



DIGICLUSTERS PROJECT: Opportunities for Circular Economy Stakeholders

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Circular economy:

- ❑ today's economy has to change
- ❑ knowledge-based economy → stakeholder economy → green economy → circular economy
- ❑ a new Circular Economy Action Plan for a cleaner and more competitive Europe
- ❑ the European Commission has adopted a new Circular Economy Action Plan - one of the main blocks of the European Green Deal, Europe's new agenda for sustainable growth
- ❑ the new Action Plan announces initiatives along the entire life cycle of products, targeting for example their design, promoting circular economy processes, fostering sustainable consumption, and aiming to ensure that the resources used are kept in the EU economy for as long as possible
- ❑ social responsibility & sustainability approach to economic development designed to deliver different benefits for businesses, society, and the environment
- ❑ the circular model builds economic, natural, and social capital.
- ❑ circular economy model is regenerative by design and aims to gradually decouple growth from the consumption of finite resources
- ❑ design out waste and pollution, keep products and materials in use, and regenerate natural systems
- ❑ the importance of the circular economy needing to work effectively at all scales – for large and small businesses, for organisations and individuals, globally and locally
- ❑ circular economy model represents a systemic shift that builds long-term resilience, generates business and economic opportunities, and provides environmental and societal benefits
- ❑ circular economy model seeks to rebuild capital, whether this is financial, manufactured, human, social or natural
- ❑ effective circular economy model is based on the principles and assumptions of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems

DIGICLUSTERS project:

- ❑ a novel and interdisciplinary project aimed at boosting industrial competitiveness and investment in the EU via cross-regional cooperation between clusters
- ❑ one of nine a **European Strategic Cluster Partnership** for smart investment (ESCP S3) focused on speeding up industrial modernisation of agrofood and packaging sectors towards Industry 4.0 and digital transformation by Cluster- Facilitated X-Industry Hackathons
- ❑ it supports 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
- ❑ has symbiotic, collaborative and combined approach to drive and catalyze digital transformation and Industry 4.0 concept in the agro food & packaging sectors, especially SMEs
- ❑ multilevel intercluster, intersectoral and interregional focus is aimed at generating multiplying effects for clusters, SMEs and other actors involved in innovation & territorial ecosystems
- ❑ in the current economic situation, clusters are one of the most effective forms of knowledge-based capital integration providing necessary competitive advantages
- ❑ effective (vibrant) clusters give a boost to innovation while their members gain advantages, such as susceptibility to innovation, rationalization, outpacing productivity growth



Towards Industry 4.0 – impact for regional and local development

- ❑ new achievements in information and communication technologies (ICT) are drastically influencing several industrial sectors
- ❑ the fourth industrial revolution differs from the previous ones with the fact that it relates to all fields of our life
- ❑ the trend towards a digital revolution in manufacturing is known as **Industry 4.0**
- ❑ the concept of **Industry 4.0** assumes blurring the differences between the work of people and the work of machine
- ❑ the concept of **Industry 4.0** is a new reality of the modern economy, because innovation and technological development play an important role in each organization
- ❑ implementation of this concept has further consequences for management and future jobs through creating new business models
- ❑ **Industry 4.0** significantly changes products and production systems concerning the design, processes, operations and service
- ❑ **Industry 4.0** can be summarized as an integrated, adapted, optimized, service-oriented, and interoperable manufacturing process which is correlate with algorithms, big data, and high technologies
- ❑ **Industry 4.0 describes the increasing digitization and automation of the manufacturing environment, as well as the creation of digital value chains to enable communication between products, their environment and business partners**
- ❑ the implementation of the solutions of **Industry 4.0** requires capital expenditure on new technologies and new knowledge



The conference is funded by the project entitled: Innovations in circular economy – environmental labels and declarations (ID: 21920002)

The project is co-financed by the Governments of Czechia, Hungary, Poland and Slovakia through Visegrad Grants from International Visegrad Fund. The mission of the fund is to advance ideas for sustainable regional cooperation in Central Europe.



International partners within Digiclusters

The **DIGICLUSTERS** partnership is based on individual and common competences, experiences and connecting seven partners from four countries – Mediterranean, Central and Baltic Europe – representing different regions with different level of development:

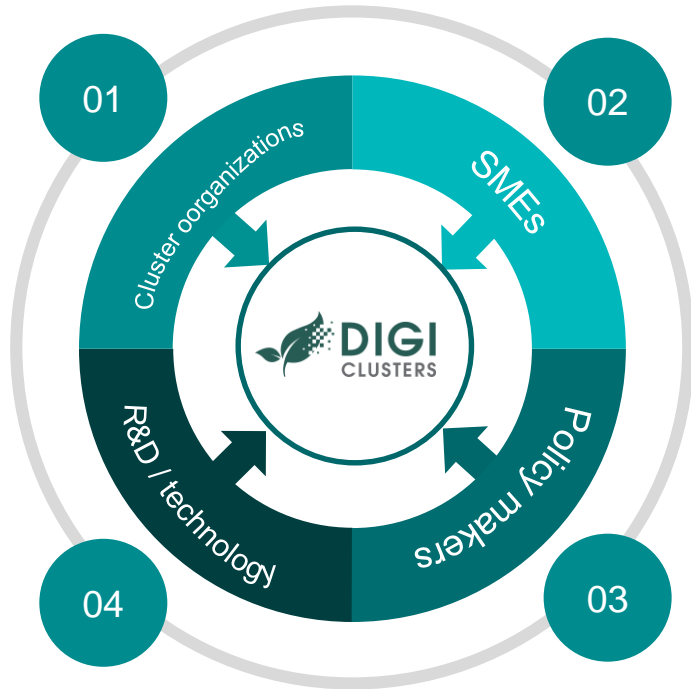
- ❑ Andalusia/ Spain – representing region in transition (NUTS 2:ES61),
- ❑ Mazovia / Poland – representing developed region (NUTS 2:PL12),
- ❑ Latvia – representing less developed regions (NUTS 2:LV00),
- ❑ Lithuania – representing less developed regions (NUTS 2:LT01).

DIGICLUSTERS unites:

- ❑ Digital Innovation Hubs and ICT/Biotech cluster (OnGranada Tech City),
- ❑ IT cluster (Latvian IT Cluster),
- ❑ Technology & Innovation Center (LIC).
- ❑ Smart Food Cluster (food & beverages) – coordinated by LITMEA,
- ❑ Food Products Quality Clusters (food & beverages) – coordinated by LFFC/FPQC,
- ❑ AgroBioCluster (agrofood & bioeconomy) – coordinated by UNIMOS (cross-cluster alliance),
- ❑ LISPA (printing & packaging) - coordinated by Association of Lithuanian Printing Industries.



Target groups



The **DIGICLUSTERS** project is addressed to:

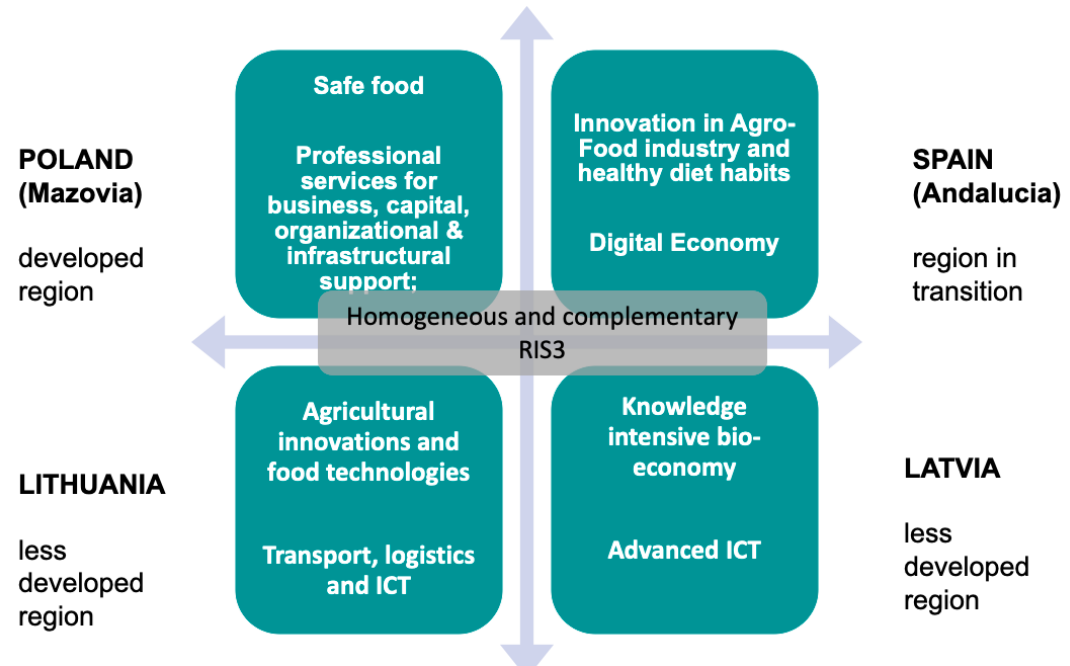
- cluster organizations and its coordinators/managers
- SMEs
- R&D and technology centres makers
- regional authorities and policy, especially related to Regional Intelligent Specializations Strategies (RIS3) and S3 Platform.

Additionally, it involves:

- startups & acceleration programs, incubators
- other innovation ecosystem actors

Similarities between RIS3 – smart specialization

- taking into account that **DIGICLUSTERS** gathers partners from regions with similar priorities in terms of Regional Intelligent Specializations Strategies, it directly contributes to their implementation
- having involved homogeneous regions in terms of their regional policies, **DIGICLUSTERS** also support strengthening interregional collaboration along similar smart specialisation priorities between regions and clusters
- the project links competences, infrastructures and innovation efforts in European networks as a path for opening up new growth opportunities for companies and their regions in new European value-chains (digitalization and industry 4.0)



Pioneering X-Industry Hackathons

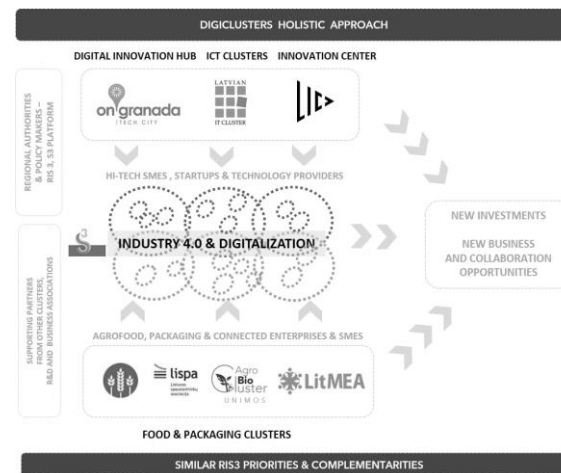
DIGICLUSTERS designed, tested and implemented a pioneering methodology and tools to stimulate cross-sectoral, cross-border and cross-cluster cooperation between high-tech (digital innovation hubs (DIH), biotech and ICT) and traditional (agro, food & packaging) sectors.

The X-Industry (cross-industry) Hackathons model – staged experimentation process – consisted in adopting start-ups methodologies (hackathons) to 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 **DIGICLUSTERS** project has tested various formats for the X-industry hackathon, and all these tests have worked. All the formats promoted the incorporation of streams of innovation drivers: Industry 4.0 and digital solutions to food & packaging sectors.

The project partners adapted 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) in order to generate digital innovations and prototype better and faster new products and services.

This new model was tested both at regional and interregional (cross-border) level.



Conclusion

- ❑ circular economy model based on social responsibility is an economic system of closed loops in which raw materials, components and products lose their value as little as possible, renewable energy sources are used
- ❑ clustering has a strong impact for circular economy development and social inclusiveness
- ❑ as society looks to the business world to solve the most pressing social and environmental issues, clusters are changing the way they are structured to fulfill their duties and new responsibilities within circular economy
- ❑ cluster stakeholders look to businesses and R&D sector to address not only economic issues but also social problems
- ❑ cluster stakeholders have a vested interest in a cluster development and can either affect or be affected by a cluster projects and long-term performance
- ❑ cluster stakeholders are a party that has an interest in a cluster development and can be affected by the responsibility of cluster members
- ❑ the circular economic system within green clusters are fed by renewable energy sources
- ❑ in cluster ecosystem the circular economy does not only require closed material cycles and renewable energy, but also commitment, systems thinking and strategic thinking

