

WPT4

D.T.4.1.1

Transnational Network of innovations stakeholders
for the Advanced Manufacturing 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 PP1, PBN and PP5 RDA Pilsen are setting-up transnational networks of innovations stakeholders (TNIS) in the selected industrial sectors of Advanced Manufacturing. 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 Advanced Manufacturing 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 Advanced Manufacturing 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.

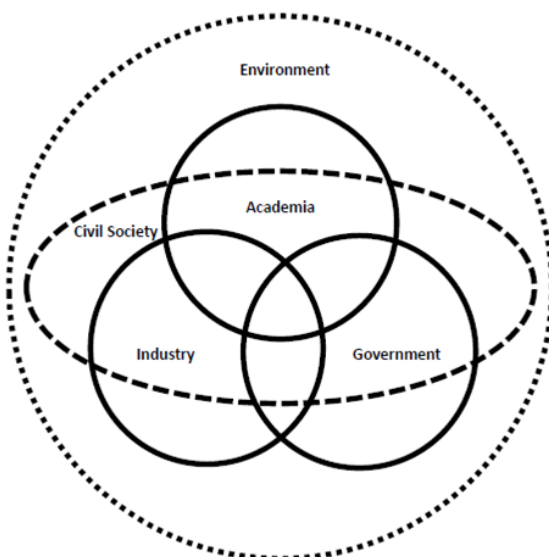
In Hungary the Industry 4.0 related advanced systems and technologies are still in their infancy. Only a few companies have practical solutions using these technologies and those are mainly multinational enterprises with foreign background where knowledge and funding is available. The Hungarian SME sector is highly vulnerable due to their dependence on the German market and the lack of professional labour force which in case increasing time to time. The growing standards and higher expectations



encourage Hungarian companies to educate themselves regarding the advanced manufacturing technologies. Hungarian companies look for solutions in order to escape from the insecure low profit toll manufacturing and create higher value add-ed products and services. Advanced manufacturing gives the opportunity to provide more value, solve the lack of labour, create a transparent benchmarking system, higher quality and cost optimization. The problem is that there are small amount of professionals who know how to use these new technologies properly. Implementing these technologies requires to think in a connected system where every piece of data, machine, people are operating together to reach the goals. In fact, lot of Hungarian companies did not develop this system-thinking for their current business processes so far. Other barriers could be the older labour force, traditionally manual work processes and lack of interest on management level. Furthermore, there is a high potential in the Hungarian market as companies becoming more aware that the only way to survive in these uncertain market conditions is process and product development.

Pilsen region has long-term tradition in manufacturing, the mark SKODA was established in Pilsen and gave new contents also for growing car industry in other regions of Czech Republic. The typical regional industry in the sector of advanced manufacturing represents production of transportation equipment and power systems. Since 1990, traditional companies have been complemented by new foreign investments, especially in the automotive industry (component production). The share of employment in the sector of (advanced) manufacturing in the region is nearly 1/3 of total number in the region. Companies with 50 employees and more are mainly operated by foreign owners, typically from Germany (161 out of 256 companies in 2018). Manufacturing has significant influence on economic performance, region can be described as a “moderate innovator”, most of companies can be characterised as “followers”. There are several high-tech companies with high level of research activities. The University of West Bohemia has about 11 000 students, 8 faculties, 3 of them technology oriented. UWB established research institutes recently, well equipped for cooperation with businesses.

2.1 Partnership



Transnational network of innovations stakeholders for the Advanced Manufacturing 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:



CHAIN REACTIONS

Region 1 (PP1) [Western Hungary, PBN]	<ol style="list-style-type: none"> 1. BEKO Engineering Kft. 2. ELTE-SEK University, Szombathely 3. Óbuda University 4. am-LAB DIH 5. Ivy Technologies
Region 2 (PPY) [please, insert the name of the region and PP number]	<ol style="list-style-type: none"> 1. Regional Technology Institute (University of West Bohemia) 2. Cluster Mechatronics 3. COMTES FHT
Other partners [in case they exist]	<p>[please, list the partners from other regions / countries]</p> <ol style="list-style-type: none"> 1. Name of partner, region, country

2.2 Organisation and management

Management and coordination of Advanced Manufacturing TNIS is provided by project partner duo PP1 - PBN and PP5 - RDA Pilsen. 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 Advanced Manufacturing 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 Advanced Manufacturing 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 Advanced Manufacturing sector value chain innovation partnership;
- Organise, support and manage the Advanced Manufacturing 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 Advanced Manufacturing 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 Advanced Manufacturing 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.