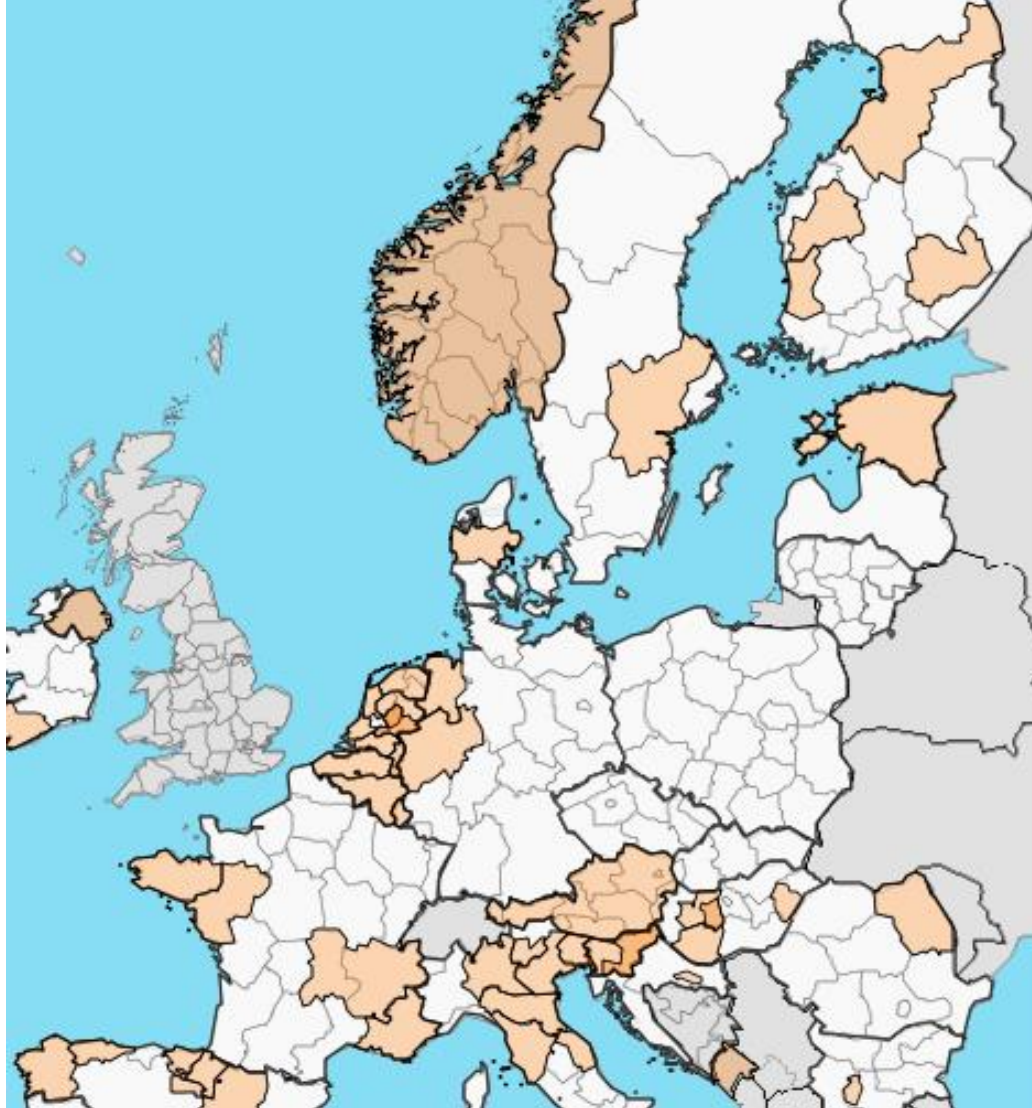
Background paper STI for SDGs Roadmapping: conclusions

- Numerous approaches and methodologies for STI roadmap, not necessarily developed within the framework of SDGs
- Yet, include useful elements eg. policy instruments, financing of the roadmap, creating the joint vision
- Institutional capacity is key for effective development and implementation of the roadmap
- Roadmap is effective only if implemented – need institutional commitment and investments.
- Global community and IOs revising approaches and methods – learning from Global Pilot Programme
- International partnerships can bring expertise, experience and missing capacities into the roadmapping process

Smart Specialisation Thematic Platforms

- Launched in 2015-2016
- 220 national and subnational authorities from 35 EU and non-EU countries
- 33 Thematic Partnerships
- EC services across Directorate-Generals participate





S3P Thematic Platform on Agri-food

- 59 national and subnational territorial units from 23 countries (19 EU countries and 4 non-EU)
- The majority are from Italy (11), Spain (8), Netherlands (6), Finland (4), France (4), Hungary (4)
- Five Partnerships:
 - Consumer Involvement in Agri-Food (4),
 - High-tech Farming (34),
 - Nutritional Ingredients (10),
 - Smart Sensors for Agri-Food (16)
 - Traceability and Big Data (22)

<https://s3platform.jrc.ec.europa.eu/agri-food-thematic-areas>

INTERNATIONAL SMART SPECIALISATION AGRI-FOOD PARTNERSHIP

Data boosting a more sustainable, responsible and competitive agri-food sector

CONTRIBUTION TO SDGs



PARTNERSHIPS AND COLLABORATION

► PARTNERS

Regional cooperation to boost innovation and digitisation in the European agri-food value chain involving **22** regional and national administrations from **11** countries (10 EU and 1 non-EU country): *Andalusia, Emilia-Romagna, Aragon, Basque Country, Bretagne, Central Macedonia, Cork County, Extremadura, Friuli Venezia Giulia, Galicia, Hordubihar, Limburg, Middle Black Sea, Navarra, Northern Ostrobothnia, Pays de la Loire, Pazardzhik, Sardinia, Satakunta, South Ostrobothnia, South Savo, South Transdanubian*

► STAKEHOLDERS

The Partnership developed regional nodes by connecting more than 1,600 stakeholders, including companies, industries, universities, trade unions and civil associations across EU countries and some non-EU countries.

► WEBPAGE

<https://europa.eu/1bT88Gk>

ACTION

PROBLEM

Insufficient digitalisation of agri-food sector value chains.

INNOVATION

The main objective of the Partnership is to encourage, motivate and facilitate the incorporation of the necessary digital technologies in the agri-food sector value chain to make progress towards digital economy.

EXAMPLE OF PROJECT: COMPLAT

Is a project that offers a communication and traceability tool for the agri-food value chain connecting food producers processors, retailers, distributors and consumers.

SUSTAINABILITY

More sustainable, responsible and competitive agri-food sector.

INTERNATIONAL SMART SPECIALISATION AGRI-FOOD PARTNERSHIP
Building new and sustainable value-chains for innovative ingredients

CONTRIBUTION TO SDGs

2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
17 PARTNERSHIPS FOR THE GOALS

PARTNERSHIPS AND COLLABORATION

PARTNERS
The Partnership connects 10 regional and national administrations from 7 countries: Wallonia, Flanders, Galicia, Asturias, Central Denmark, Emilia-Romagna, Provence-Alpes-Côte d'Azur, Central Macedonia, La Rioja, Central Transdanubian Region.

STAKEHOLDERS
Cluster organizations, regional authorities/public sector, key opinion leaders, industry players, universities, research and technology organizations, and pilot plant facilities.

WEBSITE
<https://europaeu/WQ64JY>

PROBLEM
Adaptation of farmers, food companies, retailers to consumers' demand for sustainable and healthy products, by suggesting differentiated products (food quality and functionality, safety, and environmental and social attributes).

INNOVATION
The Partnership facilitates the uptake and cross-over of innovation in the field of functional/nutritional ingredients and related application sectors.

EXAMPLE OF PROJECT: INGREEN
Is a pilot project that aims at production of functional innovative ingredients from paper and agro-food side-streams through sustainable and efficient tailor-made biotechnological processes for food, feed, pharma and cosmetics.

SUSTAINABILITY
Sustainable and industrially validated biotechnological processes.

ACTION

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GOALS

INTERNATIONAL SMART SPECIALISATION AGRI-FOOD PARTNERSHIP
High Technology Farming

CONTRIBUTION TO SDGs

2 ZERO HUNGER
4 QUALITY EDUCATION
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
15 LIFE ON LAND
17 PARTNERSHIPS FOR THE GOALS

PARTNERSHIPS AND COLLABORATION

PARTNERS
The Partnership connects 34 regional and national administrations from 18 countries (15 EU and 3 non-EU countries) with a strong priority related with the innovation and adoption of new technologies in the agricultural sectors: Tuscany, Galicia, Extremadura, Gelderland, Central Macedonia, Marche, Western Macedonia, Weser-Ems, South Holland, Limburg, North East Romania, Emilia-Romagna, East Sweden, Northern Ireland, Estonia, North Holland, Food Valley/East Netherlands, Pays de la Loire, South Ostrobothnia, Veneto, Noord-Brabant, Basilicata, Flanders, Centre, Limbourg, Luxembourg, Bretagne, Norway, Friuli Venezia Giulia, Eastern Slovenia, Provincia Autonoma di Trento, Provincia Autonoma di Bolzano, Montenegro, Slovenia.

STAKEHOLDERS
The Partnership involves industrial companies, ICT-companies, farmers, knowledge institutes with scientific and applied expertise, and public authorities.

WEBSITE
<https://europaeu/UG93UX>

PROBLEM
Modernisation of four food value chains: arables, horticulture, protected cultivations and livestock.

INNOVATION
Development of the following technology areas for agriculture: 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 (Machines, Programming/Automation, Robotics), technology oriented SERVICES (Installing, Maintenance, Repairing), and educational oriented SERVICES (Training, Demo farms and sites).

EXAMPLE OF PROJECT: POULTRY DUST REDUCTION
Is a pilot developed to reduce emissions in livestock keeping.

SUSTAINABILITY
Improving health and welfare of farmers, animals and environment.

ACTION

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GOALS

INTERNATIONAL SMART SPECIALISATION AGRI-FOOD PARTNERSHIP
Consumer Involvement in Agri-food Innovation

CONTRIBUTION TO SDGs

3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
17 PARTNERSHIPS FOR THE GOALS

PARTNERSHIPS AND COLLABORATION

PARTNERS
The Partnership connects 4 regional and national administrations from 4 countries: Food Valley/East Netherlands, Ostergötland/East Central Sweden, Central Denmark, South Ostrobothnia.

STAKEHOLDERS
Stakeholders involved are public authorities, food companies, universities, health care services, hospitals and home-care organisations, patient and consumer organisations.

WEBSITE
<https://europaeu/VU3GKM>

PROBLEM
Malnutrition in an ageing population threatening their health and leading to greater demands on healthcare.

INNOVATION
The Partnership facilitates the exchange of knowledge, experience and information. In practice, this is operationalised via World Food Experience Centre where consumers can learn about the origin and composition of food and the effects on the body and the environment.

SUSTAINABILITY
The Partnership stimulates and supports common actions relevant to innovation in the agri-food chain from the consumer and user perspective, promoting awareness, education and well-being.

ACTION

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GOALS

INTERNATIONAL SMART SPECIALISATION AGRI-FOOD PARTNERSHIP
Smart sensors for sustainable, resilient and smart food system

CONTRIBUTION TO SDGs

2 ZERO HUNGER
4 QUALITY EDUCATION
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
17 PARTNERSHIPS FOR THE GOALS

PARTNERSHIPS AND COLLABORATION

PARTNERS
The Partnership connects 16 regional and national administrations from 12 countries: Flanders, Wallonia, Asturias, Attica, Austria, Auvergne Rhône-Alpes, Bretagne, Central Denmark, Galicia, Central Transdanubian Region, Lombardy, Navarre, North Brabant, North-Rhine Westphalia, Slovenia, South Ostrobothnia.

STAKEHOLDERS
The Partnership is based on a network of cluster-like organisations and RTIs active in agri-food or technology fields. All members represents the quadruple helix and support a broad network of companies (>2000), both large and SMEs.

WEBSITE
<https://europaeu/UG93UX>

PROBLEM
The barriers for agri-food companies to access and implement the newest smart sensor systems.

INNOVATION
The Partnership supports business ecosystem by connecting agri-food clusters and clusters representing technology and/or digital solution providers together with RTIs and other stakeholders. The Partnership aims to make agri-food companies acquainted with and train them in data management and mining, and thus facilitate the Industry 4.0 transition.

EXAMPLE OF PROJECT: CONSENSYS
Connecting smart sensor systems for the food industry is a project that aims at setting-up network of open access living labs for industry 4.0, and the development of demo cases and generic business models.

ACTION

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GOALS

<https://s3platform.jrc.ec.europa.eu/-/smart-specialisation-and-sdgs?inheritRedirect=true>




To conclude...

- **Smart Specialisation for sustainability based on a bottom-up approach with involvement of local stakeholders – this scaled up at European and potentially global level through Partnerships to address concrete socio-economic and environmental challenges.**
- **With the leadership, capacities and innovative ideas coupled with transnational collaboration, the countries and regions will be able to develop solutions required to achieve post-Covid reconstruction and systemic changes.**





Thank you!

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