



## Project identity

**Coordinator:** Latvian IT Cluster (Latvia)

### Partners:

- UNIMOS / AgroBioCluster (Poland),
- OnGranada Tech City (Spain)
- Smart Food Cluster (Lithuania)
- Food Products Quality Clusters (Latvia)
- Association of Lithuanian Printing Industries (Lithuania)
- Lithuanian Innovation Center (Lithuania)

**Funding scheme:** COSME Programme – ESCP S3

**Duration:** 10/2018-03/2020 (18 months)

## Setting the scene

DIGICLUSTERS is a novel and interdisciplinary project aimed to drive digital transformation of agrofood and packaging sectors towards Industry 4.0 and boost industrial competitiveness and investment in the EU via cross-regional cooperation between clusters.

The project supports the creation of a European Strategic Cluster Partnership for smart investment (ESCP S3) to foster the collaboration of enterprises, especially SMEs, as well as their interaction with technology centres. It also stimulates the generation of joint actions and investment projects in common smart specialisation priority areas linked to industrial modernisation – especially SMEs in Industry 4.0 - to help improving their business environment.

## Objectives and target groups

DIGICLUSTERS is one of nine ESCP S3 and is aimed at speeding up industrial modernisation of agrofood packaging sectors towards Industry 4.0 by Cluster- Facilitated X-Industry Hackathons. The project supports the entrepreneurial discover of new forms of interregional cooperation to help SMEs prototype next generation & added-value products and services through agile approach of intra-regional and interregional hackathons.



The project is addressed to:

- cluster organizations and its coordinators/managers – as facilitators and orchestrators of multilevel collaboration;
- SMEs – as crucial engines for growth and job creation;
- R&D and technology centres– as knowledge and technology generators;
- regional authorities and policy makers – responsible for shaping and implementing Regional Intelligent Specializations Strategies (RIS3) and S3 Platform;
- startups & acceleration programs, incubators – providing trainings, mentorships or funding for innovations;
- other innovation ecosystem actors that contribute to mobilising linkages across regions and Europe to speed up industrial modernisation and Industry 4.0 development.

DIGICLUSTERS has multilevel approach and stimulate cross-industry (X-Industry) cooperation between clusters (C2C), companies (B2B) and clusters and business (C2B), both at regional and international level.

## Consortium

DIGICLUSTERS consortium has been strategically selected, gathering seven partners from four countries – Poland, Lithuania, Latvia and Spain. It is assembled by 6 traditional and high-tech clusters and one innovation centre that represents 739 SMEs.

The project interlinks the following Digital Innovation Hubs / ICT clusters and innovation centers:

- OnGranada Tech City (ES)
- Latvian IT Cluster (LV)
- Lithuanian Innovation Center (LT)

with agrofood & packaging clusters:

- Smart Food Cluster (LT)
- Food Products Quality Clusters (LV)
- AgroBioCluster (PL)
- Association of Lithuanian Printing Industries (LT).



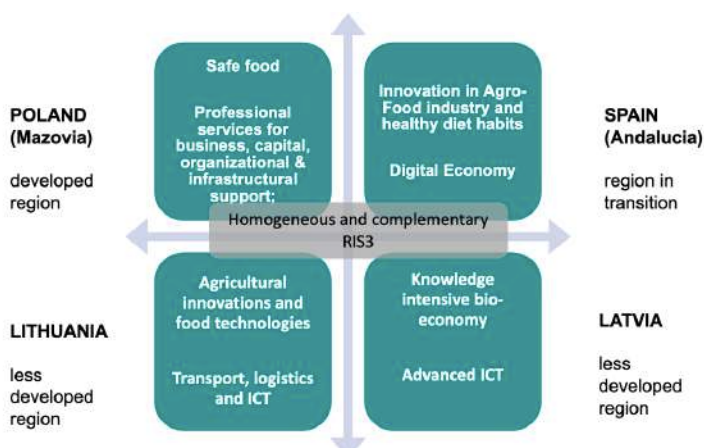
The consortium is composed of a wide set of suitable partners to enable cross-fertilisation process and contribute to innovation excellence, strengthening European leadership in industrial value chains and -at the same time -foster regional economic convergence.

## Coherency with RIS3

DIGICLUSTERS was consciously designed to attract partners from regions with similar Regional Smart Specialisation Strategies (RIS3) in terms of agri-food and ICT development priorities (Figure 1). Project partners represent regions with different level of development:

- Andalusia – region of Spain (Mediterranean Europe) – representing region in transition;
- Mazovia – region of Poland (Central Europe) – representing developed region;
- Latvia (Baltic States) – representing less developed regions;
- Lithuania (Baltic States) – representing less developed regions.

Figure 1. Interregional matrix of complementary RIS3 between partners



By interlinking clusters representing traditional (agrofood and packaging) and hi-tech (industry 4.0, ICT, AI) industries from homogeneous RIS3 regions, DIGICLUSTERS is focused on boosting cross-innovation capacity both in less-developed and industrial transition regions.

DIGICLUSTERS was bound for connecting four regional innovation ecosystems with relevant actors to jointly explore new opportunities and try to nudge a new RIS3 partnership to upscale inter-regional innovation projects, synchronize a common and complementary development strategy among their companies and incentivize joint business investments.

The project has symbiotic, collaborative and combined approach that generates multiplying effects and intercluster, intersectoral and interregional synergies for clusters, SMEs and other actors involved in innovation & territorial ecosystems

## Cohesion with S3 and holistic approach

DIGICLUSTERS was also designed in line with the **Smart Specialisation Platform for Industrial Modernisation (S3P-Industry)** aimed at supporting EU regions committed to generate a pipeline of industrial investment projects. The selected Thematic Platform -linked directly to the project- is “SME integration to Industry 4.0”, but taking into account its holistic approach, the project is also connected to Artificial Intelligence and Human Machine Interface (AI & HMI), Traceability and Big Data, High-tech farming, Hydrogen Valleys, Bioeconomy and others. This interregional approach to connect regions along shared RIS3 priorities was aimed at empowering the scaling up towards larger impact and more effective collaboration. (Figure 2 ).

Figure 2. DIGICLUSTERS holistic approach



The holistic approach of DIGICLUSTERS is referred to supporting cross-sectoral and cross-regional value chain collaboration to promote joint investments of clusters and its members. By connecting food, packaging SMEs with Industry 4.0 and digital innovations providers, the project foster cross-sectoral innovations and creation of growth and new jobs in Europe, helping their regions in the implementation of smart specialisation strategies.

## DIGICLUSTERS phases and activities

The project is divided into three phases with different types of activities:

1. Preparatory phase (first 6 months) - connected to the preparation of joint cluster partnership strategy. It includes elaboration of partnership agreement, intelligence gathering, map of collaboration opportunities and value chain linkages, implementation roadmap and marketing plan.
2. Implementation phase - linked to the execution of joint activities to mobilise interregional collaboration projects for innovation and investments (B2B) and joint activities to strengthen cluster cooperation among partners (C2C) towards improving cluster-specific framework conditions by implementing intra-regional and interregional cross-industry hackathons.
3. Investment phase – related to the intra-regional and interregional matchmaking at B2B and C2C level, searching for additional private/public financing and providing input to policy-makers in terms of improving intra-regional, regional and interregional cooperation, innovations and investments policies.

## Pioneering approach to boost cross-innovations in RIS3 homogeneous regions

The pioneering approach of the project consists in using start-ups methodologies (hackathons) to boost cross-sectoral, cross-border and cross-cluster cooperation between high-tech (digital innovation hubs -DIH), biotech and ICT) and traditional (agro, food & packaging) clusters to create new value chain linkages and empower digital innovations across Europe.



Hackathons – globally recognized concept of collaborative problem solution by technological means, especially in the start-up environment – are design sprint-like events during which teams collaborate intensively on projects building a working prototype for a product. The word ‘hackathon’ is the combination of two words, ‘hack/hacking’ and ‘marathon’, and was for the first time used in for the purpose of the software engineering event. Currently, the concept of hackathons is adapted by SMEs, large companies, public administrations, startups, scientific institutions and other organizations and communities interested in solving quickly the defined challenges or r working collectively on innovations.

## X-Industry Hackathon model

DIGICLUSTERS project for the first time applied the concept of hackathons in cluster communities to stimulate cross-sectoral and cross-border collaboration towards digital innovations in agri-food and packaging sectors. The project adapted the traditional hackathon concept and created and tested a new methodology – **Cluster-Facilitated X-Industry Hackathon model** – to bridge the gap between high-tech industries (ICT and Industry 4.0) and traditional sectors (food and packaging), generate digital innovations and prototype better and faster new products and services.

Two types of cross-industry hackathons took place:

1. Local hackathons – implemented in each country at regional level (Riga, Vilnius, Granada, Warsaw). Gathered local SMEs from food, packaging and ICT sectors. This hackathons facilitated the creation of new cooperation linkages between regional innovation actors linked to RIS3 regions (Andalucia, Mazowieckie, Latvia and Lithuania) participating in DIGICLUSTERS project.
2. Interregional hackathon – implemented in Riga (Latvia). Gathered international SMEs from food, packaging and ICT from Poland, Spain, Latvia and Lithuania. This hackathons facilitated the creation of new cooperation linkages at interregional level, connecting internationally four innovation ecosystems.



In both cases, X-Industry Hackathons consisted in staged experimentation process of incorporation of streams of innovation called that promoted n drivers: Industry 4.0 and digital solutions to food & packaging sectors in order to improve productivity, better flexibility, agility, and increased profitability. The process included the collection of cases (challenges) from agri-food and packaging companies, search for IT solutions, pre-matching and/or matching potential cross-industry teams and preparing the logistic and technical organization of hackathons.

## Barriers to innovation, skills, cooperation and investments

Although digitalization can bring several benefits for agri-food, packaging and ICT companies that belong to European clusters, they also face several technological, financial and managerial challenges in their way to digital transformation.

Agri-food and packaging companies often feel lagging behind in digital innovation, need support in incorporating technological solutions and it is challenging for them to keep up with the fast emergence of new technologies. They find it challenging to design new, digitalized business models adjusted to current economic realities and tend to have misconceptions about the complexity and expense of digitalization. Also, the lack of previous experience in digitalization and innovation process and low digital capabilities are considered as a barrier, especially experienced by the companies based in rural areas. Agri-food and packaging mentioned difficulties in finding the right technology suppliers that could solve their problems.

On the other hand, ICT companies highlighted the lack of experience related to not have worked with the companies for agri-food and packaging sector. They also pointed out financial barriers of agri-food and packaging companies to implement digital solutions and/or lack of information about potential financing instrument to finance digitalization. The other barrier related to cooperation are communication problems between traditional and high-tech sectors, as the ICT sector tends to communicate their solutions in terms of technological features and not as benefits for solving SMEs specific problems.

## Lessons learned

SMEs need agile methods to react quickly and flexible to unexpected changes. The Cluster-Facilitated X-Industry Hackathon model is a tool to help companies to incorporate digital innovations and create new cross-sectoral links with connected industries. The methodology encouraged SMEs to jointly discover and match needs with IT solutions, helping to translate ideas and knowledge into marketable products and services in a fast and efficient way. Clusters and other business support organizations should organize different matchmakings and meet-ups between ICT and agrifood & packaging companies to raise awareness of digitalization possibilities and provide expertise of ICT for production improvements.

Cluster-Facilitated X-Industry Hackathon model as cross-sectoral cooperation tool has been tested in four countries and internationally and recognised as successful way to match companies and boost their collaboration in digital transformation. Bearing in mind different business environments, territorial and organizational potential, each country slightly adapted the concept of hackathons to their regional needs and available timeframe.

The model is sharable and replicable and could be used in other industries, regions or countries to stimulate multilevel collaboration. It also support linking the existing and emerging value chains and pushing intraregional and interregional innovations to boost new value chains across borders. Taking into account that companies and their employees have different level of digital competences, the model could be used to seek both incremental and disruptive innovations.

Although the model is very versatile, its implementation has several challenges connected with the time needed for its organization, as well as facilitation skills necessary to build trust and engagement of different companies from diverse sectors.



## Recommendations to improve interregional collaboration

The model of Cluster-Facilitated X-Industry Hackathon is sharable and replicable. It could be used in other industries, regions or countries to stimulate collaboration at different levels (Figure 3)

### 1. INTERNATIONAL

DIGICLUSTERS approach and X-Industry Hackathon model could be used to solve international challenges and goals (international level)

### 2. EUROPEAN

DIGICLUSTERS approach and X-Industry Hackathon model could be used to stimulate economic cooperation between different European countries and regions (EU level) and/or serve as a tool to implement European policies and programmes

### 3. INTERREGIONAL

DIGICLUSTERS approach and X-Industry Hackathon model could be used to stimulate cross-cluster, cross-border and cross-industry cooperation between private, public, academic and non-governmental actors from different European regions (S3 level)

### 4. REGIONAL

DIGICLUSTERS approach and X-Industry Hackathon model could be used to stimulate economic and technological cooperation within one concrete European region (RIS3 level)

### 5. LOCAL

DIGICLUSTERS approach and X-Industry Hackathon model could be used to stimulate economic and technological cooperation at local level in one concrete European region (intra-regional level)



## Long-term commitment for cooperation

DIGICLUSTERS partners decided to keep working together on Cluster-Facilitated X-Industry Hackathon model and – building on the basis of the DIGICLUSTERS project – create new business and collaboration opportunities in seven strategic axis related to innovations, internationalization, acceleration and competence & synergy building. During the project implementation, they created numerous links with other European ESCP S3 partnerships, as well as H2020 INNOSUP projects and are willing to generate new joint projects to submit in Horizon Europe Programme for 2021-2027 EU perspective. By their active participation in ongoing INTERREG projects related to S3 strategies, regional policies and Industry 4.0, they are willing to support policy makers in designing policies, as well as stimulate smart investments at regional and interregional level.

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