

WPT4

D.T.4.1.4

Transnational Network of innovations stakeholders
for the health sector

Version 1
10 2020





Project information	
Project Index Number:	CE1519
Project Acronym:	CHAIN REACTIONS
Project Title:	Driving smart industrial growth through value chain innovation
Website:	https://www.interreg-central.eu/Content.Node/CHAIN-REACTIONS.html
Start Date of the Project:	01.04.2019
Duration:	36 Months
Document Control page	
Deliverable Title (overall):	D.T.4.1.1-5 – Transnational Networks of innovations stakeholders (TNIS)
Deliverable Title:	D.T.4.1.4 – Transnational networks of innovations stakeholders in the health sector
Lead Contractor of the Deliverable:	PP2 – Styrian Technology Park
Responsible PP duo of specific TNIS:	PP3 – Camera di Commercio Industria Artigianato Agricoltura Padova PP11 – Górnośląska Agencja Przedsiębiorczości i Rozwoju sp. z o.o.
Authors:	PP3 – Camera di Commercio Industria Artigianato Agricoltura Padova PP11 – Górnośląska Agencja Przedsiębiorczości i Rozwoju sp. z o.o.
Contractual Delivery Date:	30.09.2020 – 31.03.2022
Actual Delivery Date:	13.11.2020



Table of content

1	INTRODUCTION	1
2	STRATEGIC AND ORGANISATIONAL CONTEXT.....	1
2.1	Partnership.....	2
2.2	Organisation and management.....	7
2.3	Objectives.....	7
2.4	Activities	8

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 PP3 and PP11 are setting-up transnational networks of innovations stakeholders (TNIS) in the selected industrial sectors of health (including its subsectors – biomedical sector and medical devices sector). 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 health 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 health 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.



Medical technology industry (MedTech) utilises the latest and high-end technologies in its products and services. Therefore, technological factors highly determine the status of medical device industry. Since an average product lifetime cycle equals approx. 1.5 year, innovation and new technologies really influence the new discoveries. Based on the data from European Patent Office (EPO) the share of patents in this sector is the highest one. When it comes to key technologies supporting the growth of the medical device sector, these are: 3D printing including bio-printing (artificial organs), Augmented Reality, Surgical Robotic Systems and Artificial Intelligence. Additionally, new materials can push innovation in this sector.

It is not only the technology that strategically forms the condition of the sector. One should also recognize economic and legal factors that underpin the sector and its growth. Private investments in companies mainly in start-up and expansion phase are one of the key factors of medical device R&D. MDR legislation introduced to the sector has made it highly dependant on the formal requirements that impose the condition of MedTech companies.

Innovation and marketing play a crucial role for this sector because of the need from one side to strengthen the relationship both with clients, networks of customers and other potential areas connected with the global trends of ageing, well-being and social innovation.

Building relations and contacts within the sector requires a lot of matchmaking efforts as well as other organisational work. In fact, the COVID pandemia has stopped face-to-face meetings across the borders and most of the activities have moved towards online meetings. It leghthens the time necessary to boost collaboration and to enter new value chains. Therefore, pilot actions and the network of innovations stakeholders for the health sector will offer new opportunities to boost the growth of SMEs in the MedTech.

It is necessary to explore the cross-industry cooperation of medical devices, biomedical, industry 4.0 and other sectors.

Pilot Action in Veneto will be split into four key actions. Namely, it will build on the networking with the health sector ecosystem in Veneto Region in order to rise awareness by several dedicated tasks. It will include communication, invitation, coworking with the SMEs and Research Institutions. Secondly, the mapping of SMEs and assessment of their digital maturity will serve as the framework to analyse the bottlenecks, innovation requirements and other aspects of strategic and day-to-day business of the sector. The idea generation is the third pillar of the pilot action that will serve as the way elaborate BRIEFS for new products and services by SMEs belonging to the Health Sector with some assistance and followed by public call (through the CCIAA website) to promote the proposal of solutions by other SMEs, Research Institutions, Consultants. The PUBLIC CALL could have a transnational level, to support the establishment of collaboration between SMEs, Research Institutions, etc. Once proposals of solutions, the most effective solutions are to be selected and coaching applied. The last task is based on the evaluation formula with focus on the collaborations established between SMEs, Research institutions, Innovation agencies, etc; the solutions proposed. Both innovation toolkit and transnational aspects are included in the pilot action.

Pilot Action in Silesia is intended to grow in time with three consequitve and adding value offers. First, we aim at building an IT platform – “virtual competence center” for healthcare, providing knowledge



on best practices, new EU regulations in med-tech, disseminating information on potential research areas, laboratory services available, R&D institutions services provided for companies in med-tech sector. Ideal place to look for knowledge on the business and its environment. The platform will be developed with some best practices observed and gathered during a study visit to Veneto region (either physical or virtual due to COVID19 restrictions). IGA members will take part in the study visits. IGAs members and SMEs will be benefiting directly from the platform and we intend to collaborate on the content with Veneto CCIAA Padova. Secondly, an e-learning system dealing with health sector internationalization combined with cross-sectoral collaboration is to be launched. Tools to be used are primarily focusing online actions, i.e. webinars, workshops and matchmaking offers. The sectoral analysis (PESTEL) highlights that we should focus on Medical Devices Regulation (setting up new quality and security standards for medical devices, together with harmonizing and unifying rules for introducing medical devices in EU market, COVID19 context) and cross-sectoral contexts and opportunities (PORTER). Thus, Industry 4.0 theme should be introduced to the webinars and workshops. IGAs members will be involved in preparation/ leading of those workshops and consulting. This step needs clearly collaboration with Veneto CCIAA Padova, Pannon and BW-CON. Last but not least, we opt for creating a strong laboratory for innovative business models, open for collaboration on cross sectoral (industry 4.0) and international level. With the introduction of so-called component 5, EC is proposing to strengthen interregional investments that could help to shorten the production chain and become less dependent on the global economy. Innovative value chains are top priority for the business who needs to revise its business models. Nevertheless, it is also the RTOs who are more and more forced to rethink their business. Thus, laboratory for innovative business models could significantly help the business in strategic, sectoral and value chain analysis. The Lab will initiate its activity with the help of the tools developed in the project. It will support the activity of EDIH-Silesia, a hub of digital innovations for Silesia (concept / project has been submitted to the Polish Ministry). It should capitalize the experience of European-wide EDIH initiatives. The expert knowledge of BW-CON and Pannon will be of great value for the third offer rising the potential of this transnational pilot action.

Respecting the results of Porter's Five Forces analysis the following specific regional aspects were defined for the medical devices and biomedical subsectors of health sector:

Threat of new entrants	<p>In favor of entrants</p> <ul style="list-style-type: none"> - Market opportunities and public sector intervention with funding sources and transnational collaboration mechanisms may increase the number of new entrants. MDR extending the definition of the subsector may also increase the number of new entrants. COVID could be a major player of new entries in meddev-related sectors. Big national players (fex. oil sector) may have for long enter the market after their technology lines are switched to new med-dev/biomedical related production. 	<p>In favor of incumbents</p> <ul style="list-style-type: none"> - The regulations and high cost of the investments in running the business keep the incumbents reduce the threat of existing players. Consortia that are very much active and core of the med-dev/biomedical sector may well filter the new entrants. - Knowledge on the very uncertain market - Strong network built upon personal contacts in medical devices sector
------------------------	--	--



CHAIN REACTIONS

	<ul style="list-style-type: none"> - Regional smart specialisation policy with existing hence rather limited funding opportunities for new companies and RTOs in Silesia Access to highly qualified staff on the labour market built around multidisciplinary industry in Silesia - Innovation in the biomedical sector is radical, and essentially consists in the in-corporation of scientific knowledge into new products or devices - The ability to develop innovation is strictly dependent on the ability to build relationships with local hospitals in Veneto - Difficulty of existing companies, as they are mainly medium-small, to finance and protect innovation in Veneto 	<ul style="list-style-type: none"> - High levels of initial investment required (High technology sector) for biomedical sector - Discontinuous growth of innovative start-ups, with weak connections to the existing clinical and production fabric in Veneto
Bargaining power of suppliers	<p>In favor of suppliers</p> <ul style="list-style-type: none"> - The number of events, trade fairs and other options of suppliers' activity are the main forces that increase the bargaining power of suppliers. - Cost of certification procedures of the medical devices - The national and regional systems are structured in such a way as to concentrate the purchasing procedures according to the logic of economies of scale, which in fact penalize small businesses in Veneto 	<p>Not in favor of suppliers</p> <ul style="list-style-type: none"> - Lack of a dedicated research funding program for this sector is an obstacle to its development
Bargaining power of buyers	<p>In favor of buyers</p> <ul style="list-style-type: none"> - The tendering procedures are very much strengthening the bargaining power of buyers. Nevertheless, with the MDR applying to the sector some devices may have limited alternatives available. Additional funding should increase the number and bargaining power of buyers - Clinics / hospitals with the potential of testing and then applying of medical devices in Silesia - The structure of the national and regional system is structured in such a way as to concentrate the purchasing procedures according to the logic of 	<p>Not in favor of buyers</p> <ul style="list-style-type: none"> - Project-based developments of medical devices and esp. medical robots limit the influence of the buyer (project suspension ends the buyer influence = quasi-market relations at several stages) - Lack of reimbursement (or incomplete reimbursement) of procedures performed by medical robots under the National Health Fund



CHAIN REACTIONS

	economies of scale, which in fact penalize small businesses in Veneto	
Threat of substitute products	<p>In favor of substitutes</p> <ul style="list-style-type: none"> - Bureaucracy related to public funding of R&D projects (rigid procedures and deadlines vs high unpredictability of projects related to medical devices) - Psychological barrier and stereotypes associated with undergoing robotic procedures (for medical robots subsector) - Growing interest in the sector by companies operating in the financial and insurance sectors in Veneto 	<p>In favor of incumbents</p> <ul style="list-style-type: none"> - Global trends highly recognised in the region due to the flow of knowledge (knowledgeability of R&D sector / professionals)
Rivalry among existing competitors	<p>Aspects fostering rivalry</p> <ul style="list-style-type: none"> - Hardly any 	<p>Aspects limiting rivalry</p> <ul style="list-style-type: none"> - Networking drives the sub-sector towards coopetition - The market is too small in Veneto

CCIAA PD defined the strategic objectives to be achieved with the Pilot action as followed:

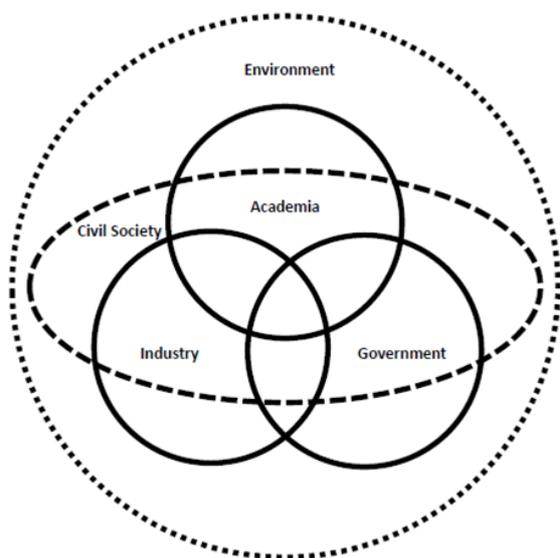
- a) To raise attitude and knowledge by SMEs involved in the biomedical value chain to implement processes much more customer-oriented, open to the mega trends of agein, demographic change, digitalisation, etc
- b) To assure the establishment of a regional network able to support the innovation (design-driven innovation) and exploit the potential of digitalisation for the biomedical sector
- c) To strengthen the competitiveness of SMEs working in the biomedical sector offering new opportunities for internationalisation and cooperation at European level both for the innovation and the commercialisation

GAPR defined the following strategic objectives to be achieved with the Pilot action:

- a) To stimulate cross-sectoral dynamics by increasing and strengthening collaboration between businesses and science and with other actors in the ecosystem
- b) To overcome ddifficulties in scaling-up innovation
- c) To provide support for SMEs in going international (consulting on funding opportunities, finding partners or buyers)
- d) To identify skills gaps in growing sectors and provide missing knowledge.



2.1 Partnership



Transnational network of innovations stakeholders for the health 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 built by the following partners:

Region 1 (PP3) Veneto Region	<ol style="list-style-type: none"> 1. Galileo Visionary District 2. SMACT Competence Centre 3. T2I – regional agency for innovation 4. Biomedical Observatory 5. Industrial Entrepreneurial Association 6. Craftmanship association (CNA) 7. University of Padova 8. Others networks representing the biomedical sector
Silesia Region (PP11)	<ol style="list-style-type: none"> 1. Foundation for the development of cardiology (FRK) 2. Łukasiewicz Research Network - Institute of Medical Technology and Equipment (ITAM) 3. Katowice Special Economic Zone - Subzone Gliwice (KSSE Gliwice) 4. Silesian Competence Center for Industry 4.0 (ŚCKP4.0) 5. SMEs, LEs of MedSilesia cluster 6. Silesian Medical University 7. Silesian Marshall Office
Other partners	<ol style="list-style-type: none"> 1. Pannon Gazdasági Hálózat Egyesület, PP1 2. bwcon GmbH, PP6



2.2 Organisation and management

Management and coordination of health TNIS is provided by project partner duo, i.e. PP3 – Camera di Commercio Industria Artigianato Agricoltura Padova and PP11 – Górnośląska Agencja Przedsiębiorczości i Rozwoju sp. z o.o.. 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 health 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.

2.3 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 health 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 health sector value chain innovation partnership;
- Organise, support and manage the health 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.



2.4 Activities

The main activities of the initial phase of building open collaboration spaces for transnational RIS3 implementation of the health sector and its subsectors 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 health 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.