WPT4
D.T4.1.8

Transnational industrial innovation roadmap for the ICT sector

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1 INTRODUCTION

CHAIN REACTIONS project addresses the challenge for industrial regions not benefitting from innovation activities from large leading corporations to increase regional capacity to absorb new knowledge and turn it into competitiveness edge and business value.

New products and services, as well as new industrial sectors are not always the result of breakthrough innovation; they can be the result of value chain innovation, e.g. the transformation of 'traditional' value chains into new ones - emerging industries - through cross-border and cross-sectoral collaboration. The analysis of those emerging value chains shows that beyond their specificities, they have in common some key drivers: Key Enabling Technologies, Resource efficiency, Digital transformation and Service innovation. For many businesses, integrating durably the complexity of value chain innovation processes represents a challenge hampering sustained growth.

There is a strong need to help SMEs to overcome capacity shortages for innovation and integration into transnational value chains. The project aims at empowering regional ecosystems with the knowledge and tools to help businesses overcome those barriers and generate sustained growth through value chain innovation. CHAIN REACTIONS project builds thereby on modern approaches considering value chains and their complex developments rather than linear technology transfer approaches. The focus is on key sectors: advanced manufacturing, ICT and electronics, energy and environment, health and bioeconomy.

The objective of WPT4 is to create truly transnational open spaces for collaboration (e.g. value chain based) for RIS3 implementation. Ensure the sustainability of the project outputs beyond the project.

The following activities shall be performed:

1. Building on the regional IGAs (WPT2), the models and instruments (WPT1) tested in pilots (WPT3), the PPS will set-up transnational networks of relevant innovations stakeholders in each of the selected industrial sectors, which will perform jointly a foresight exercise (workshops) and develop the previous results into industrial innovation roadmaps, i.e. trends and expected innovations over time (5-10 years) for each of the selected industrial sectors. The roadmaps shall include necessary developments (in general) to make the expected innovation happen. Lead: STP, all PPs
2. Each industrial roadmap will be then further developed into transnational industrial innovation agendas, i.e. concrete innovation activities to be performed in the project regions and transnationally in order to realize the necessary development identified in the roadmaps and ensure industrial leadership in the selected industrial sectors. Those agendas shall be coherent with S3 in the project regions and provide the basis for potential future joint activities and transnational investments. Lead: STP, all PPs
3. Finally, PPs will define in parallel to the roadmaps transregional exploitation plans for the time beyond the project, aiming at providing guidance with respect to:
   - The use of the knowledge collected and developed during the project lifetime;
   - The implementation of innovation activities as identified by the members of the transnational networks; Establishment of durable transnational open spaces for collaboration in the selected industrial sectors.

2   A ROAD TO TRANSNATIONAL INDUSTRIAL INNOVATION ROADMAP

Following the regional IGAs' actions of the support and implementation of transnational pilots aiming at supporting value chain innovation (WPT3) and establishment of transnational networks of innovations stakeholders as the kick-off activity to develop transregional innovation networks and agendas (WPT4) in selected industrial sectors (WPT4), the main activity of the sectoral partner duo is to contribute to the project output O.T4.1 Thematic industrial innovation roadmaps (TIIR).

For the purposes of TIIR development of the Energy and Environment sector two (2) transnational industrial innovation roadmap workshops were implemented, with the main objective to collect relevant inputs for elaboration of TIIR and later on the transnational industrial innovation agenda for the target sector, in order to perform a foresight exercise and identify relevant sectoral trends and to present the possible evolution paths of the considered value chains and innovations within the target sector over a period of 5-10 years.

3   TRANSNATIONAL INDUSTRIAL INNOVATION ROADMAP

3.1   Trends

In the ICT sector we can Kosice IT Valley has defined four main goals, which are considered as innovation actions:

-       Strengthen the innovation potential of the region by building a qualified workforce

-       Transfer of knowledge from abroad when compiling a regional development strategy

-       Attracting industry to build ICT skills

-       Technology development and technology transfer, especially in the field of R&D.

Croatian Chamber of Economy - Zadar County Chamber has defined six main goals, which are considered as innovation actions:

-   Collaboration with the scientific community with the goal of foster innovation

-   Connecting industry with the education sector with the aim of obtaining professional staff with

    competencies needed by the economy, especially in the field of advanced technologies

-   Continuous promotion of innovators (individuals, start-ups and other SMEs)

-   Encouraging the development of the Green Economy and Digital Transformation

-   Further promotion of the project and continued communication with IGA members in order

    to more easily reach the needs of stakeholders in the ICT sector, but also others for whom ICT

    solutions are needed

-   Participation in the development of regional development strategies, which, among other

    things, cover the area of development of the ICT sector

3.2   Priority Innovation Actions

There are many differences between both regions, both in terms of the number of innovative SMEs and in the size of networks connecting specific SMEs. However, it is exactly this difference between

larger structures with more knowledge and experience, but also strict focus of individual SME as part of such structures on one hand, and small but flexible SMEs covering various aspects within the broader field that can easily adapt to cooperate with various partners on the other hand, that offers the added value of the partner due between the regions. Also, the cooperation with local authorities opens new possibilities for knowledge transfer, thus the following innovation actions were proposed:

PP	Suggested innovation action	Description	Timeframe	
			From	To
2	Proposed activity 1	IT SEGMENT DEVELOPMENT	Q3/2022	Q4/2024
2	Proposed activity 2	Slovakia needs you	Q4/2021	Q4/2025
2	Proposed activity 3	Kosice 2025	Q1/2021	Q4/2025
10	Proposed activity 4	DIGITALNA KOMORA	Q4/2021	Q4/2025

10	Proposed activity 5	SAY YES TO INNOVATION!	Q1/2021	Q4/2025
10	Proposed activity 6	EDUCATION ON FINANCING POSSIBILITIES	Q1/2022	Q4/2025

3.3   Conclusions and recommendations

Each partner has conducted an individual workshop with their IGAS members, partners, and representatives of the ecosystem where they defined the main issues and goals. The outcome of the individual workshop was presented on a transnational workshop. We discussed all the issues, plans and compared the findings. It helped us to create a transnational industrial innovation roadmap.

In the next steps, international cooperation of companies from IT, advanced manufacturing, and energy and environment is expected. CCE-ZCC hopes that it will be realized through a matchmaking event, which will be organized in collaboration with project partners KEITVA, STP and RDA Pilsen. Cooperation and transfer of knowledge between ICT Cluster Croatia with IGA KEITVA members will also be proposed.

Through its activities, CCE-ZCC is involved in encouraging the green and digital transition of all its members. This will continue by the further promotion of the "Digital Chamber" platform, but also by organizing conferences, meetings, webinars, etc. on this topic. Cooperation with IGA members will continue in order to stimulate discussion on fostering innovation and new trends within the IT sector.

Kosice IT Valley will create more webinars, seminars, and workshops to ensure the increase of students focusing on IT in all the spheres and more significant involvement of women in ICT. Moreover, to have excellent skills, we will still cooperate with international partners and partners from all sectors, so people understand the importance of ICT in all areas.

Annex: Transnational Industrial Innovation Roadmap

Region	Suggested innovation action	Description	Timeframe	
			From	**To**
KEITVA	IT SEGMENT DEVELOPMENT	It is a document in which there will be data on the ICT sector. Proposing changes to improve the sustainability conditions of the ICT sector. The concept of education of future employees	Q3/2022	Q4/2024

KEITVA	Slovakia needs you	A set of educational events and campaigns to promote the study of IT, the entire sector and support the local IT community. A special focus is on educating and building the local IT community, girls and women in IT, as this part of the population has great potential (in Slovakia only 13.7% of women work in this area.) The campaign includes the creation of short promotional videos to motivate to study IT and which will be placed on social networks.	Q4/2021	Q4/2025
KEITVA	Kosice 2025	In order to bring valuable know-how and ensure the subsequent development of the region, which would contribute to maintaining competitiveness and result in the creation of a strategy, the cluster would like to organize for its members a visit to the IT cluster in Estonia and technology centers in the USA. The Košice IT Valley cluster will create a delegation, which will include, in addition to representatives of the cluster, also members from the ranks of entrepreneurs, universities and local governments. The strategy should describe the necessary steps that need to be taken in order for the East of Slovakia to be competitive, to be a place of IT innovation and a place of high concentration of IT experts.	Q1/2021	Q4/2021
CCE-ZCC	DIGITALNA KO-MORA	Encouraging members of the Croatian Chamber of Economy to greater digitaliza-tion through the chamber platform "Digital Chamber". It is a nationally co-financed pro-ject at EU level that will encourage members to use the platform and develop digital skills. The service is intended for all members of the Croatian Chamber of Economy.	Q4/2021	Q4/2025
CCE-ZCC	SAY YES TO IN-NOVATION!	International cooperation of the IT sector and networking of small and medium-sized enterprises is expected on the basis of a hackathon held during the project, which should encourage mutual cooperation with Slovak, Slovenian and Czech companies. We	Q1/2022	Q4/2025

		will create questionnaires of needs and barriers of implementation of innovation within firms.		
CCE-ZCC	EDUCATION ON FINANCING POSSIBILITIES	Continuous education of members and others on the possibilities of financing innovative solutions (meetings, seminars and workshops). Information concerning innovative solutions and possibilities of providing funds for investments - education, seminars, workshops (professional lecturers on this topic, securing funds through local, national or EU funds) - several times a year	Q3/2022	Q4/2025