TRACK

MAP OF CLUSTER COLLABORATION OPPORTUNITIES AND VALUE CHAIN LINKAGE

July, 19th 2019 - VEGEPOLYS VALLEY

COS-CLUSTPARTN-2017-3-02

Tracking opportunities to develop and strengthen data collection and big data in agri-food chain to increase competitivity of SMEs - TRACK

Co-funded by the COSME programme of the European Union

ESCP.S

Deliverable 2.2

Map of cluster collaboration opportunities and value chain linkage

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Authors:	Julieta Contreras
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PU	**Public**	**x**
CO	**Confidential, only for members of the consortium (including the Commission Services)**	
CI	**Classified**	

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The TRACK Consortium

N°	Beneficiary name	Beneficiary short name	Country
1	VEGEPOLYS	VEGEPOLYS	France
2	ASOCIATIA CLUSTERUL AGRO-FOOD-IND NAPOCA	ATC	Romania
3	CLUST-ER AGROALIMENTARE	Clust-ER	Italy
4	FUNDACION CORPORACION TECNOLOGIA DE ANDALUCIA	FCTA	Spain
5	STICHTING GREENPORT WESTLAND OOSTLAND	GPWH	Netherlands

Contributors/peer-review

Name	Institution
Felix Arion	ATC
Colinda de Beer	GPWH
Emeline Defossez	VEGEPOLYS
Nicolas Fégeant	VEGEPOLYS
Célia Gavaud	Clust-ER
Rocio de la Rosa Gilabert	FCTA

Contents

Definitions

AgTech: products or services integrating technologies that can be applied in the agri-food value chain, from data acquisition in the field, through data transfer, data storage, data analysis and reporting, to provide users with decision support tools (DSS), robotics or software packages to manage their business.

ICT: Information and Communication Technologies.

ICT/TBD: all the technologies, including ICT and Big Data, that are useful to provide Traceability in agri-food value chains.

TBD: Traceability and Big Data.

TRL: Technology Readiness Level: measure used to assess the maturity of evolving technologies prior to incorporating that technology to a system.

Introduction

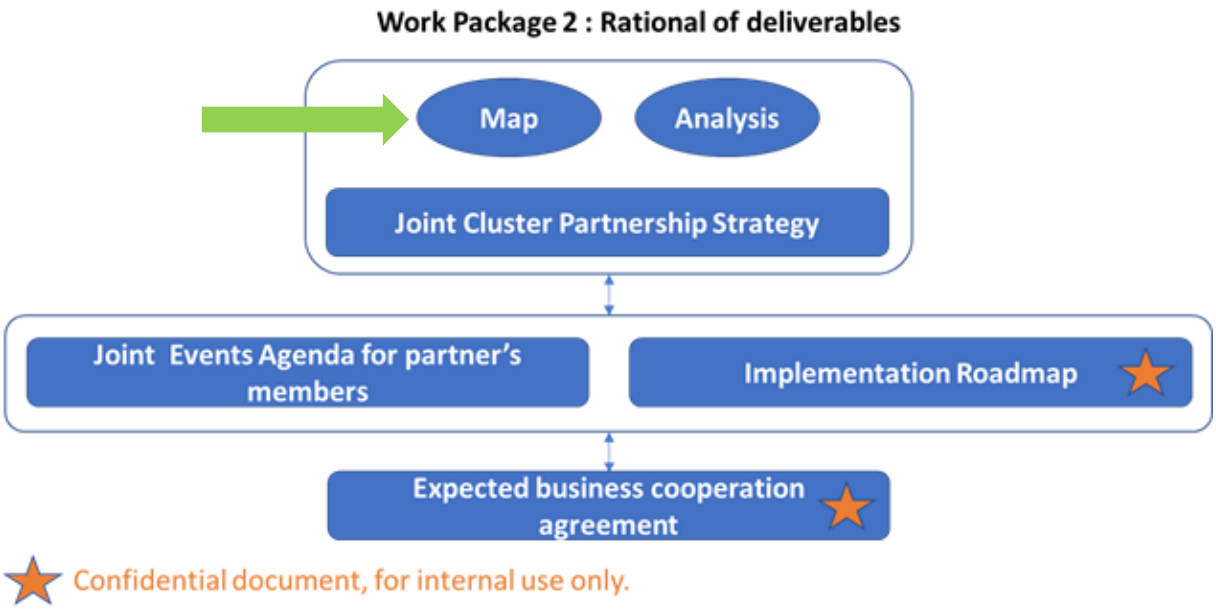
Task 2.1 aims at giving the TRACK partners a better vision of each other about their activities, capacities, network, methods of working, good practices and even bad practices (or practices to avoid) regarding cross-pollination between ICT/TBD and agri-food sectors, by mapping their agri-food and ICT/TBD ecosystem (Sub-task 2.1.6).

This document synthesizes the expertise of each cluster and relevant members in the scope of TRACK project. It suggests cross-pollination between stakeholders through the analysis of their activities and domains where they are involved in. It improves the **mutual knowledge and understanding of TRACK partners.** The mapping proposed also helps identifying the Cluster to contact when searching for partners in specific domains.

TRACK partners' mutual knowledge with focus on ICT/TBD and agri-food practices (vegetable-based agri-food chain value) allows to identify complementarities within their members and to provide ideas about potential cluster partnerships (D2.7).

Willing to enlarge and strengthen the durability of TRACK ecosystem, a simplified survey was prepared to request additional information from S3 platform actors. This S3 Platform survey will help identifying potential new agri-food 4.0 good practices and value chain linkages and additional ways to support and mentor SMEs providing AgTech.

This mapping is the first contribution for the construction of TRACK joint strategy as shown in the following scheme.



1. Methodology and scope

The aim of the Sub-task 2.1.6 was to **map cluster collaboration opportunities and value chain linkages between the TRACK partners**. The first stage of the mapping consisted in documenting each cluster's ecosystem (Sub-task 2.1.4).

First, an easy-to-fill-in Excel file was created with the objective of gathering relevant information about key figures and the identity of each cluster, focusing on the cluster members involved in ICT/T&BD and agri-food. The resulting TRACK ecosystem is categorised as follows:

- Companies: small, medium or large sized companies (i.e. private sector).
- Research organisations: fundamental research centres/institutes[1], technology and experimentation centres.
- Education: universities, training centres, teaching structures composed or not by research units.
- Other: organisations aside from Companies, Education and Research ecosystems. For instance, technical institutes (applied research), consular chambers, regional and local administration, banks, media.

For each ecosystem, we focused our attention on potential links with traceability and big data. Additionally, we propose to classify the cluster members by community considering their identity and their link with TRACK subjects. In doing so, each structure can be identified as being part of a virtual group that shares the same concerns regardless of its category (Company, Research, Education). Hence, it is easier to find complementarities when comparing cluster members from different ecosystems and from different clusters. Furthermore, special focus was put on organisations providing services in agri-food and ICT/TBD sectors to better understand their areas of expertise and to map operational examples in AgTech and agri-food with their corresponding TRL[2]. The clusters mapping Excel file template is available in Annex 1.

Secondly, each cluster introduced itself to the other TRACK consortium members during a dedicated 2-hour online meeting on March 15th. Finally, cluster representatives (one per country) of the TRACK consortium were interviewed by telephone to complete missing data and to get insights about their strengths in agri-food 4.0 ecosystem.

This work has been realized in efficient way without physical visits of partners' ecosystem, all information gathered through the Excel survey, online meetings and interviews.

The approach taken for the presentation of clusters mapping emerges from the above described procedure. The approach is that of creating easy-to-read documents as a straight-to-the-point synthesis of clusters capabilities. Thus, the readers could easily identify and compare cluster-related initiatives, how they are organised, their members' profile, the agri-food value chains and related projects they are involved in. As a result, an easy-to-read fact sheet was created for each cluster synthesizing their identity. The fact sheet of each TRACK partner is available for consultation in Annex 2.

[1] Research centres involve faculty and staff from one or more departments, colleges, or units engaged in a dedicated research, educational or service activity, whereas Research institutes are organizations intended for research and is broader in scope than a research centre; it is typically associated with a physical and organizational infrastructure for conducting research. An institute may house within it one or more centres.
[2] In order to ensure bankability of TRACK pilot projects, TRL 6 is the minimum level required.

Besides, clusters representatives main skills (keywords) and contact details were synthesized in a common Excel file showing their degree of expertise in relation with each skill (see Annex 3). Three categories were defined to facilitate capacities comparison:

- Expert: deep experience; widely recognized by peers or the public as a reliable source of technical skills.
- Practitioner: full understanding and actively engaged in the practice of specific topics.
- Novice: new to a field of activity.

The information gathered in the Excel file in parallel with each cluster fact sheet and the competencies and skills file makes it easier for TRACK consortium partners to compare and find complementarities between diverse ecosystems within each cluster.

2. Clusters mapping results

2.1. Overview of TRACK Partners

The five TRACK cluster partners address either ICT or TBD companies (or both), either agriculture or food companies (or both), and a large ecosystem in each region including research organisations, education bodies and technological centres.

A map of the global cluster ecosystem was drawn, including all members from all communities and value chains. Then, a focus on the TRACK ecosystems was added (cluster members). It means companies, research and education organisations directly or indirectly related to digitalisation in agri-food value chains. The table below presents in figures this map of members cumulated in the consortium.

	Total from global cluster ecosystems	*(%)*	*Total from TRACK ecosystem*	*(%)*
Companies of which SMEs	572 427 SMEs	81	72	69
Research entities	61	8	12	12
Education structures	27	4	3	3
Other structures*	48	7	17	16

* technological parks, consultants, technical institutes, consular chambers, regional and local administration, banks, media.

As result of this first mapping, it appears that TRACK clusters are mainly composed of SMEs. Digitalization is not integrating by all members, only 15% of the global cluster ecosystems is related to this topic. Education structures are the less involved with 10%, and Research entities and other structures are above this average (19 and 35%). This results must be taken with precautious, considering that the profile of each cluster are different. VEGEPOLYS has the biggest number of companies, around 20times more than Clust-ER but both have the same number of research entities. So, it is hard to point out general conclusions.

A special focus on companies integrating the overall clusters ecosystem was done to better understand their expertise. As a result, the following communities have been identified for actors sharing the same expertise areas:

- *Agri-food*: plant production and processing.
- *AgTech*: products and services enabled by technologies applied to the agri-food value chains.
- *Animal industry*: meat and milk production.
- *Business development*: enterprises support to develop their business.
- *Chemistry*: molecular and biomolecular manipulating methods.
- *Energy & environment*: eco-friendly technologies for sustainable development.
- *Greenhouse builders*: greenhouse equipment and robots for indoor production.
- *Irrigation systems*: irrigation material for agriculture
- *Plant breeding*: production of plants by selecting desirable characteristics.
- *Plant protection and nutrition*: inputs for managing biotic and abiotic stress in plants.
- *Urban farming & landscapes*: cultivating, processing and distributing food in or around urban areas.

The results of the companies mapping by community within the overall clusters ecosystem are as follows:

		ATC	***Clust-ER***	***FCTA***	***GPWH***	***VEGEPOLYS***
community	Agri-food	43%	44%	16%	94%	51%
	AgTech	15%	13%	64%	3%	14%
	Animal industry	19%	19%	0%	0%	0%
	Business development	15%	0%	0%	0%	0%
	Chemistry	0%	6%	0%	0%	0%
	Energy & environment	0%	6%	0%	0%	0%
	Greenhouse builders	0%	0%	1%	1%	10%
	Irrigation systems	0%	6%	0%	0%	0%
	Plant breeding	0%	0%	13%	1%	10%
	Plant protection and nutrition	9%	6%	6%	0%	10%
	Urban farming & landscapes	0%	0%	0%	0%	5%

% of companies identified by community within the overall clusters ecosystem

The aim of this analysis is qualitative. As such, the figures presented in the above table are not exhaustive but help mapping the companies that belong to the same community by cluster. As a rule, we compared results between clusters when volume of mapped companies was superior to 10%. The case of GPWH is particular because a lot of Agri-food companies are installed in the province, in proportion it makes less visible 2 important communities in West-Holland as Plant Breeding and Greenhouse builders. The main information is that the 5 TRACK partners are highly sharing the Agri-food and AgTech communities. That will be very balanced for the exchanges on TRACK implementation. Once again, AgTech community in GPWH seems low but we could not count twice a company in several category. FCTA has the higher rate of ICT involved in agri-food in Andalusian ecosystem.

2.2. TRACK partners identity on TBD

In parallel with these results, competencies & skills file and the fact sheets, we obtained an overview of each cluster as described below. All 5 clusters factsheets and competencies & skills results are available in Annex 3.

1. VEGEPOLYS is specialized in **multi-sector crop and plant, from seeds breeding to marketing and distribution**. The majority of the companies from VEGEPOLYS are oriented to agricultural production (upstream) both providing agri-food products and AgTech solutions. An **innovation area oriented to new technologies** is specially dedicated to help techno providers gain knowledge of the agricultural sector and make agronomic stakeholders and technology makers work and grow together at French and international levels.

Some illustrative examples of VEGEPOLYS stakeholders providing AgTech solutions:

- SITIA (SME): PUMAgri, a Universal Mobile platform for Agriculture, an indoor and outdoor intelligent and autonomous new generation robot that assists producers in harvesting and weeding for market gardening, viticulture, arboriculture and crops.
- Advansee (SME): BEECAM and e-Gleek devices that allows to perform analysis in the area of biodiversity, agronomy and precision agriculture, especially in pest monitoring for all crops.
- Weenat (SME): wireless weather stations to follow the weather in real time to adjust agronomic interventions, optimize plant protection strategy from the smartphone and drive irrigation reliably and accurately.
- Applifarm (SME): data sharing, valuation and traceability for a farming platform.

VEGEPOLYS strengths in the context of TRACK:

- Multi-sector Technical Institutes involved in agri-food
- Large network of companies providing AgTech solutions

2. GPWH, being located in the largest glass greenhouse district in the world, is active **at the crossovers between High tech & Horticulture**, both considered as Innovative Top Sectors[3] in The Netherlands. The West-Holland has three main park campuses. Two of them are the **World Horti Center** and the **Greenport Horti Campus Westland**, related to the horticulture in Westland and working as training centres (vocational school) and R&D labs where companies can meet to do business and exhibit their products. The third, is Delft University of Technology where Delft Technical University and two applied universities are located. GPWH aims to contribute to a healthy, vital and sustainable future for the regional horticulture with a special focus on **propagation material and seed selection, technical equipment for greenhouses and crop management**.

[3] An Innovative Top sector is defined as a main sector in Netherlands. The government provides financial support to further strengthen their international position. The Netherlands has nine top sectors: Horticulture and propagation materials, Agri-food, Water, Life sciences and health, Chemicals, High tech, Energy, Logistics, Creative industries.

Some illustrative examples of GPWH stakeholders providing AgTech solutions:

- Berenschot (SME): network data-driven horticulture towards the realization of an autonomous greenhouse using IoT, robotics, AI and big data.
- Mind: Municipality of Midden-Delfland stimulating projects for data-driven agriculture.
- Roadmap Next Economy (RNE): horticultural track in transition program working on smart digital delta solutions (smart logistics, 5G, data-hub, data-sharing) for the future.
- Tuinder Tom: group of 6 SMEs working in a field lab to create digital business models.

GPWH strengths in the context of TRACK:

- Horticulture value chain expertise in academic research & business
- Smart greenhouses

3. Clust-ER Agrifood is one of the 7 Clust-ER[4] in Emilia-Romagna. Clust-ER Agrifood aims to strengthen the innovation system in the agri-food sector **providing support in food transformation chain** through three main value chains:

SOSFARM - Sustainable and Precision agriculture; this value chain aims to facilitate the digitalization of the farms, with a higher and better access to big data and promoting the rationalization of inputs (water, pesticides, fertilizers) maintaining the production's quality; soil threats analysis protocols and reduction of soil degradation;

FoodQST - Quality, security, traceability and nutrition; defining methodologies to facilitate the integration of primary production with the high-convenience conservation and transformation processes; optimizing security and shelf-life prolongation, to define the best conditions of use, biological risk assessment; allowing the ICT applications and industry 4.0 techniques, to improve production sustainability;

SPES - valorising sub-products and agricultural residues; identifying the best strategies of transformation and re-use of the different sub-products, finalized to the different destinations of use (Pharma, Food, Feed, Bioplastics, Cosmetics, Chemicals).

Some illustrative examples of Clust-ER stakeholders providing AgTech solutions:

- Agronica (SME): wireless sensors and decision support tool to manage irrigation and predict diseases by measuring soil moisture and meteorology.
- CRPV (Crop Production Research Centre): in collaboration with AgTech SMEs, it develops a MOnitoring & REmote system for a MORE sustainable FARMING (MO.RE.FARMING) aiming to develop a data collection and management platform to provide users (technicians or farmers) with information for supporting decision-making.
- E-Soft (SME): powerful digital platform for large scale retailers for evaluating agricultural products (wine, fruits). This database collects millions of laboratory analysis of food products.

Clust-ER strengths in the context of TRACK:

- Interconnection with other 6 Italian Clust-ERs concerns.
- Big data community at a regional level as a mirror group to the EU S3 Platform.

[4] Emilia-Romagna clusters

4. FCTA is a multi-sectoral cluster that has actively promoted and funded, since its foundation, more than 600 projects (23% in ICT and 11% in agri-food) and has evaluated more than 350 innovation business initiatives. FCTA main mission is to **transfer public knowledge to private companies** helping stakeholders to **create and design R&D&I projects** with European funds. FCTA manages R&D&I projects funding in collaboration with public research groups. FCTA is member and participant of the **S3 Agri-food platform of traceability and Big Data**, led by the Andalusian Agriculture regional council.

Some illustrative examples of FCTA stakeholders providing AgTech solutions:

- Naturcode (SME): QR code for agri-food products allowing consumers to access a web platform containing all the data provided by producers.
- AGQ (SME): intelligent expert system to improve nutritional management of crops.
- Kaura (SME): transformation of meat by-products in fats and flours.
- Tier 1 (SME): modular system for the agri-food sector which provides all the tools to exploit the supply chain from the final consumer to the producer.
- Accuro (SME) -member of the ChainWood operating group-: blockchain tech to monitor and manage the wood supply chain.
- Agrosap (SME): Master's Degree in Digital Agriculture and Agri-food Innovation.

FCTA strengths in the context of TRACK:

- Large experience in funding projects
- Oriented to business development in collaboration with public organisms and regional clusters
- Strong link between Companies and Education for creating training programmes oriented to the Agriculture 4.0

5. ATC is a member of the North Transylvanian Cluster consortium (in Cluj) consisting of the 3 most active meta-cluster (consortium of clusters) in Romania. ATC supports the development of **agri-industrial sector** and helps **hi-tech companies** to find economic advantages of investing to develop their technologies. Most of ATC efforts are oriented to **giving SMEs notoriety and visibility for local products**. ATC gives support and training in **safe hygiene for food, large markets selling and internationalisation**.

Some illustrative examples of ATC members providing AgTech solutions:

- The INCDTIM (Institutul Național de Cercetare-Dezvoltare pentru Tehnologii Izotopice și Moleculare) will sign a European project contract (3 years) with a dairy producer (cheese) in Cluj-Napoca. The aim is to develop a certification for PDO (Protected Designation of Origin). Isotopes will help to determine composition, substances of interest concentration, detect traces of pesticides. It would help to go later on accreditation to obtain certification labels.
- SC CENTRIC IT SRL is a company that provides specific software designed to agri-food companies. The company is highly adaptive based on specific requirements of the potential beneficiaries and it already developed diverse solution for farms.

ATC strengths in the context of TRACK:

- In close relation with Romanian clusters involved in energy & technologies
- Very active in local and regional business development

3. TRACK clusters collaboration opportunities and value chain linkage

The following outcomes were identified from the above presented results:

- Most companies from the global clusters ecosystem belong to the Agri-food community, particularly VEGEPOLYS with a multi-sector approach and GPWH more oriented to the horticulture. The wider value chain, including animal industry, is more represented by ATC and Clust-ER.
- Focus groups carried out by Clust-ER allow sharing concerns using a transversal approach. Through this approach, members from different ICT/TBD or agri-food sectors in TRACK ecosystem can discuss shared issues regardless of their specific business sector.
- VEGEPOLYS and FCTA have a large network of companies in the AgTEch community providing precision farming technologies with a TRL of 6 to 9.
- VEGEPOLYS, GPWH and ATC are the most active in robotics.
- ATC has a network of companies with expertise in giving support and training for business development. FCTA and Clust-ER have business development skills from their network of research, innovation centres, incubators, and technology parks and clusters associations.
- VEGEPOLYS and GPWH companies are the most active in greenhouses technologies.
- Urban farming & landscapes community are primarily represented by VEGEPOLYS and GPWH companies.
- Plant breeding community is only represented by FCTA, GPWH and VEGEPOLYS companies.
- GPWH and VEGEPOLYS companies are most involved in Plant protection and nutrition compared to Clust-ER, FCTA and ATC.

The above described opportunities results from the first exchanges of information between TRACK consortium members. An update of the mapping of enlarged cluster collaboration opportunities and value chain linkages (Sub-task 2.1.7) is planned along the project. This would potentially be the result of integrating new partners or regions within the TRACK ecosystem through S3 platform simplified survey analysis.

Conclusions and next steps

Complementarities appear in terms of knowledge and know-how, both among the consortium but also among the SME networks. On thematic (Innovation, Business Development), on sectorial (Horticulture, Breeding, Food…) or technological aspects (tools, ICT), the five partners can take advantage to address new answer to their minor community thanks to the experience of another cluster. It's a real added value to build a cooperation on responding to the demand with the expertise developed in other country or by other cluster. Identify concrete business collaboration opportunities does not depend only on the partners but also from the context and timeframe, nevertheless the tools and actions must facilitate the connexion and boost the probability of concrete business collaboration along the project. At this stage of the project, it's too early to have concrete proposition on business opportunities (first contact with stakeholders, need to matchmaking events or thematic missions or webinars to combine and exchange).

These complementarities are a great basis for the following joint actions or opportunities (developed in the Joint Cluster Partnership Strategy D2.1):

Within TRACK Cluster partners:

- Cover diverse plant sectors as there are different levels of maturity regarding ICT/TBD.
- Integrate users in innovation processes.
- Interact with European projects dealing with agri-food 4.0 issues.
- Exchange of best practices between European clusters to support ICT and agri-food SMEs.
- Develop strategic support tools for inter-cluster communication about mutual concerns in agri-food 4.0.

Within TRACK Cluster members:

- Facilitate, strengthen and foster interaction between ICT and agri-food companies at local and interregional scales.
- Exchange of best practices between members of each ecosystem at European scale.
- Promote the link between Education and Agri-food and AgTech SMEs.

ICT/TBD technologies and agri-food contexts differ from one cluster to another. Through this mapping, TRACK project enables its partners to possess a better knowledge of agri-food 4.0 market internationally, which in turn is the necessary basis to design the joint strategy (D2.1) with the aim of implementing innovative methods to develop common initiatives and put in practice cross-sectoral innovation.

A simplified version of clusters survey will be spread, with a proper communication, to all regions involved in S3 platform on Agri-food and Industrial Modernization so as to identify complementary competences to integrate in TRACK and potentially set up new partnerships that can lead to new inter-cluster consortiums.

Annex 1. Clusters mapping Excel file template

Clusters key figures						
Cluster name	***Greenport West Holland***	***Clust-ER Agrifood***	***AgroTransilvania Cluster***	***Corporacion Tecnológica de Andalucía***	***VEGEPOLYS***	*TOTAL*
Name code	*GPWH*	*Clust-ER*	*ATC*	*FCTA*	*VEGEPOLYS*	
Website						
Nb of direct employees						
Nb of task force (total)						
Nb of subsidiaries (if relevant)						
Nb of direct members (partners excluded)						
Nb of companies (total=small+medium+large sized)						
Nb of SMEs (among the total Nb of companies)						
Nb of research institutes						
Nb of training centers / schools / universities						
Nb of other						
Precise if other						

Clusters ID | Companies ES | Research ES | Education ES | Other ES | Focus on ICT-TBD | ...

COMPANIES ecosystem							
from Cluster ID tab	*free text*	*free text*	*choose from the list*	*number*	*YES/NO*	*free text*	*YES/NO*
Cluster name	**Names of major companies (or all)**	**Short description**	**Community**	**Number of companies**	**Potential link with TRACK**	**Precise**	**Reserach units**

Clusters ID | Companies ES | Research ES | Education ES | Other ES | Focus on ICT-TBD | ...

Annex 2. TRACK Clusters fact sheets

Clusters mapping

7/18/2019

1


Who are TRACK partners
VEGEPOLYS
(VG)
Greenport West-Holland
(GPWH)
Fundación Corporación
Tecnológica de Andalucía
(FCTA)
Agro-Transilvania Cluster
(ATC)
Clust-ER Agrolimentare
(Clust-ER)

About TRACK partners

Cluster ID

VEGEPOLYS
Add on vegetal value

Since 2005, non-profit association, financed by 50 % private and 50 % public funds.

+ 2 international branches:
China
Colombia

Organisation

The head office is located in Angers, in the region of Pays de la Loire, in the heart of the Plant Campus.

Online presentation

Initiatives

SME's Growth

- SMEs Networking
- Training, webinars
- Living Labs towards consumers

Innovation

- R&D Centre
- Access to funding for innovative projects

International

- Business Events: VIBE
- Cluster Networking: PIC
- Supporting SMEs on internationalization: mission fairs, mutualized expat'
- European collaborative projects

Members profile

400 members in total

Companies

300 SMEs

- Agri-food sectors: fruits, vegetables, arable crops, vineyard, medicinal plants, ornamental, cider
- AgTech providers: companies valorising data and developing machines, mobile applications, sensors, DSS for farmers
- Greenhouse builders: equipment and robots for indoor production
- Plant breeders looking for new crop cultivars
- Plant protection and nutrition
- Urban farming: indoor plants production

Research

25 Research Institutes

- Imagery for vegetables: remote sensing, phenotyping
- Robotics
- Food safety
- Molecular biology, seeds and plant breeding
- Plant nutrition & pathologies
- Technical institutes specialized in ornamental flowers & plants, viticulture, horticulture, medicinal plants, arable crops

Education

10 Training Centers

New technologies & plant sciences: Agronomy, Electronics, Horticulture

About TRACK partners

VEGEPOLYS
Add on vegetal value

ICT/TBD and agri-food skills

- Seeds, agricultural supplies, agro-equipment, software
- Crop and plant production
- Transformation, marketing, distribution

Projects

As partners

Took part on several consortia for submissions (H2020, COSME…)
Other projects submitted through VEGEPOLYS' members (mentoring and following-up)

As Beneficiary

Urban Green Trail – Erasmus +
NATUREEF - COSME

As Coordinator

TRACK - COSME

Involved in S3 Agri-food Platforms

Big-data/Traceability
High Tech Farming
Consumers Involvement

Countries where the cluster is involved in agri-food and ICT sectors

France
China
Peru

Cluster referents contact details

Emeline Defossez - Innovation expert
emeline.defossez@vegepolys-valley.eu

Nicolas Fegeant – TRACK Coordinator / International development manager
nicolas.fegeant@vegepolys-valley.eu

Anna Pineau - Strategy coordinator for companies
anna.pineau@vegepolys-valley.eu

About TRACK partners

Cluster ID

CLUST-ER AGRIFOOD AGROALIMENTARE

Since 2018, non-profit association, financed by EU funds

Online presentation

Organisation

The head office is located in Bologna. One of the 7 Clust-ER launched in January 2018 in Emilia-Romagna

CLUST-ER BUILD, CLUST-ER GREENTECH, CLUST-ER CREATE, CLUST-ER HEALTH, CLUST-ER INNOVATE, CLUST-ER MECH

Initiatives

Networking

- SME Networking
- Big data community
- Matchmaking
- International fairs

Prospective

- Focus groups
- Regional T&BD Thematic Platform

Project stimulation

- European collective projects

Members profile

62 members in total

Companies

9 SMEs

- Agri-food sectors: viticulture, fruits, vegetables, animal industry (poultry, meat and diary)
- AgTech providers: softwares, DSS, smart irrigation systems
- Plant protection and nutrition
- Food certification

Research

21 Research Institutes

- Molecular biology
- Advanced materials, nautical applications, automation, robotics and mechatronics
- Energy & environment: by-products valorisation, bioenergy, biomass, eco-design, green chemistry, eco-friendly packaging, energy efficiency in buildings, domotics

Education

6 Training Centers

- Vocational training centers in food design and production, marketing and valorisation of food products, energy efficiency
- Advanced mechanics laboratories for architectural and urban requalification, cultural heritage restoration, environment, water, soil, territory
- Energy & environment interdepartmental center: innovation of health products, packaging, food security, agri-food innovation

About TRACK partners

CLUST-ER AGRIFOOD AGROALIMENTARE

ICT/TBD and agri-food skills

- Sustainable agriculture and precision farming.
- Quality, security and traceability for processes/products and nutrition.
- Valorisation of by-products and waste and biomass chemistry.

Projects

European experience: TRACK
SmartAgrihubs H2020

Countries where the cluster is involved in agri-food and ICT sectors

Italy
Brazil

Cluster referents contact details

Marco Foschini - Cluster Manager
marco.foschini@agrifood.clust-er.it

Célia Gavaud - Senior European affairs Expert
celia.gavaud@agrifood.clust-er.it

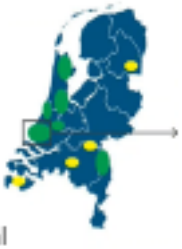
About TRACK partners

Cluster ID

GREENPORT West-Holland

Designated as a regional cluster by the Government 2004, private foundation, since 2015

Online presentation



Organisation

The head office is located in Zoetermeer, in the North-West region of Holland.
In Holland there are 6 Greenports (and some satellites) of which GPWH is the largest

Initiatives

Increasing the Value & Margin of the Horticulture Cluster

Front runner Knowledge & Innovation

Leading in Health & Happiness

Climate Neutral & Circular

Smart & Efficient logistic

Members profile

50 members in total

Companies

12 SMEs

- Agri-food sectors: fruits, vegetables, ornamental flowers & plants
- AgTech providers: companies valorising data and developing machines, mobile applications, sensors, DSS for farmers
- Greenhouse builders: equipment and robots for indoor production
- Plant breeders looking for new crop cultivars
- Plant protection and nutrition
- Urban farming and landscapes

Research

5 Research Institutes

- Horticulture: plant physiology, plant breeding, plant pathology, autonomous greenhouses, vertical farming
- Business development
- Agri Economics and social sciences

Education

4 Training Centers

- Technology & Horticulture vocational education
- Post degree education on Entrepreneurship in Horticulture
- Business Schools

About TRACK partners

GREENPORT West-Holland

ICT/TBD and agri-food skills

- Propagation material and seed selections
- Technical equipment: greenhouses, heating, cooling, climate control
- Crop management
- Agro logistic Knowledge (Fresh products)

Projects

Smart Agri Hub
TRACK
PIC
Future-oriented Integral Area development
Robust Ecosystem
Greenport on the Map

Countries where the cluster is involved in agri-food and ICT sectors

Holland, Belgium, France, Spain, Portugal, Italy, Romania, Denmark, Poland, Canada, Brazil, Iran

Cluster referents contact details

Marga Vintges - Expert in Innovation and Knowledge Policy on the horticulture sector
MGMVintges@gemeentewestland.nl

Colinda de Beer - Business Developer
colinda.debeer@innovationquarter.nl

About TRACK partners

Cluster ID

Agro-Transilvania Cluster (ATC)

AgroTransilvania Cluster

Created in 2013, by 20 founder members (public and private)

Organisation

The head office is located in Cluj, in the North-West region of Romania.

Online presentation

Initiatives

Encouraging the **Research, Innovation and Technological Transfer**
The Increase of **Sustainable Competitiveness** of the sector
Encouraging the Development of **cooperation** in sector
Integration into the **Value Chain**
The Increase of **Qualitative and Quantitative Representation**
Support the Development of Local and **Regional Initiatives**

Members profile

86 members in total

Companies

46 SMEs

- Food processing companies: plant and animal industries
- AgTech providers: softwares, web hosting, communication platform

Research

5 Research Institutes

- Seed breeding: maize, grain and vegetables
- Plant protection
- Technologies of field plant culture
- Chemistry: mass spectrometry, chromatography and ion physics, physics of nano-structured systems, molecular and biomolecular physics and technology of stable isotopes
- Environment & Health
- Bioenergy-Biomass
- Analytics and Instrumentation

Education

5 Universities

- Agriculture, Environmental Protection, Food Science and Technology
- Agricultural machinery, agricultural technologies
- Economics and Rural Development
- Animal Sciences
- Biotechnology

About TRACK partners

AgroTransilvania Cluster

ICT/TBD and agri-food skills

- Farming softwares
- Agricultural production, process and selling

Projects

Funded projects:

POC-A.1-A1.1.1-B-2015 (2015-2020)
POSCCE 1.3.3 (20213-2015)

As partners:

PANACEA -Horizon 2020 (2018-2021)
FoodNet COSME (2017-2019)
TRACK COSME (2018-2020)
Learn2Do4 EntreprEneurship
POCU (2018-2020)
8 X S3 POCA (2018-2020)

Countries where the cluster is involved in agri-food and ICT sectors

Romania

Cluster referents contact details

Felix Arion - Expert in innovation agribusiness management
felix.arion@agrocluster.ro

Diana Micle - Business developer
sorin.hus@agrocluster.ro

About TRACK partners

Cluster ID

Since 2005, regional public-private partnership (PPP)

Online presentation

Organisation

The head office is located in Seville, in the region of Andalusia. More than 150 public and private partners own FCTA cluster

Initiatives

R&D & Innovation support services

Funding for R&D and Innovation projects lead by companies in cooperation with public research groups

R&D and Innovation strategy definition

R&D & Innovation activities **internationalisation**

R&DI projects **evaluation**: business plan for entrepreneurs

Public **procurement** for innovation

Entrepreneurship programs

Members profile

165 companies in total from all activities sectors
60% SMEs + 40% big companies
10% from agri-food sector

Agri-food Stakeholders

16 agri-food companies

- Agri-food sectors: fruits, vegetables, arable crops, vineyard, medicinal plants, ornamental, cider
- AgTech providers: software and ICT companies developing tailored programs or applications like Enterprise Resource Planning
- Greenhouse builders: equipment and robots for indoor production
- Plant breeders looking for new crop cultivars
- Plant protection and nutrition

Agri-food Research

5 Research Institutes

- Cooperation with 2 Research institutes network (CSIC and IFAPA) with 26 research groups
- Cooperation with Agri-food Campus of International Excellence (CEIA3) that join 5 Andalusian Universities
- Software engineering, health engineering , artificial intelligence, computer networks
- Agriculture, fisheries, food, organic production

Education

82 research groups from 9 Andalusian Universities

- Cooperation in Agronomy, animal health, food technology, IT applied to agri-food
- Biotechnology, IT applied to agriculture

About TRACK partners

c+t=a^n
Corporación Tecnológica de Andalucía

ICT/TBD and agri-food skills

- Food production, packaging & distribution
- AgTech business development

Projects

Funded projects

DIVA (H2020-INNOSUP-01-2017)

finMED (Interreg MED 2014-2020)

SudoKET (Interreg Sudoe 2014–2020)

ICT-BIOCHAIN (H2020-BBI-JTI-2017)

EXCORNSEED (H2020-BBI-JTI-2017)

AeroTWIN (H2020-WIDESPREAD-2016-2017)

As partners

Biomasstep (Interreg POCTEP 2014-2020)

Superbio (H2020-INNOSUP-2015-1)

Tr@nsener (Interreg Sudoe 2014–2020)

ICT AGRI2 (ERA-NET)

Sunroad (Competitiveness and Innovation Program, CIP)

Countries where the cluster is involved in agri-food and ICT sectors

All European countries represented in projects consortium CTA belongs to (see list above): BL, DK, FI, FR, GER, HL, IT, IRL, LT, LT, PT, UK
Peru: CREATEC project to set up a call for projects to develop an information system addressed to farmers

Cluster referents contact details

Rocio De la Rosa Gilabert – Consultant
rocio.rosa@corporaciontecnologica.com

Nathalie Chavrier - Agri-food Senior Expert
nathalie.chavrier@corporaciontecnologica.com

Annex 3. TRACK Clusters representatives' competencies & skills

Cluster name	Cluster representative name	Cluster representative position	Iot & sensors	IoT	Robotics	smart logistics	AI	programming knowledge	business model canvas	cross-sectoral innovation	coaching (business coaching, team coaching, helping to improve)	lean start-up methodology	IP specialist	investment (fundraising)	horticulture	EU cooperation	Agri-food market knowledge (types of main actors, sectorial organisation,...)	Innovation project engineering	Knowledge of funding opportunities for innovation projects (call for projects)	Cybersecurity	Organizing Horticulture Ecosystems
VEGEPOLYS	Emeline Defossez	Innovation expert	Practitioner	Practitioner	Practitioner	Novice	Novice	Novice	Practitioner	Expert	Practitioner	Novice	Practitioner	Novice	Expert	Expert	Practitioner	Expert	Expert	Novice	Practitioner
VEGEPOLYS	Nicolas Fégeant	Coordinator / International cooperation	Novice	Novice	Novice	Novice	Novice	Novice	Practitioner	Practitioner	Practitioner	Novice	Novice	Practitioner	Practitioner	Expert	Practitioner	Practitioner	Practitioner	Novice	Practitioner
VEGEPOLYS	Anna Pineau	Coordinator for companies strategy	Novice	Novice	Novice	Novice	Novice	Novice	Expert	Practitioner	Expert	Expert	Novice	Expert	Practitioner	Practitioner	Practitioner	Practitioner	Practitioner	Novice	Practitioner
GPWH	Colinda de Beer	Business Developer	Expert	Practitioner	Practitioner	Practitioner	Practitioner	Expert	Expert	Expert	Expert	Expert	Novice	Practitioner	Expert	Novice	Expert	Expert	Practitioner		
GPWH	Marga Vintges	Expert in Innovation and Knowledge Policy on the horticulture sector	Novice	Novice	Novice	Novice	Novice	Novice	Practitioner	Expert	Novice	Novice	Novice	Practitioner	Expert	Expert	Expert	Practitioner	Practitioner	Novice	Expert
Clust-ER	Marco Foschini	Cluster Manager	Practitioner	Practitioner	Novice	Novice	Novice	Practitioner	Practitioner	Practitioner	Practitioner	Practitioner	Practitioner	Expert	Expert	Expert	Expert	Practitioner	Expert		
Clust-ER	Célia Gavaud	Senior European affairs Expert	Novice	Novice	Novice	Novice	Novice	Novice	Expert	Practitioner	Expert	Practitioner	Practitioner	Expert	Practitioner	Practitioner	Practitioner	Practitioner	Expert		
Clust-ER	Massimo Carvevali	ICT senior expert consultant	Practitioner	Expert	Novice	Novice	Practitioner	Practitioner	Practitioner	Expert	Expert	Novice	Novice	Novice	Novice	Practitioner	Practitioner	Practitioner	Novice	Expert	
ATC	Felix Arion	Expert in innovation agribusiness management	Novice	Novice	Novice	Novice	Novice	Novice	Practitioner	Expert	Expert	Expert	Practitioner	Practitioner	Practitioner	Expert	Expert	Expert	Expert	Novice	Expert
ATC	Diana Micle	Business developer	Novice	Novice	Novice	Practitioner	Novice	Practitioner	Novice	Expert	Novice	Novice	Novice	Novice	Expert	Practitioner	Practitioner	Practitioner	Practitioner	Practitioner	Expert
FCTA	Rocio De la Rosa Gilabert	Consultant	Practitioner	Practitioner	Practitioner	Novice	Novice	Novice	Expert	Practitioner	Practitioner	Expert	Novice	Practitioner	Practitioner	Practitioner	Practitioner	Expert	Expert	Practitioner	Novice
FCTA	Nathalie Chavrier	Agri-food Senior Expert	Practitioner	Practitioner	Practitioner	Novice	Novice	Novice	Practitioner	Practitioner	Practitioner	Novice	Novice	Practitioner	Practitioner	Expert	Expert	Practitioner	Expert	Novice	

Expert	I can teach it	**Practitioner**	I can do it	**Novice**	What is it?

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VEGEPOLYS VALLEY
INTERNATIONAL PLANT CLUSTER

AgroTransilvania
Cluster

CLUST-ER AGRIFOOD
AGROALIMENTARE

CTA
Corporación
Tecnológica
de Andalucía

GREENPORT
West-Holland

TRACK

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