Interreg CENTRAL EUROPE
European Union European Regional Development Fund
CHAIN REACTIONS

# WPT4
# D.T.4.1.2

**Transnational Network of innovations stakeholders for the ICT and electronics sector**

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# Abbreviations

IGA – Innovation and Growth Alliance

PESTEL - Political, Economic, Social, Technological, Environmental and Legal factors

PP – Project Partner

RDI – Research, Development and Innovation

RIS3 – Regional Strategy for Research and Innovation for Smart Specialisation

SME – Small and Medium Enterprise

TEP – Transregional Exploitation Plan

TIIA – Transnational Industrial Innovation Agenda

TIIR – Transnational Industrial Innovation Roadmap

TNIS – Transnational networks of innovations stakeholders

TOSC – Transnational open collaboration space

WPT – Work Package

# 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. 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.

Building on the developed regional IGAs (WPT2) and the models and instruments (WPT1) tested in pilots (WPT3), the PP4 CCE-ZCC and PP8 KEITVA are setting-up transnational networks of innovations stakeholders (TNIS) in the selected industrial sectors of ICT and electronics. The developed transnational network 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), forming the basis for collaborative value chain innovation processes.

Following the regional IGAs' actions of the support and implementation of transnational pilots aiming at supporting value chain innovation (WPT3), the main activities of transnational networks of innovations stakeholders are to develop transregional innovation networks and agendas (WPT4) in selected industrial sectors, in particular to contribute to the following project outputs:

- O.T4.1 Thematic industrial innovation roadmaps;
- O.T4.2 Thematic innovation agendas;
- O.T4.3 Thematic transnational exploitation plans and open collaboration spaces.

# 2 STRATEGIC AND ORGANISATIONAL CONTEXT

Transnational network of innovations stakeholders for the ICT and electronics sector builds its strategy on the performed Value Chain Analysis on one hand, and developed Transnational Pilot on the other, presenting the main guidelines for planning and implementing defined sectoral actions.

Value chain analysis builds on the results of a combination of classic methods (Porter's Five Forces, PESTEL analysis, Business Model Canvas) with the specific approach of CHAIN REACTIONS (innovation drivers) and the regional specificities of the target environment. The main aim of the transnational pilot was to define collective actions to implement the potentials for value chain innovation processes identified during the value chain analysis of ICT and electronics sector carried out within the project.

Pilot enables the project partners and their key regional stakeholders to deepen their knowledge of value chain innovation processes in general and a deep understanding on how they apply specifically in regional businesses and value chains. By using the models and instruments developed they will reach autonomy in the use of models and instruments for supporting and monitoring innovation in their home region and will be able to contribute to transnational innovation processes.

Thanks to the Value Chain Analysis of the ICT sub-sector as well as the Identification of innovation potential through Transnational Pilot we can say that the ICT sector in Croatia and Slovakia is characterized by constant and rapid changes. It has the potential to bring large benefits in terms of productivity and economic development, but it can also lead to inequality and exclusion.
Innovation potential of the sector is huge, especially the digital startups can significantly help to attract the young generation - skillful graduates of high schools and universities, boost an innovative

culture in both countries and foster innovation. Any support to this sector will return in the short term as a result for the entire economy. Although it may seem easy to enter the computer programming market, as it does not require large input costs, there are also some barriers. Existing companies have already established business relationships, as well as companies are less interested in lowering their prices because they are aware of market volatility, rapid changes in platforms and outdated knowledge.

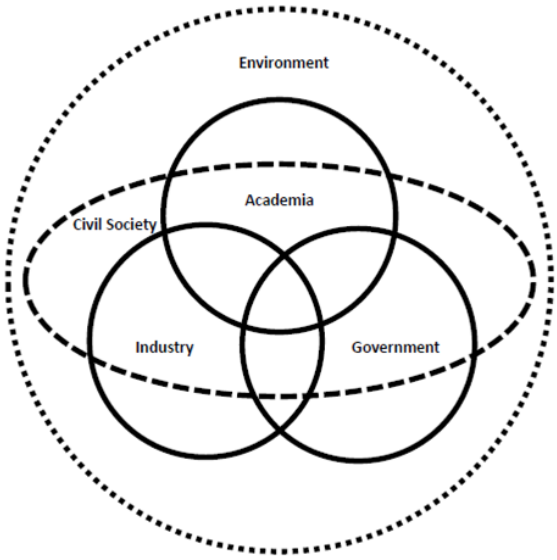
IT companies have established very successful cooperation with universities, which raise awareness about studying IT and offer internships within their companies. Rapid changes in customer requirements and tastes, which is often the case in the IT industry, can have an impact on those companies that are not flexible enough which COVID just confirmed. It is often the case that smaller but more flexible companies adapt more easily to these changes than large companies.

The ICT sector is a key economic driver of the 21st century and it is one of the fastest growing industries in the world. Croatia and Slovakia are no exception, where ICT sector brings job opportunities of a new quality, diversifies the national economic structure, sup-ports export performance and helps the country to build a knowledge-based economy. By generating new technologies applicable to a wide range of other sectors, the sector of ICT plays a strategic role in the promotion of growth, innovation development and competitiveness. ICT sector has a solid position in Croatian and Slovak economy that is demonstrated by the presence of foreign owned companies as well as strong domestic companies and has significant potential for the growth of the countries' GDP.

**In Croatia** companies in the computer programming sub-sector mostly fall, by size, into the micro-enterprise category. Small businesses, especially software start-ups, are the largest generator of new jobs in the IT industry. There are four large companies operating in this sub-sector, 12 medium-sized, 202 small and about 2600 micro companies. Four large companies generate about 15% of total revenues. MSMEs are responsible for the other 85% of total income, employing around 13,000 people or 92% of the entire sub-sector. Connecting the Croatian IT sector with foreign business partners is of great importance, especially in the context of the current business situation caused by the COVID-19 pandemic. IT companies can deliver their products and services "easier" than most other sectors, and they practically do not need to adapt to the new business conditions. It should also be noted that clusters have been identified in the Croatian ICT sector as a platform for improving the sector's competitiveness and economic growth and development. In many strategic documents of the Government of the Republic of Croatia, clusters stand out as a model of competitiveness growth and Croatia's policy is in line with the policies of the European Union in order to contribute to strengthening European competitiveness as an EU member state.

In **Košice** the ICT industry has become more significant in the regional economic structure in the last two decades as seen in the increasing number and size of ICT firms in the region. In the Košice region, more than 14% of all Slovak ICT sector employees are working, in comparison to only 4 – 6% in other Slovak regions. In the last analysis 70 percent of ICT firms located in the Košice region are concentrated in the regional capital city Košice. The IT sector in Košice includes a wide range of services. Some of them are: systems architecture, design and development of databases, networking, application development, testing, documentation, maintenance and hosting, operational support and security services. IT companies employ more than 15 000 people in Košice, with the largest employers in the region are: T - Systems Slovakia, AT&T Global Network Services, NESS KDC, GlobalLogic Slovakia, IBM, FPT Slovakia, Diebold / Nixdorf, Siemens Healthineers Slovakia, NATEK, Antik Telecom etc. In Košice region, 80% of all companies are focused on core IT development or programming. 40% of all employees in the ICT sector are the ICT specialist focused on the software development. According the Global

Innovation Index, published by the Organisation for Economic Cooperation and Development (OECD), Slovakia innovates in the IT sector the most.




Transnational network of innovations stakeholders for the ICT and electronics sector is based on the quintuple helix system, representing knowledge as the core of the system which (circulating between societal subsystems) changes to innovation and know-how in a society (knowledge society) and for the economy (knowledge economy). Respecting the quintuple helix TNIS builds its operation on five subsystems (helices): education and economic system, natural environment, media-based and culture-based public (also 'civil society'), and the political system, emphasising the efforts on RDI, entrepreneurship and supporting public sector.

The network is consisted of the following partners:

| | |
|---|---|
| Region 1 (PP4)<br>[Croatia, CCE-ZCC] | 1. ICT Cluster Croatia<br>2. Zadar County – Department for Economy, Tourism, Infrastructure and EU Funds<br>3. University of Zadar, Department of Economics<br>4. Printshop d.o.o. – SME<br>5. AB OVO d.o.o. – SME<br>6. Inovacija – Business support organisation<br>7. HSTec d.d. – SME<br>8. Futuro – SME |
| Region 2 (PP8)<br>Slovakia, KEITVA | 1. Košice region<br>2. Deutsche Telekom<br>3. Globallogic Slovakia<br>4. Technical University in Košice<br>5. University of Pavol Jozef Safarik in Kosice<br>6. Promiseo - SME<br>7. U.S.Steel Košice<br>8. Matsuko - SME |
| Other partners [in case they exist] | [please, list the partners from other regions / countries]<br>1. Name of partner, region, country |

## 2.1 Organisation and management

Management and coordination of ICT and electronics TNIS is provided by project partner duo PP4 – CCE-ZCC and PP8 – KEITVA. The management structure of the network is based on democratic principles, where all partners are equal.

For the project period, the above PP duo takes over the management role and acts as coordinators responsible for managing the operations and disseminating information among the network partners. The network coordinators are at the same time responsible for operational and technical matters in order to ensure the functioning of the network. After the project conclusion, the network partnership may reaffirm the existing ones or select a new network coordinator(s).

It is highly recommended that network partners provide professional support to the operation of the network in accordance with their professional competencies.

TNIS plays an important role as a regional and transnational promoter of value chain innovation in the ICT and electronics sector. The network will promote and guide the establishment of sustainable Transnational open collaboration space with a view to putting the set objectives into practice.

## 2.2 Objectives

**General objectives** of TNIS are to:

- Support and manage the creation of truly transnational value chain based open spaces for collaboration for RIS3 implementation in the ICT and electronics sector
- Ensure the sustainability of the project outputs beyond the project.

**Specific objectives** of TNIS are to:

- Ensure on-going management and coordination of the ICT and electronics sector value chain innovation partnership;
- Organise, support and manage the ICT and electronics sector related:
    - Elaboration of Thematic industrial innovation roadmap;
    - Elaboration of Thematic innovation agenda;
    - Elaboration of thematic transregional exploitation plan;
    - Creation and operation of Transnational open collaboration space.

## 2.3 Activities

The main activities of the initial phase of building open collaboration spaces for transnational RIS3 implementation of the ICT and electronics sector are:

- Organisation and implementation of **Transnational industrial innovation roadmap workshops**. Each TNIS should organise and implement two online workshops in order to perform a foresight exercise and identify relevant trends. The outcomes of the workshops will serve as content outlines for elaboration of industrial innovation roadmaps.
- Elaboration of **Transnational industrial innovation roadmap** (TIIR). TIIR will present the possible evolution paths of the considered value chains and innovations over a period of 5-10 years.
- Organisation and implementation of **Industrial innovation workshop**, to collect the relevant inputs for elaboration of transnational industrial innovation roadmap and agenda, including the survey addressing all target sectors in each project region.

- Organisation and implementation of **Transnational innovation agenda workshops**. Building on the innovation roadmaps, two workshops for ICT and electronics network will be organised in order to translate the innovation roadmap into agenda.
- Elaboration of **Thematic industrial innovation agenda** (TIIA). The outcomes of the transnational innovation agenda workshops will be compiled into industrial innovation agenda, including specific recommendations for actions on regional and transnational level.
- Elaboration of thematic **Transregional exploitation plan** (TEP). TEP will provide specific information (actors, resources) on the implementation of value chain innovation processes on regional, transnational and cross-sectoral level.
- Creation and operation of **Transnational open collaboration space** (TOCS). TNIS will be upgraded into a sustainable open space for collaboration. Working principles and commitments will be specified by TNIS.