OUTPUT FACT SHEET

Guidelines of DIH services

Version 2

Project index number and acronym	CE1492, 4Steps
Output number and title	O.T3.3 Guidelines of DIH services
Responsible partner (PP name and number)	Vorarlberg University of Applied Sciences, PP04
Project website	https://www.interreg-central.eu/Content.Node/4STEPS.html
Delivery date	03/2022

Summary description of the key features of the tool (developed and/or implemented) and of its transnational added value

Within the 4Steps project, eight project partners from seven Interreg Central Europe countries were developing (a) individual Digital Innovation Hubs and (b) designing and developing a Transnational Hub Network. In doing so, the activities and action included:

- Italy: PP01 & PP02 – CNA Emilia Romagna & RE:Lab s.r.l
  The Italian Digital Innovation Hub supports the directives presented by the Italian government within the "Industry 4.0" national plan, and is investing in the implementation of a network of Digital Innovation Hubs at regional level, able to support and guide companies towards the new production model of Industry 4.0, a key issue in the project "4-Steps". In this logic, CNA Emilia-Romagna, in order to improve the business / production processes of companies in the Emilia-Romagna region, has organized a path reserved to DIHs, with the collaboration of RELAB.
- Poland: PP03 – Agencja Rozwoju Regionalneg o SA w Bielsku-Białej
  iLaBB 43300 - Digital Innovation Hub created in Bielsko-Biała, Poland, is offering a comprehensive support for companies and local community in the process of digital transformation. iLaBB 43300 is built on the infrastructure of FabLab – fabrication laboratory, oriented on 3D printing and rapid prototyping, created in 2014 by ARRSA as the first one in the south of Poland. iLaBB 43300 operations will focus on ecosystem building, awareness raising (hackathons, tech-festivals, conferences) and giving daily basis access to cutting-edge technologies to different stakeholders (open days, individual, digital consultations) and organizing educational activities focusing on Industry 4.0 – both in terms of technical skills as well as innovative business models and strategic management (hands-on workshops, design thinking sessions, Technology & Business Days). iLaBB 43300 will act as a one-stop-shop for entrepreneurs supporting them in the digitalization of their products and processes to improve their productivity and efficiency (service: from idea to prototype, simulations of digital processes, trainings). iLaBB 43300 is equipped in 4 out of 9 technological pillars of Industry 4.0, that are: autonomous robots, simulation, Industrial Internet of Things, additive manufacturing.
- Austria: PP04 - Vorarlberg University of Applied Sciences
  The project partner in Austria has developed the Digital Innovation Hub entitled “Business Intelligence & Innovation” to experiment, co-create, innovate, etc. artifacts (e.g. tools, methods, processes, etc.) to launch the digital transition to become a Smart Service Factory (of the Future). The Hub is implemented as a university support center for business and industry in the Vorarlberg region (and its neighboring regions) to investigate into and test innovation and technology collaboratively and cooperatively.
- Czech Republic: PP05 – DEX Innovation Centre
  The pilot action in the Czech Republic focused on the development of knowledge and skills to help companies to digitize and facilitate their transition to the fourth industrial revolution, supporting the objectives that Liberec region (and beyond) are trying to meet in their RIS3 strategies. In the center of action were training and support activities with the objective to boost region's competitiveness.
- Hungary: PP06 – Pannon Gazdasági Hálózat Egyesület
  The project partner in Hungary put its major emphasis on the concept of (organizational) resilience. The concept of resilience has been becoming more and more attractive for researchers especially nowadays, since we are currently facing a global crisis and it is crucial to understand how to react properly, to avoid bankruptcy, or even to enhance performance.

- Slovenia: PP07 – Gospodarsk a zbornica Slovenije
  The focus in Slovenia in the design and development was on the question on how to successfully implement a continuous process of usage technologies of Industry 4.0 and digital transformation in SMEs that are lagging or companies that do not possess proper knowledge or pool of experts that could help in transition to future proof business performance.
- Germany: PP08 – Virtual Dimension Center
  The DIH activities in Germany included the evaluation of the operator 4.0 approach. There are already plenty of studies about the future vision of the operator 4.0, therefore the focus was placed on the feasibility of all or individual aspects of it for today's useful implementation. Parallel to this, demonstrations of portable devices for use in an industrial context were created and try-out possibilities were made possible.

The design and development of the 4Steps transnational Digital Innovation Hub network is accessible via: https://4stepsservices.eu.pythonanywhere.com/hubs

NUTS region(s) where the tool has been developed and/or implemented (relevant NUTS level)

Based on the partners endeavors, the following regions directly take advantage out of the 4Steps project.

- Italy: PP01 & PP02 – CNA Emilia Romagna & RE:Lab s.r.l
  Emilia Romagna is a Region of great excellence, with a production fabric made up of innovative and cutting-edge companies, which have been able, over the years, to generate supply chains and related activities capable of guaranteeing high quality productions, through a dynamic and innovative ecosystem.
- Poland: PP03 – Agencja Rozwoju Regionalneg o SA w Bielsku-Białej
  On-spot pilot action activities were implemented in PL225 Bielski region – the main impact area of ARRSA. In terms of on-line events (EU Industry Week 2021, webinar) – we were able to reach all territories of Poland.
- Austria: PP04 - Vorarlberg University of Applied Sciences
  The design, development and implementation of the Digital Innovation Hub on Business Intelligence & Innovation happened within the Federal State of Vorarlberg, Austria. Vorarlberg – AT34 comprises the NUTS codes Bludenz Bregenzer Wald AT341, Rheintal-Bodenseegebiet AT342. Since the Federal State of Vorarlberg is embedded into the international region of the Lake of Constance, further NUTS regions and their systems that could take advantage of the Hub are, for example: LI000, DE13, DE14, DE27, CH053, CH054, CH055, CH056.
- Czech Republic: PP05 – DEX Innovation Centre
  The pilot action was implemented in small and medium-sized enterprises from the NUTS 3 region - Liberec Region, Jihomoravský region, Hradec Králové Region but also Prague.
- Hungary: PP06 – Pannon Gazdasági Hálózat Egyesület
  The procured database contained financial balance sheets and income statements on little bit more than 26 000 Hungarian companies, involving all NUTS2 regions of Hungary.
- Slovenia: PP07 – Gospodarsk a zbornica Slovenije
  The pilot action was implemented in SMEs from both NUTS 2 regions – SI04 (Zahodna Slovenija) and SI03 (Vzhodna Slovenija).
- Germany: PP08 – Virtual Dimension Center
  The pilot activities reached all regions in Germany. The demonstrators on the other side reached region DE11 and DE12.

NUTS0	NUTS1	NUTS2	NUTS3
ITALY	ITH-Nord-Est	ITH5-Emilia Romagna	ITH55-Bologna
POLAND	PL2- MAKROREGION POŁUDNIOWY	PL22-Śląskie	PL225 -Bielski
AUSTRIA	AT3-WESTÖSTERREICH	AT34-Vorarlberg	AT341 Bludenz Bregenzer Wald; AT342-Rheintal-Bodenseegebiet
CZECH REPUBLIC	CZ0- ČESKÁ REPUBLIKA	CZ05-Severovýchod	CZ051-Liberecký kraj
HUNGARY	HU2-Dunántúl	HU22-Nyugat-Dunántúl	HU221- Győr-Moson-Sopron
SLOVENIA	SI0- SLOVENIJA	SI02-Zahodna Slovenija	SI023-Goriška

GERMANY	DE1- BADEN-WÜRTTEMBERG	DE11-Stuttgart	DE11 & DE12 Baden-Württemberg

Expected impact and benefits of the tool for the concerned territories and target groups

Based on the 4Steps project actions and activities, we were able to design and create a transnational, Interreg Central Europe based network of Digital Innovation Hubs. Although each of the partners Hubs has its own specialization, we -*as a consortium*- can gain advantage of all the entities. In doing so, we complement each other and create transnational synergies. Main beneficiary then are the 4Steps target groups and stakeholders: they can benefit from a complementary knowledge, expertise, and business cases. This allows to connect businesses and industries within the Interreg Central Europe and beyond to collaborate, cooperate and network. Cooperation and collaboration, as identified in the 4Steps project, is a main competitive advantage to withstand global competition and to design and develop more effective and efficient ways of product- and service manufacturing. Provided endeavors within the 4Steps will positively impact society, business, industry, and government/administration: (1) the single entity will act as knowledge bearer for these project target groups in its region/country; (2) the single entity is connected with a network of Hubs; they will support each other and provide supplementary services; (3) new knowledge and expertise will the regional government/administration and policy makers; new knowledge can innovate their thinking as well as designing, developing, adapting and modification of regulations, laws and smart specialization strategies.

The 4Steps transnational network of Digital Innovation Hubs is presented at:
https://4stepsservices.eu.pythonanywhere.com/hubs

Sustainability of the tool and its transferability to other territories and stakeholders

The 4Steps project aimed to reach its primary goal through various activities and outputs, including the development of the Transnational Catalogue of Industry 4.0 towards SMEs support and Guidelines for the development of DIH services based on which the new DIH services were developed or improved. In doing so, the 4Steps project partners designed and created a transnational Digital Innovation Hub network. To keep this partnership upright, a transnational cooperation agreement was signed by the project partners. This agreement is about the establishment of a long-term partnership and the common support in the digital innovation action. Furthermore, the transnational cooperation agreement captures:

- Importance of the innovation-related development for the economic and social development in Central European regions.
- Creation of sustainable network in the area of digital transformation in Central European area with specific focus on I4.0 and its key industrial technologies.
- Creation of partnership, which consists of institutions from the public sector, business support organizations, innovative agencies, Universities and innovative small and medium sized enterprises.
- Taking advantage of the ongoing project 4Steps, Towards the application of Industry 4.0 in SMEs, index number CE1492.
- This newly established community is an open network which is striving to concrete actions deriving mutual benefits from joint participation and steady collaboration among parties in development as well as promoting actions in the area of mutual interest.

As highlighted within the transnational cooperation agreement, the purpose of the Central Europe Digital Innovation Hubs Network is (1) to support SMEs from Central Europe to accomplish their digital transformation; (2) to support SMEs from Central Europe with specific challenges related to Industry 4.0 and its key industrial technologies; (3) to improve linkages among quadruple helix actors, relevant to Industry 4.0, of the innovation systems to strengthen regional innovation capacities; (4) to support the implementation of the 4Steps Transnational Action Plan; and (5) to secure the transfer of knowledge, experiences and good practices among participating CE regions and within the created Digital Innovation Hubs Network.

References to relevant deliverables and web-links
If applicable, pictures or images to be provided as annex

Outputs	Title	Relevance	Link
O.T1.1	Transnational Catalogue of I.40 towards SMEs support	High	
O.T2.1	Transnational Action Plan of the applications of I4.0	High	
O.T2.2	Central Europe Digital Innovation Hubs Network	High	
O.T3.1	Pilot actions on improvement of business activities	High	
O.T3.2	Pilot actions of testing innovative ICT application	High	

Deliverables	Title	Relevance	Link
D.T1.2.3	I4.0 supporting tool catalogue	High	
D.T1.3.3	TML Report	High	
D.T2.3.1	Definition of new services for the DIH	High	
D.T2.3.3	Transnational Digital Innovation Hub	High	

Activities	Title	Relevance	Link
A.T3.1	Pilot action in Italy: the DIH support the SMEs	High	
A.T3.2	Pilot action in Poland	High	
A.T3.3	Pilot action in Austria	High	
A.T3.4	Pilot action in Czech Republic	High	
A.T3.5	Pilot action in Slovenia	High	
A.T3.6	Pilot action in Germany	High	
A.T3.7	Pilot Action in Hungary	High	
A.T3.8	Pilot evaluation	High	

Homepages and links:
Guidelines of DIH services (online tool):
https://4stepsservices.eu.pythonanywhere.com/services

Service evaluation (online tool):
https://4stepsservices.eu.pythonanywhere.com/compare

Transnational Digital Innovation Hub Network:
https://4stepsservices.eu.pythonanywhere.com/hubs

Tool for pilot evaluation:
Italy: https://4stepsservices.eu.pythonanywhere.com/hub_2
Poland: https://4stepsservices.eu.pythonanywhere.com/hub_7
Czech Republic: https://4stepsservices.eu.pythonanywhere.com/hub_6
Austria: https://4stepsservices.eu.pythonanywhere.com/hub_1 & https://biih.labs.fhv.at/
Slovenia: https://4stepsservices.eu.pythonanywhere.com/hub_5
Germany: https://4stepsservices.eu.pythonanywhere.com/hub_3
Hungary: https://4stepsservices.eu.pythonanywhere.com/hub_4