### Deliverable 2.1

**Joint Cluster Partnership Strategy**

**Project acronynm:** TRACK  
**Project title:** Tracking opportunities to develop and strengthen data collection and big data in agri-food chain to increase competitiveness of SMEs - TRACK  
**Funding Scheme:** COS-CLUSTPARTN-2017-3-02  
**Grant Agreement number:** 822067  
**Coordinator:** Nicolas Fégeant

*Project was co-funded by the European Union’s COSME Programme.*

<table>
<thead>
<tr>
<th><strong>Start date of the project:</strong></th>
<th>October, 1st, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project duration:</strong></td>
<td>24 months</td>
</tr>
<tr>
<td><strong>Work package:</strong></td>
<td>2 – Strategy (Task 2.1)</td>
</tr>
<tr>
<td><strong>Lead beneficiary for this deliverable:</strong></td>
<td>VEGEPOLYS</td>
</tr>
<tr>
<td><strong>Authors:</strong></td>
<td>Julieta Contreras</td>
</tr>
<tr>
<td><strong>Delivery Date from Annex I (Part A):</strong></td>
<td>Month 10 – July, 31st 2019</td>
</tr>
<tr>
<td><strong>Delivery Date :</strong></td>
<td>Month 10 – July, 19th 2019</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dissemination level</th>
</tr>
</thead>
<tbody>
<tr>
<td>PU Public x</td>
</tr>
<tr>
<td>CO Confidential, only for members of the consortium (including the Commission Services)</td>
</tr>
<tr>
<td>CI Classified</td>
</tr>
</tbody>
</table>

**Disclaimer:** The content of this report represents the views of the author only and is his/her sole responsibility; it cannot be considered to reflect the views of the European Commission and/or the Executive Agency for Small and Medium-sized Enterprises (EASME) or any other body of the European Union. The European Commission and the Agency do not accept any responsibility for use that may be made of the information it contains.
The TRACK Consortium

<table>
<thead>
<tr>
<th>Nº</th>
<th>Beneficiary name</th>
<th>Beneficiary short name</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VEGEPOLYS</td>
<td>VEGEPOLYS</td>
<td>France</td>
</tr>
<tr>
<td>2</td>
<td>ASOCIATIA CLUSTERUL AGRO-FOOD-IND NAPOCA</td>
<td>ATC</td>
<td>Romania</td>
</tr>
<tr>
<td>3</td>
<td>CLUST-ER AGROALIMENTARE</td>
<td>Clust-ER</td>
<td>Italy</td>
</tr>
<tr>
<td>4</td>
<td>FUNDACION CORPORACION TECNOLOGIA DE ANDALUCIA</td>
<td>FCTA</td>
<td>Spain</td>
</tr>
<tr>
<td>5</td>
<td>STICHTING GREENPORT WESTLAND OOSTLAND</td>
<td>GPWH</td>
<td>Netherlands</td>
</tr>
</tbody>
</table>

Contributors/peer-review

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Felix Arion</td>
<td>ATC</td>
</tr>
<tr>
<td>Colinda de Beer</td>
<td>GPWH</td>
</tr>
<tr>
<td>Emeline Defossez</td>
<td>VEGEPOLYS</td>
</tr>
<tr>
<td>Nicolas Fégeant</td>
<td>VEGEPOLYS</td>
</tr>
<tr>
<td>Célia Gavaud</td>
<td>Clust-ER</td>
</tr>
<tr>
<td>Rocio de la Rosa Gilabert</td>
<td>FCTA</td>
</tr>
</tbody>
</table>
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definitions</td>
<td>4</td>
</tr>
<tr>
<td>Introduction</td>
<td>5</td>
</tr>
<tr>
<td>1. Identified joint activities</td>
<td>6</td>
</tr>
<tr>
<td>1. General considerations</td>
<td>7</td>
</tr>
<tr>
<td>1. Cover diverse plant sectors as there is different levels of maturity regarding ICT/TBD: possibility for cross-fertilisation</td>
<td>7</td>
</tr>
<tr>
<td>2. Integrate consumers in open innovation processes</td>
<td>8</td>
</tr>
<tr>
<td>3. Interact with European projects dealing with agri-food 4.0 issues</td>
<td>9</td>
</tr>
<tr>
<td>2. Facilitation of clusters cooperation</td>
<td>10</td>
</tr>
<tr>
<td>1. Exchange of best practices between European clusters to support ICT/TBD and agri-food SMEs</td>
<td>10</td>
</tr>
<tr>
<td>2. Develop strategic support tools for inter-cluster communication about mutual concerns in agri-food 4.0</td>
<td>10</td>
</tr>
<tr>
<td>3. Facilitation of cluster members cooperation</td>
<td>11</td>
</tr>
<tr>
<td>1. Facilitate, strengthen and foster interaction between ICT/TBD and agri-food sectors at local and interregional scales</td>
<td>11</td>
</tr>
<tr>
<td>2. Exchange of best practices between members of each ecosystem at European scale</td>
<td>11</td>
</tr>
<tr>
<td>3. Promote the link between SMEs providing AgTech solutions and other ecosystems</td>
<td>12</td>
</tr>
<tr>
<td>2. TRACK strategy sustainability</td>
<td>13</td>
</tr>
</tbody>
</table>
Definitions

**Agri-food process management**: management of the agro-food production processes: software development for evaluating agri-food products, reduce errors during the production chain, bills, scheduling, recording.

**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.

**Precision crop monitoring**: collection and analysis of crops data. Growing optimization by use of smart sensors, intelligent control techniques and intelligent software for optimal crop production.

**Robotics**: conception, design, manufacture and operation of robots and computer systems for their use. Robots can perform a task or play a role in any interface or new technology.

**TBD**: Traceability and Big Data.

**TRL**: Technology Readiness Levels is a measure system (originally developed by NASA) used to assess the maturity level of a particular technology. The following definitions apply, unless otherwise specified:

- TRL 1 – basic principles observed
- TRL 2 – technology concept formulated
- TRL 3 – experimental proof of concept
- TRL 4 – technology validated in lab
- TRL 5 – technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies)
- TRL 6 – technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies)
- TRL 7 – system prototype demonstration in operational environment
- TRL 8 – system complete and qualified
- TRL 9 – actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies; or in space)
Introduction
As a preparatory phase, WP2 Strategy seeks to develop a common vision and a coordinated action plan between clusters. It includes identified joint activities for future collaborations between TRACK partners and stakeholders considering their competencies and skills. A special attention is given to create a virtual community of stakeholders (D 2.4) that will live on after the project to search for new partners or to test ideas. All information produced by the WP2 must be considered as a guidance with suggestions and recommendations. The coordination will follow the lines described in this document, nevertheless, according specificities of context or timing, new adaptations can be done. Strategy is a vision, not a regulation.

Task 2.1 aims at establishing a Joint Cluster Partnership Strategy, here is the result. Both the mapping of cluster collaboration opportunities and value chain linkage (D2.2) and the analysis of bottlenecks and challenges from TRACK cluster members (D2.3) enabled the identification of targeted collaboration to build this Joint Cluster Partnership Strategy. The mapping work and analysis consisted of collecting and assessing information from each partner through the surveys in TRACK ecosystem (Sub-tasks 2.1.4 and 2.2.2).

Along with the Implementation roadmap (D2.6) this deliverable provides the guidelines about viable ways to develop and promote joint cluster activities taking into consideration the Joint event agenda for partner’s members (D2.5) to foster cross-fertilization between agri-food 4.0 actors during the TRACK project period. A long-term business cooperation, after the TRACK project period, is proposed on the Expected Business Cooperation agreement (D 2.7).

Results from the mapping of the capacities of each cluster and from TRACK ecosystem surveys feed and provide guidance for the other WPs, particularly for WP3 in facilitating a common innovation and business approach for ICT/TBD opportunities in TRACK ecosystem and for WP4, through training and mentoring programmes for selected SMEs. On the one hand, WP3 will primarily seek to give support, through cluster experts and external experts, to agri-food and ICT/TBD SMEs involved in TRACK willing to improve their business to access ICT/TBD and agri-food markets. On the other hand, WP4 will give collective and individual support to ICT/TBD SMEs to obtain a better understanding of the agri-food sector internationally. For those ICT/TBD SMEs receiving support in WP4, a tailored training plan will be provided to help them gain additional skills & knowledge about agri-food.

A roadmap of joint activities comes out of the edition of the mapping of cluster collaboration opportunities and value chain linkage (Sub-task 2.1.6) to contribute to smart specialisation on Agri-food and Industrial modernization sectors.

*Confidential document, for internal use only.*
1. Identified joint activities

Different actions will be carried out resulting from the mapping of cluster collaboration opportunities and value chain linkage (D2.2) and the analysis of bottlenecks and challenges in ICT/TBD and agri-food sectors (D2.3). Actions, presented in this synthetic table below, are detailed later in the document.

<table>
<thead>
<tr>
<th>TRACK strategy</th>
<th>Consequence for joint activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. General considerations</strong></td>
<td></td>
</tr>
<tr>
<td>1. Cover diverse plant sectors as there is different level of maturity regarding ICT/TBD: possibility for <strong>cross-fertilisation</strong></td>
<td>- Select <strong>pilot projects</strong> by issue (e.g. agri-food process management, precision crop monitoring, robotics) or by seed and plant sector - Propose <strong>international webinars</strong></td>
</tr>
<tr>
<td>2. <strong>Integrate users</strong> in innovation processes</td>
<td>Build a common <strong>living-lab</strong>¹ like tool or a <strong>methodology</strong> to integrate users demand in agri-food 4.0</td>
</tr>
<tr>
<td>3. Interact with <strong>European projects</strong> dealing with agri-food 4.0 issues</td>
<td>Co-work with EU projects leaders to implement <strong>regional strategies</strong> for innovation in agri-food</td>
</tr>
<tr>
<td><strong>2. Facilitation of clusters cooperation</strong></td>
<td></td>
</tr>
<tr>
<td>1. Exchange of <strong>best practices</strong> between European clusters to <strong>support ICT/TBD and agri-food SMEs</strong></td>
<td>Share best practices through: - Intercluster meetings - Common management tools - Study visits</td>
</tr>
<tr>
<td>2. Develop <strong>strategic support tools for inter-cluster communication</strong> about mutual concerns in agri-food 4.0</td>
<td>- Identify and give visibility of relevant contacts for TRACK ecosystem linking other Agri-food and Industrial Modernisation related projects in S3 Thematic Platforms - Define a search-for-partner method</td>
</tr>
</tbody>
</table>

¹ A living lab is a collectively constructed methodology with the ambition to put in common knowledge from a variety of actors dealing with the same concerns to build operational tools responding to their mutual challenges.
### TRACK strategy

<table>
<thead>
<tr>
<th>3. Facilitation of cluster members cooperation</th>
<th>Consequence for joint activities</th>
</tr>
</thead>
</table>
| 1. Facilitate, strengthen and foster **interaction between ICT/TBD and agri-food companies** at local and interregional scales | - Propose local and interregional workshops  
- Organise matchmaking events  
- Facilitate development of field demo platforms  
- Study visits  
- Integrate TRACK cluster members to existing **Digital Innovation Hubs** |
| 2. Exchange of **best practices** between members of each ecosystem at European scale | - Carry out regular physical or remote meetings  
- Organise side events during conferences/seminars/shows  
- Organise thematic missions  
- Webinars |
| 3. Promote the **link between Education and Agri-food and AgTech SMEs** | - Enhance interaction between **Technology providers** and **Education** to include Agri-food needs and issues in courses followed by IT students.  
- Enhance interaction between **Agri-food SMEs** and **Education** to integrate ICT/TBD courses in order to apply AgTech solutions. |

### 1. General considerations

1. **Cover diverse plant sectors as there is different levels of maturity regarding ICT/TBD: possibility for cross-fertilisation**

The main objective of cross-fertilisation will be to foster knowledge sharing between TRACK regions. Two approaches can be carried out:

- **Transversal approach:** share **interregional challenges and bottlenecks** that **AgTech SMEs providers** are facing to develop and sell cross-sectoral technologies.
- **Vertical approach:** share advantages and disadvantages about **available technologies by agri-food sector**.

**Implementation ideas**

i. **Selection of pilot projects and coaching methodology to give support to bankable projects in WP3.**

Five bankable pilot projects will be selected and are illustrative examples to put in practice both approaches.

Candidates for bankable pilot projects should, as far as possible, fulfil the criteria to be selected (covering different plant value chains and different TRL).
Besides, pilot projects can come from:

- Concrete cases identified during work package 2.
- Promising ICT/TBD SMEs identified in work package 4.
- Initiatives coming from TRACK consortium recommendations.

**ii. Webinars**

TRACK consortium suggests to tackle the following subjects:

* Who are key actors in agri-food targeted sectors? Overview of agri-food sectors in each TRACK country. Each TRACK Cluster partner presents figures in their respective country.

* Innovative AgTech solutions to manage irrigation and predict diseases in crops. A selection of relevant SMEs will present their solutions.

* How TBD can add value to viticulture value chain?

It is a non-exhaustive list, discussed during the physical meeting in Naaldwijk, in June 2019. Some key speakers are already identified by the TRACK Consortium according these topics. Webinars will be built by the WP3 to define the final list of webinars (Title, contributors, date).

**Link with other Tasks:** 3.1 - Common innovation and business approach for TBD opportunities; 3.3 - Pilot projects; 4.3 - International mentoring for SMEs.

2. Integrate consumers in open innovation processes

Willing to innovate towards a more demand-driven and knowledge-based production in the agri-food sector, it is key to integrate Agri-food consumers and AgTech users’ needs as guidance to develop new technologies and improve existing AgTech tools. It requires involvement of research, education and companies to develop pertinent innovations where consumers and users are involved as partners instead of just being a subject of research. The Figure 1 represents the interaction between consumers and TRACK ecosystem as a competitive space to develop open innovation.

![Figure 1. Schematic representation of open innovation within TRACK ecosystem](image-url)
Living-labs are excellent tools to encourage direct dialogue with consumers and users. Four main activities can take place within a living-lab (Inmédiats², 2014). This activities involve all actors to detect, validate, improve or even deploy solutions by different ways:

- Discovery of emerging uses, behaviours and market opportunities;
- Co-design with users;
- Implementation of experiments in real conditions (with users) or reproducing real cases (with institutes, laboratories);
- Evaluation of concepts, products and services according to defined criteria within the project.

**Implementation ideas**

Inspiring examples:
- VEGEPOLYS carries out the living lab approach through a concrete action: the pop-up store of plants and vegetables aiming at exhibit and test new solutions developed by companies providing plant products and services.
- Clust-ER is building a network of demo farms where users and consumer inputs will be essential.
- S3 Platform Consumer Involvement in Agri-food Innovation partnership, aiming to develop methods for enhancing and channelling consumer involvement in Agri-Food innovation.
- AgriFarmLab to bridge the gap between the farm level and start-ups with the aim of accelerating the proliferation of innovative solutions on farms by identifying technology providers best suited to respond to each individual challenge encountered by farmers.

**Link with other Tasks:** 3.1 - Common innovation and business approach for TBD opportunities; 4.3 - International mentoring for SMEs.

3. **Interact with European projects dealing with agri-food 4.0 issues**

Strengthening synergies between actors involved in agri-food and big data sectors will facilitate the emergency of adapted solutions responding to regional and interregional needs and priorities for innovation. It will also encourage and motivate the incorporation of necessary digital technologies and data application in agri-food sector value chains.

**Implementation ideas**

Focus on shared issues in collaboration with other EU project leaders through work sessions where EU project leaders put in common results and organise joint events about challenges, barriers and needs in developing innovative solutions for the agri-food sector. Possible EU projects gateways may be:

- Regions 4Food (Interreg, 2018-2020)
- Connensys (COSME ESCP.S3, 2018-2020)
- NERFEITITI: Networking European Farm to Enhance cross fertilisation and innovation uptake throw demonstrations (H2020, 2018-2022)
- DIVA: Boosting innovative digital value chain for agrofood, forestry and environment (H2020 Innosup, 2018-2021)
- Digiclusters (COSME ESCP.S3, 2018-2020)
- SmartAgriHubs (H2020, 2018-2022)

---


**Author:** VEGEPOLYS  
**Deliverable:** 2.1
Deliverable D.2.1
Joint Cluster Partnership Strategy

**Link with other Tasks:** Task 1.3 - Project Meetings (Advisory group), Task 5.3 Develop a detailed communication and dissemination plan (Presentation to S3 Regions and partners). Task 2.4 Sharing vision between the partners’ ecosystems.

2. Facilitation of clusters cooperation
   
   1. Exchange of best practices between European clusters to support ICT/TBD and agri-food SMEs

   18 Good Practices cases emerge as part of WP3 (D3.2) to support SMEs. They are now available from our website at [www.trackgrowingdata.eu](http://www.trackgrowingdata.eu). Good practices Library will be refreshed, when new good practices are detected, with the aim of integrating new Good Practices coming from relevant stakeholders beyond TRACK ecosystem.

   **Implementation ideas**
   
   - Intercluster meetings: PIC, side events during conferences/seminars/shows taking into consideration the joint events agenda (D2.5), focus groups.
   - Common management tool for involved clusters and stakeholders
   - Study visits

2. Develop strategic support tools for inter-cluster communication about mutual concerns in agri-food 4.0

   A virtual community could serve as the place where related projects in agri-food 4.0 come together. This community would be interesting to gather regions from S3 Platform dealing with Agri-food (e.g. Regions4Food, Connensys, SmartAgriHubs, and DIVA) and Industrial modernisation thematic (Advanced manufacturing, Artificial intelligence and Human machine interface, Photonics, Non-food biomass).

   **Implementation ideas**
   
   - List of cluster resource contacts, competencies and skills by thematic in each region.
   - Propose a common methodology to search for partners coming from another clusters, including the creation of search-for-partner method.

**Link with Task:** 3.1 - Common methodology and tools to support members.
3. Facilitation of cluster members cooperation

1. Facilitate, strengthen and foster interaction between ICT/TBD and agri-food sectors at local and interregional scales

Clusters are the first regional point of contact, a doorway, to strengthen the innovation ecosystem and boost agricultural innovation. Organizing events for agri-food and ICT/TBD cluster members would improve their network of innovative actors and allow them to gain knowledge about available services and competencies in ICT/TBD and agri-food sectors.

The European Commission has launched training programmes to develop Digital Innovation Hubs (DIH) that can play a key role to help companies accomplish their digital transformation in developing, exchanging and spreading their knowledge and ideas.

*Implementation ideas*

- Propose local workshop as a function of identification bottlenecks & challenges (proposed in WP4), if relevant in case of some particular issues in some regions are not highlighted during the interviews (D2.3)
- Propose local and/or inter-regional workshops targeting specific topics coming from the analysis of bottlenecks & challenges (D2.3)
- Foster international seminars including B2B meetings (e.g. VIBE event)
- Disseminate calls for interest to co-develop solutions including ICT/TBD and agri-food actors.
- Disseminate open opportunities to finance collaborations and demonstrations of new solutions (Introduction on EU projects with vouchers can be proposed as a webinar example)
- Identify DIH to foster digital transformation in the agri-food sector (e.g. SmartAgriHub)

*Link with other Tasks:* 3.2 - Information and practical networking; 4.2 - Specific SME training sessions; 4.3 - International mentoring for SMEs.

2. Exchange of best practices between members of each ecosystem at European scale

Two means or channels are identified to connect and facilitate communication between members of each partners, at European level:

1) disseminate best practices for the development of AgTech solutions (ICT/TBD SMEs)
2) disseminate knowledge about good integration of AgTech solutions (agri-food actors)

*Implementation ideas*

- Regular physical or remote meetings such as PIC meeting
- Side events during conferences/seminars/shows such as R2B (Research to Business International Exhibition on industrial research focusing on key and current themes like Industry 4.0, Big Data, Circular Economy and Climate Change, Skills for Innovation), SIVAL (Plant production trade show as a crossroad for innovations and concrete solutions for all plant productions).
- Thematic missions: demo farm visits
Main thematic dealing with challenges that has been identified through ICT/TBD experts interviews (D2.3) could be presented and discussed during webinars, as for instance:

* Why sharing data (or not)?
* Towards new business models: from product sales to service value
* Knowledge of consumers: examples of challenges and expectations from a selection of actors from TRACK network
* How to discover and experiment new solutions: example of demo platforms and testing facilities in TRACK countries

Some other topics proposed by TRACK consortium partners are:

* Technical webinar on ICT/TBD Solutions
* Introduction to S3 Partnership TBD or HTF

**Link with other Tasks:** 3.1 - Common innovation and business approach for TBD opportunities.

3. Promote the link between SMEs providing AgTech solutions and other ecosystems

Promote success stories connecting AgTech SMEs and Education is also part of the strategy to integrate. As seen in the TRACK partners mapping, Education entities are not the most involved actors in AgTech community. Despite the fact that they develop careers on digitalization, the link with the private and research players could be stronger.

**Implementation ideas**

- Foster participation of research and education actors in TRACK programme including webinars.
- Highlight cross-pollination between AgTech and Agri-food SMEs and education by providing inspiring examples such as Masters in Seville and Cordoba or the vocational training in West-Holland.
- Contribute with TRACK to existing training programmes as, for example, Wageningen MOOC "Mission to Mars".

**Link with other Tasks:** 3.2 - Information and practical networking.
2. TRACK strategy sustainability

At the end of TRACK project cooperation period, TRACK consortium aims to continue implementing and keep evolving the collaboration strategy to foster inter-cluster actions through international events such as PIC meeting. This will allow not only to set up new partnerships between cluster members but also, to give rise to new inter-regional collaboration ideas.

TRACK members will maintain their effort along the project duration to create sustainable links and strong relations with projects, consortia and S3 partnerships. As described above, several initiatives exist and convergence toward the same objectives: Farming 4.0.

Implementing this strategy into actions, SMEs, clusters and partners will have multiple opportunities to ensure this task of sustainability.