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DIGITRANS - Digital Transformation In The Danube Region

O 7.1 Sustainability and transfer strategy & measures

VERSION 1

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1. Executive summary

> "The sustainability and transfer strategy comprises the procedure and measures to sustain and transfer the central project results like the business models for the incubators, the training concept and the e-learning platform. Furthermore, the results will be transferred to other domains and regions in the DR and Europe" (application form p. 75)."

This document aims to give an overview on the DIGITRANS sustainability and transfer strategy & measures. The sustainability and transfer strategy will help to ensure the sustainability of the DIGITRANS method and the wide adoption of the measures to other regions beyond the project´s lifetime. Therefore we elaborated, the main objectives of this strategy to be suitable to EU, national and regional digitalization strategies: to ensure the implementation and lasting use of the DIGITRANS method in all partner regions as well as to further disseminate the DIGITRANS method after the completion of the project.

To clarify if the method is suitable to EU, nation and regional strategies, information was collected by all PPS and analysed within this document. Subsequently the target groups as well as the main sustainability tools were defined. Then the consortium discussed how to maintain the DIGITRANS measures after the project end and how to include them in the already existing strategies. It is very likely that this way digitalization in a regional level can be pushed to a new level. The following measures were implemented to ensure the sustainable uptake of the project's results in the partner regions and beyond: regional policy stakeholder and business support organisation workshops, targeted marketing and communication activities, development of a guideline for the implementation of the DIGITRANS training, financial strategy for the regional incubation centres, agreement on the further maintenance of the DIGITRANS platform and translation into partners languages and the availability of the DIGITRANS materials under an open license.

2. Aim of the sustainability and transfer strategy

Sustainability and transfer activities will ensure the sustainability of the DIGITRANS project and the wide adoption of the measures to other regions beyond the project´s lifetime. This sustainability and transfer strategy includes **activities** that ensure **mid-term (during the project lifetime) and long-term (after the project ended)** sustainability objectives. **The strategy is expected to be further boosted** by the identified stakeholders, dissemination activities and a communication strategy developed within the project, so that the digitalization process of EUs SMEs can be taken to the next level. The primary goal of the sustainability and transfer strategy is to further extend the use of the incubation centres as well as the platform and trainings within the DIGITRANS partners regions and to transfer the DIGITRANS method to other EU regions, that are less advanced in their business digitalization processes.

Towards this, the **main objectives of this strategy** are to:

1. **be suitable** to EU, national and regional digitalization strategies (mid-term).
2. **ensure the implementation and lasting use** of the DIGITRANS method in all partner regions (mid-term) as well as,
3. **further disseminate the DIGITRANS** method after the completion of the project (long-term). Therefore **suggestions for activities to implement the DIGITRANS method** on a strategic level to other EU regions will be given.

Overall, sustainability of the DIGITRANS method means achieving and ensuring:

- an efficient and effective set of measures to keep the incubators and trainings in use and grow the platform community
- continuous improvement and extensions of the platform content, taking into consideration technological advancements and growing online offers
- intensified interest as well as induced motivation of the target groups to use, promote and further improve the DIGITRANS project results

The sustainability and transfer strategy **aims to attract and engage others** to make use of the DIGITRANS method. To foster this wider implementation, a communication plan is part of the strategy.

This report presents **a preliminary description of the procedures and measures** regarding the sustainability and transfer strategy of the DIGITRANS project.

First of all, to outline the foundation of this sustainability strategy a brief overview of the EU digitalization strategy is presented. Second, the digitalization strategies within the project partners' regions will be taken into focus, to get an insight into the overall framework: what kinds of strategies exist already and what factors are missing? By doing this, the links can be identified, were the procedures and measures of the DIGITRANS project can be tied to and where the DIGITRANS method could help to boost the digitalization process within the EU.

3. Overview on EU, national and regional digitalization strategies

3.1 EU digitalization strategies

ITG in cooperation with MFG collected the current top down digitalization strategies on a broader EU level, to indicate to which documents and strategies the DIGITRANS method can be referred to from an overall perspective. By doing this, all project partners get a profound backup for the promotion of the developed method to regional catalysts, public institutions and authorities. Regarding the sustainable transfer of the DIGITRANS method also to other EU regions, the idea is to make it easier for other interested actors, to find the right arguments on why DIGITRANS method is important to be implemented in other areas after the project end.

As a supranational actor, the EU Commission seeks to encourage the EU member states to raise awareness of the economic and social potential of digitalization. Through various official programs, reports and campaigns the EU Commission deals with this subject. Today the internet and digital technologies are possible accelerators for economic growth, innovation and digitalization across all economic sectors, also and particularly for SMEs.

The European Commission's Digital Agenda forms one of the seven pillars of the Europe 2020 Strategy. The aim is to develop a digital single market for smart and sustainable growth in Europe (cf. European Commission 2010a). The Europe 2020 Strategy serves as a guideline for the EU to promote growth and jobs during the contemporary decade. It relies on smart and sustainable growth as the remedy for structural weaknesses in the European economy to improve competitiveness and productivity and to strengthen a sustainable social market economy. A highly important issue is to support businesses, including micro, small and medium-sized enterprises, and innovation (cf. European Union 2016).

The time has come to gear the EU's single market up for the digital age, to pull down regulatory walls and to move from 28 national markets to a single one. A key aim of the Digital Single Market Strategy for Europe 2015 is to establish a supportive climate for digital networks, research and innovative businesses: “EU funding is already earmarked for Digital Single Market infrastructures and services as well as for research and innovative SMEs” (European Commission 2015: 17 f.).

For instance, with regard to research, the Guide on Research and Innovation Strategies for Smart Specialisation (RIS 3) has been conceived as methodological guidance on how to implement a national and regional research and innovation strategy for smart specialization (cf. Foray/Goddard/Goeanaga et al. 2012). In addition, the Smart Specialisation Platform (S3 Platform) provides advice to the EU countries and regions that in turn, support the design and implementation of their Smart Specialisation Strategy (cf. European Commission 2017a).

According to the European Innovation Scoreboard 2017, Europe made progress in education and research as well as in broadband infrastructure and ICT training, but the number of SMEs, which introduce innovations strongly, decline. The sixth trend report of the Business Innovation Observatory

helps to better understand and transfer new innovation practices. One objective of the Business Innovation Observatory is to identify the dynamics of good business practices of innovative companies, with a special focus on SMEs (cf. Wintjes/Avigdor/Christopoulos 2016). Europe still lacks the market-creating innovation that is needed to turn the best ideas into new businesses (cf. Hollanders/Es-Sadki 2017).

The Innovation Union, a Flagship Initiative launched in 2010 and part of the Europe 2020 strategy, aims for the creation of an innovation-friendly environment, which makes it easier for innovative ideas to be turned into products and services (cf. European Commission 2010b). New and innovative business models and services could be means to bridge the gap between research results and their commercial exploitation to boost the innovation performance (cf. European Commission 2014). According to the European Innovation Council pilot under Horizon 2020 it is essential to improve the conditions enabling the emergence of innovative SMEs (cf. European Commission 2017b). For these reasons, many of the Horizon 2020 measures are designed to strengthen the dynamics and the resilience of the SME innovation ecosystem in the frame of the "Innovation in SMEs"-activities (cf. European Commission 2017c).

Regarding this, the Enterprise Europe Network (EEN) helps SMEs to adopt the appropriate innovation strategy, to manage their innovation process better and to improve the efficiency of their innovation expenditure (cf. European Commission 2018a). In this context, COSME, another EU program which focuses on the competitiveness of SMEs, should be mentioned. The program supports access to financial means and markets, and seeks to create an advantageous environment for competitiveness (cf. European Commission 2018b). Furthermore it serves the implementation of the Small Business Act, which provides a "comprehensive SME policy framework, promotes entrepreneurship and anchors the "Think Small First" principle in law and policy making to strengthen SMEs' competitiveness." (European Commission 2011: 2).

The EU Commission has put SMEs at the heart of its innovation and research policy. COSME supports the modernization of European industry for instance through WATIFY, an awareness-raising campaign, which focuses on the technological transformation of SMEs, assistance of regional digitalization and influx of advanced technologies. Of prime importance is to raise the visibility of European businesses that invent innovative business models, and to support actions on digital entrepreneurship and digital transformation of SMEs (cf. European Union 2017). Based on the fact that the digital transformation affects all parts of a business, a digital leadership is needed to take full advantage of digital opportunities: "Digital transformation has to be led from the top, with active involvement from policy makers and upper management" (Probst /Frieders /Pedersen 2016: 3).

Overall, it can be recognized, that Europe is facing the complex challenges calling for renewed business models. To deliver progress, growth and wellbeing in Europe, a shift towards an innovation-based economy is necessary. Therefore, the European Economic and Social Committee calls on the European Commission to promote these emerging innovative business models by appropriate policy frameworks (cf. Rodert/Röpke 2016).

3.2 Digitalization strategies on national level

On the basis of the EU digitalization strategies all EU countries have to develop their own national digitalization strategies. Those strategies fit into the specific national frameworks of politics, economics and societies, and because of this vary within the participating countries of the DIGITRANS project.

It also has to be mentioned, if the digitalization of SMEs is taken as a linear process from almost zero (low status of digitalization) to a high degree of digitalized businesses, each country within the DANUBE program area will find themselves on a different status on that pathway to digitalization. To implement the DIGITRANS method in a sustainable manor those national specifics have to be taken into account, in particular when stakeholders, e.g. on a political level, are addressed to create the optimal framework to boost the digitalization of businesses.

To do this, within the DIGITRANS project, all participating partners where asked to indicate, what national digitalization strategies already exist and also to have a closer look, where indications on the use of new business models through digitalization can be spotted in those documents.

The following section presents national associations, initiatives and strategies addressing the topic of digitalization in SMEs within the area of the DIGITRANS partnership.

Germany

On a federal level there are several national strategies/initiatives thematising the digitalisation of SMEs in Germany. The following three national strategies and initiatives should be highlighted:

The new High-Tech Strategy for Germany by the Federal Ministry of Education and Research defines six priority tasks relative to future prosperity, quality of life and a digital economy and society. Here the aim is to support the development of innovative solutions to address the challenges inherent in digital technologies, to use opportunities for value creation and prosperity in Germany.

Another one is the Digital Strategy by the Federal Ministry for Economic Affairs and Energy. This strategy outlines which areas and economic sectors are in need of special support to better benefit from digital tools and digital technologies. In addition, the strategy also underlines the necessity of cooperation, of interdisciplinary work to develop innovative solutions. Beside infrastructure, the regulatory framework and a direct access to customers, the strategy also addresses the issue of promoting entrepreneurship, reorganisation of value creation process in traditional manufacturing, new digital ecosystem in Europe and Germany, promotion of education, lifelong learning in the field of digital literacy and creation of efficient management systems for the digital transformation process.

On a more specific and practical level, the funding initiative Mittelstand 4.0 generated by the Federal Ministry for Economic Affairs and Energy supports the digital transformation process in SMEs in Germany. Within the German regions agencies are established to support SMEs in their digitalization process, in networking and to start using “Industry 4.0”-applications.

Romania

Two crucial national official documents addressing the topic of digitalization in Romania´s SMEs exist.

First, the Intelligent Specialization Strategy of the Center Region provides a comprehensive strategic framework to facilitate and guide the complex process of smart regional development. The practical implementation of the strategy plays an essential role by making digitalization more valuable to its areas of excellence. An effective implementation of the strategy can contribute to deliver expected results like capitalizing on new forms of innovation, developing new economic activities through radical technological changes and major innovations, technological diversification, revitalization of traditional sectors, positioning of the region on specific markets / niches globally and in the value chain, attracting international investors and improving both domestic and external connections.

Second, the Economy and Digital Society Index, which shows Romania´s approximation to the EU average, is useful as a monitoring tool.

Slovenia

The Government of the Republic of Slovenia has adopted the following strategic documents relating to digitalization and the development of information society:

The Public Administration Development Strategy focuses on the quality and efficiency, as well as transparency and responsibility of public administration, which is the backbone for the development of the economy and social prosperity.

Another important strategic document is the Information Society Development Strategy. For Slovenia the aim of the strategy is to take advantage of the development opportunities of ICT and the Internet by accelerating progress of the digital society. As a result, an advanced digital society should be created with an appropriate environment for innovative approaches and the use of digital technologies.

Other official documents address the framework conditions for digitalization:

The Next-Generation Broadband Network Development Plan establishes strategic guidelines for co-financing the construction of broadband infrastructure through public resources, especially in rural areas. The objective of the guidelines is to provide most households with broadband internet access with at least 100Mb/s by 2020.

Additionally the Cyber Security Strategy sets up measures for the establishment of an integrated national system to ensure cyber security on a higher level. The Republic of Slovenia will provide an open, safe and secure cyberspace, which will serve as a basis for frictionless functioning of the infrastructure for the operation of state agencies and the economy, as well as the citizens´ lives.

Croatia

In Croatia various crucial national official documents addressing the topic of digitalization in SMEs can be emphasized.

Besides the Industrial Strategy, the Operational Program for Competitiveness and Cohesion, the Development Plan for Research and Innovation Infrastructure, the Strategy for Education, Science and Technology, Strategy for Smart Specialization, the Strategy for Promotion of Innovation, the e-Croatia Strategy, Strategy for Public Administration Development and the Strategy for Cluster Development, the Entrepreneurship Development Strategy is particularly relevant for the digitalization of SMEs. Strong competitiveness can be achieved by production modernization, implementation of new and more effective machines, equipment, technologies, procedures and norms. So Croatia highlights the importance to support the entrepreneurship (especially small and micro enterprises) to modernize and improve equipment and facilities.

Bulgaria

Bulgaria adopted mainly three national official documents addressing the topic of the digitalization in SMEs:

The Concept for Digital Transformation of the Bulgarian Industry is the national strategy for the implementation of "Industry 4.0". This concept is currently under development and a first draft version of the strategy is already available for public consultations.

Additionally there are further national documents in the field of e-government, like the Strategy for Development of e-Government in Bulgaria and an "Open Data Initiative" as part of the Strategy for Development of the State Administration.

Further policies in the field of digital transformation are in the phases of planning or development, such as a Concept for Digital transformation in Tourism and an e-Health Strategy.

Hungary

For Hungary´s national digitalization strategy the Digital Success Program is crucial. The government of Hungary has prepared the program to develop the Hungarian society and the national economy. The program, including the The Digital Education Strategy of Hungary, The Digital Export Development Strategy of Hungary and The Digital Startup Strategy of Hungary, was brought to life based on the recognition that digital transformation is not a matter of choice: it is an inevitable phenomenon that everyone must prepare for, because 20th century knowledge will not allow anyone to be competitive in the 21st century. The Digital Export Development Strategy of Hungary defines a comprehensive governmental package of measures designed to improve the export capacities of SMEs engaged in IT services. The Strategy aims to use development policy tools with a view to achieve an intensive growth in the export of digital products of high added value. The Digital Startup Strategy of Hungary formulates the Government's vision of Hungarian digital enterprises up to 2020. First and

foremost, it prefers a system of regulation that is flexible and open toward the changes involved by new technologies, recognizing the competitive advantage of the ability to respond rapidly in the global economy.

Austria

In Austria the Federal Ministry of Digitalization and Business Location recognizes that the competitiveness of Austrian enterprises is a central issue like all over Europe. The competitiveness is largely dependent on the quality of activities in the fields of research, technological development and innovation. Therefore the Federal Ministry of Science, Research and Economy attaches prime importance to invest in research, progress and innovation to create the best possible circumstances for strengthening Austrian enterprises, especially the SMEs. For that purpose a selected range of programs, initiatives and networks is available. For example the Intellectual Property Strategy for Austria supports Austrian enterprises, innovations and innovators by protecting their innovations and helping them to utilize the innovations. Besides the KMU Digital programme, an initiative by the Federal Ministry of Digitalization and the Austrian Federal Economic Chamber, addresses especially the SMEs and the possibilities of digitalization. Furthermore the Austrian Ministry for Transport, Innovation and Technology provides a general framework for infrastructure, telecommunications and technology development in Austria. With the strategy "exhausting potentials, boosting dynamic, creating future: the way to innovation leader" it clarifies strategic and operative objectives and sets priorities and measures to support research, technology and innovation. Among other things the strengthening of the innovation power especially of SMEs is an important issue. Therefore the basis is the connection and cooperation of science and economy. The aim of the strategy was – and still is – to bring Austria into the group of European innovation leaders by 2020. The digitalization calls for RTI policy measures and in this regard the "Digital Roadmap" for Austria was put forward. Within this roadmap in January 2017 the Federal government of Austria defined twelve guiding principles for the future development of digitalization in Austria. Furthermore as a national economy with a small structure that is focused on exports, Austria is more reliant than ever on a high level of innovation dynamics as a result of current economic and social upheaval (e.g. globalization, digitalization). So in 2016 a "creative industry strategy" was elaborated. Additionally in 2015 the association "industry 4.0 Austria" was founded to develop strategies and initiatives for successful and sustainable implementation of digitalization in SMEs. Finally it is to mention that in July 2016 Austria became the first EU member state to put forward a comprehensive "open innovation strategy", aimed at achieving the vision set out there of positioning Austria as an international role model for the design and control of open innovation systems in the digital age by 2025.

In summary

It can be stated that on federal level there are several national associations and initiatives addressing the topic of digitalization in various strategies. Those strategies build the basis and the framework

conditions to further advance the digitalization of SMEs. In this context it is necessary to develop suitable plans and measures like the DIGITRANS method.

According to the European Innovation Scoreboard 2017, Europe made progress in education and research as well as in broadband infrastructure and ICT training, but the number of SMEs, which introduce innovations strongly, decline. Europe still lacks the market-creating innovation that is needed to turn the best ideas into new businesses. Looking at the innovation performance of the individual EU member states in 2016, they fall into four different performance groups. The first group of innovation leaders includes member states where performance is more than 20% above the EU average (e.g. Germany). The second group are strong innovators with a performance between 90% and 120% of the EU average (e.g. Austria, Slovenia). Furthermore there are moderate innovators whose performance is between 50% and 90% of the EU average (e.g. Croatia, Hungary) and modest innovators that show a performance level below 50% of the EU average (e.g. Bulgaria, Romania) (cf. Hollanders/Es-Sadki 2017). Monitoring like this can show whether the plans and measures have been successfully implemented and where support is required. For example Romania's Economy and Digital Society Index, which shows the approximation to the EU average, is useful as monitoring tool and an important step towards further development of the nation.

As previously mentioned, the various official strategic documents can be classified into different groups that focus on specific topics. Of course, some of these strategic documents generally deal with the digitalization of the national economy. Others focus specific challenges and opportunities for different sectors through digital technologies, smart regional development, the emergence of a digital society, research and innovation, education, government and public administration as well as security. It is obvious that some member states are already well advanced – they developed already a variety of strategies and implementation plans – while others are still working on the fundamental strategic framework. But there is still room for improvement of the well advanced member states like Germany as well. For example on the applied level the DIGITRANS method is able to make a valuable contribution.

3.3 Digitalization strategies, plans and measures on regional level

To implement the DIGITRANS method in the pilot regions during the projects lifetime in a sustainable way, also regional digitalization strategies have to be taken into account. Especially when public institutions and authorities, as well as regional catalysts, have to be convinced to support the method with their recognition as well as financial support. Regional digitalization strategies can be used as a backbone, when the added value or need of the DIGITRANS method itself is stated as question.

Germany: Baden-Württemberg

On the level of the federal state of Baden-Württemberg (Germany) the regional strategy "digital@bw" was implemented in 2017. Six main tasks are described, one of them is named "Economy 4.0" and aims

to create regional "Centers for Digitalization/Digital Hubs" to support SMEs**.** The aim of the "Digital Hubs" is to bring together stakeholders from different organisations and business sectors to exchange Know-How and to establish a regional "Ecosystems" for digital innovation.

Furthermore there are two examples of Interreg projects addressing digitalization of SMEs in the region of Baden-Württemberg. The fist one is DA-SPACE - Open Innovation to Raise Entrepreneurship Skills and Public Private Partnership in Danube Region. This project is also dealing with innovation methods to promote entrepreneurship and has set up innovation labs to offer entrepreneurship trainings. The second project is FORESDA - Forest-based Cross-sectoral Value Chains Fostering Innovation and Competitiveness in the Danube Region, which is also aiming to improve the innovation climate of SMEs and their general entrepreneurial knowledge.

Romania

In Romania a Development Plan for the Center Region was approved by the Council for Center Regional Development. The development strategy of the Center region comprises 6 strategic development areas, each grouping a number of specific priorities and measures:

1. Urban development, development of regional technical and social infrastructure
2. Increasing economic competitiveness, stimulating research and innovation
3. Environmental protection, increasing energy efficiency, stimulation use of alternative energy sources
4. Development of rural areas, support for agriculture and forestry
5. Increasing regional tourist attractiveness, supporting cultural activities and recreation
6. Develop human resources, increase social inclusion

Within this development strategy for the center region the digitalization of SMEs is addressed in the Strategic Direction 1, which aims at building an economic culture of innovation. First, it is important to support the acquisition of patents by SMEs, so all forms of innovation within companies (product, process, organizational, marketing) can be promoted (P 1.1). Then consulting services for innovative businesses should be developed to use European funding instruments (P 1.2). Next the creation of research-based economic entities should be stimulated (P1.3). Furthermore it is important to extend regional and local business support infrastructure and diversify the range of services offered (P 1.4) with the aim of expanding and supporting the work of innovative clusters and other cooperation structures and networks as well as economic promotion activities.

Slovenia

Slovenia has no regions, but is subdivided into 212 municipalities. Therefore, there are no region-specific documents concerning the digitalization of SMEs. In December 2017, the Government of the Republic of Slovenia has adopted the Slovenian Development Strategy 2030. The primary objective of the strategy is to provide a high quality of life for all. This can be achieved through balanced economic, social and environmental development which takes account of the planet's limitations and creates

conditions and opportunities for present and future generations. At the individual level, a high quality of life is manifested in good opportunities for employment, education and creativity, in a dignified, safe and active life, a healthy and clean environment and through inclusion in democratic decision-making and participation in social management.

The regions economic development strategy recognizes that the technological development and the digitalization of society are causing the disappearance of various traditional professions and, at the same time, the emerging of new professions and opportunities. The strategy underlines the importance of promoting innovation and using design, information and communication technologies to develop new business models and products. Moreover, the strategy also mentions the importance of changed work methods (in the public sector) using innovative approaches.

Furthermore there are two examples of Interreg projects addressing digitalization of SMEs in Slovenia. The first one is digitalLIFE4CE (Interreg Central Europe), which is looking for new solutions in the field of digital integrated healthcare systems (Slovenian partner: Technology Park Ljubljana Ltd.). The second project is InnoHPC (Interreg Danube Transnational) with the main objective of creating a transnational HPC laboratory for co-designing knowledge-intensive innovative products. (Slovenian partners: Faculty of Information studies in Novo Mesto and the Chamber of Commerce and Industry of Slovenia – Electronic and Electrical Engineering Association)

Croatia: Međimurje

In Croatia there is no specific digitalization strategy in the region of Međimurje (Croatia) so far. But, digitalization is mentioned in Međimurje county "Development Strategy". The "Development Strategy" of Međimurje county contains vision, strategic goals and a list of priorities and measures for the county until year 2020, which all the stakeholders in the sector of county development use as a guide. Growth and development of the economy is one of the objectives in the strategy. One of the priorities is stimulating innovations and product/service development with high added value. Digital transformation is fundamental to achieve the mentioned goals. Innovations and high added value product development demand the digitalization of the economy as a precondition. The priority of stimulating the innovations and product/service development with high added value emphasizes that research and innovation activities and cooperation between the education system, science and economy should be supported. This is to be achieved by infrastructural development supporting the high technology development and usage once it is developed. The measure defines that capacity building for technology transfer and innovation commercialization is crucial to achieve economy based innovation and added value products. Digital transformation is a very important part of capacity building for technology transfer and innovation commercialization. Specific innovation methods are not mentioned in the Strategy.

Furthermore, the Industrial Strategy of the Republic of Croatia 2014-2020 promotes strengthening the potential innovation in the Croatian economy.

On the national level the "Smart Factory Hub" deals with this topic. The Interreg project wants to improve, map and partially finance "Industry 4.0" with the aim to improve research, development and conditions of business politics of international cooperation in manufacturing industry.

Bulgaria: Sofia

In Bulgaria, national and regional digitalization strategies are addressed in the Innovation Strategy for Smart Specialization of the Republic of Bulgaria 2014-2020 (IS3). There are four key areas for the national smart specialization: ICT and informatics, healthy life and biotechnology, mechatronic and clean technologies, as well as new technologies in creative and re-creative industries.
The priority to develop digital technologies is highly ranked among all national and regional policy documents. However, the main focus is put on the ICT industry and not on general digital transformation in all economic areas. There are no specific innovation methods are mentioned.

Furthermore an official strategy for development of Sofia for the period 2014-2020 is implemented and a Strategy for Smart Specialization for Sofia is approved:
The Innovation Strategy for Smart Specialization of Sofia is an integrated, place-based programme of economic transformation that:

- focuses political support and investment as key priorities, challenges and needs of knowledge-based economic and social development, including measures relating to ICT;
- builds on the strengths, competitive advantages and potential for high achievements of Sofia;
- supports technological, as well as practical and applied innovation, and aims to stimulate investments in the private sector;
- involves stakeholders and promotes innovation and experimentation;
- is based on evidence and includes reliable systems for monitoring and evaluating the implementation of the strategy.

The Sofia 3 S is focused on the development of three industries - ICT, creative and re-creative industries as well as life sciences and biotech. Sofia aims to become an innovation centre at the national, regional and European levels through technologies (the relationship between scientific research and applied innovations, which are transferred in competitive products and services), talent (investment in human capital and incentives for innovative and creative thinking) and tolerance (place, which is open to talents, people and partnerships).
Furthermore there are various Interreg-Projects, which address digitalization of SMEs: e.g. ACCELERATOR, Crowd-Stream, EDU-LAB, Excellence-in-ReSTI, Inno-HPC and MOVECO.

Hungary: Debrecen

In Debrecen, the regional center of the northern great plain region and the seat of Hajdú-Bihar county in Hungary, there are three main regional economic development strategies:

- Széchenyi 2020: The objective of the evaluation of state policies, more specifically development policies, is to contribute to the increasingly efficient organization of state

operations, increasingly efficient use of state funding and to ensure that state operations are implemented in a transparent manner.

- North Great Plain Operational Programme: The aim of the North Great Plain Operational Program is to strengthen regional competitiveness and to reduce regional disparities within the region, building on the natural and social values of the region and on the characteristics of settlement networks. In the programming period 2007-2013 a realistic goal was to stop the growth of developmental differences. Accordingly, the strategic objective of this program is to halt the deterioration of the North Great Plain region and to keep the region on the national growth path, in order for a catching-up process to begin later.

- Hajdú-Bihar county strategic program 2014-2020: The plan deals with the following priorities: a sustainable environment, the complex development of county agrarians, a competitive economy, the improvement of accessibility in the county, an intelligent, healthy and caring society, the development of an environment supporting an innovative economy in the region of Debrecen. In order to increase the competitiveness of the county, primarily of its small and medium-sized businesses, it is essential to promote digital economy, i.e. to improve the supply of businesses with ICT applications and tools, and to increase the use of electronic, cloud-based services. The measure encompasses the support of ICT innovations, product and service development to support the implementation of development programs of the various relevant industries (e.g. health, tourism, agriculture, electronics) through the support of domestic information technology (ICT) companies.

Digitization is addressed not only in the Hajdú-Bihar county strategic program 2014-2020, but also in the Strategy for Small and Medium Enterprises 2014-2020: appropriate and quality access to info-communication technologies plays an important role in promoting knowledge-intensive economic growth. According to the Entrepreneurship 2020 Action Plan, the development of adequate ICT access infrastructure, the improvement of electronic public services, the exploitation of the growth potential of SMEs in the ICT field, the provision of the necessary ICT resources and the dissemination of ICT skills are the main direction of developments. To create an effective business infrastructure, it is essential to introduce info-communication developments that provide a well-accessible, adequate quantity and quality information service that facilitates business operations. SMEs should increase their broadband access and support the extension of broadband networks in areas that are not adequately covered.

Furthermore, as an example an Interreg project the 3Smart (Smart Building – Smart Grid – Smart City), addresses the digitalization of SMEs

Austria: Land Salzburg

The regional and economic strategy of Salzburg (Austria) is the "Economic Program of Salzburg 2020" with the objective of developing a long- and medium-dated strategy until 2020. The program builds on the strengths of the regions and opens up to new challenges. It establishes a basis for the advancement

of a strategic plan for tourism and the development of a guideline principle for science, research and innovation among other missions. The prime perspectives of the strategy are sustainability/energy and resource efficiency, innovation, regional policy and the world of employment. Besides the commercial department of the state government especially stakeholder of the sections production economy, service and trade, tourism, research and innovation, creative industries and independent professions got the chance to participate in the development process of the strategy (Cf. 2011: 9-13).

Based on the fact that the economic structure of Salzburg is marked by a relative high amount of SMEs (about 82%), the economic development strategy takes these SMEs into account (cf. 2011: 27). Diverse measures to support SMEs are developed for instance to strengthen the internal innovation process. Furthermore it is to mention that Salzburg's economic development strategy is guided by the European economic strategy "Europe 2020", which focuses on Europe's productivity frontier and the necessity to increase innovation and to ensure an integrated well-functioning digital single market. Although the economic program of Salzburg speaks out in favour of the delivery of science, technological development and innovation, the issue of digitalization is not explicitly covered.

In February 2016 the land government of Salzburg implemented a strategy for science and innovation (WISS 2025), which is based on an analysis of the strengths and weaknesses, possibilities and risks of Salzburg's system of science, research and innovation. This strategy was designed in line with the European concept of knowledge-driven regional development – "smart specialization" – and integrates stakeholder of science, economy and social partners. In consequence of the WISS 2025 a masterplan for innovation and research - the "Innovations- und Forschungsmasterplan - IKT Salzburg" – was developed. This masterplan recognizes coordinated and targeted development potentialities of digitalization as crucial basis for competitiveness. According to this masterplan Salzburg prepares for the future and develops a series of measures including economy, science and education.

Furthermore there are some Interreg-Projects, which address digitalization of SMEs in Salzburg: For example the Interreg project "Labs.4.SMEs" (Italy-Austria) wants to strengthen the cooperation of SMEs with labs (fablabs, digital labs, etc.) in order to promote technological and digital innovations and bring companies closer to new innovative methods, processes and services. Another Interreg project is the "Digitaler Mittelstand / KMU 4.0" (Austria-Bavaria) with the aim of preparing SMEs for digitalization to maintain their competiveness. Furthermore the "Project THINGS+" (Central Europe) is focused in transformation of traditional companies into regional innovation motors, with no excessive investments. Key output will be a new approach to improve entrepreneurs' skills that help them introduce service innovation into manufacturing companies and increase prosperity on changing markets. And also the project "Smart Space" (Alpine Space) addresses SMEs from traditional industrial branches and all innovation actors to strengthen the application of digital technologies and eco-innovation procedures to processes and outputs. Ultimately the competitiveness and innovation capacities of traditional sectors will be enhanced.

In summary…

…, most of the individual project partner regions also start to raise awareness of the potential of digitalization for SME´s. While in most of the project partners' countries a national digitalization strategy was implemented, usually with a view to various focus areas like economy, industry, research, science and technology, well developed region-specific strategies do not yet exist in all partner regions or form only parts of other regional strategies. Thus, not every nation has designed a specific regional strategy to support regional SME´s to exhaust the possibilities of digitalization. Nevertheless, in addition to the national strategies the digitalization of SME´s is becoming an issue in more specific regional strategies, for instance in regional economic strategies, development plans and operational programs on regional level. Furthermore almost every region is part of at least one Interreg-Project, which addresses the digitalization of SME´s in various contexts.

3.4 Conclusions

As a supranational actor, the EU Commission seeks to encourage the EU member states to raise awareness of the economic and social potential of digitalization. Through various official programs, reports and campaigns the EU Commission deals with this subject. Today the internet and digital technologies are possible accelerators for economic growth, innovation and digitalization across all economic sectors, also and particularly for SMEs. Therefore, the European Commission wants to establish a supportive climate for digital networks, research and innovative businesses – an innovation and digitalization friendly environment. New and innovative business models and services should boost the innovation performance. This clarifies that it is essential to improve the conditions enabling the emergence of innovative SMEs. Europe is facing complex challenges calling for renewed business models. To deliver progress, growth and wellbeing in Europe, a shift towards an innovation-based economy is necessary. Therefore, the European Economic and Social Committee calls on the European Commission to promote these emerging innovative business models by appropriate policy frameworks (cf. Rodert/Röpke 2016).

Meanwhile, this shift towards a digitalized and innovation-based economy can also be recognized on national and regional level. The individual partner nations and regions also start to raise awareness of the potential of digitalization for SMEs. While most of these nations now have developed a national digitalization strategy, usually with a view to various focus areas like economy, industry, research, science and technology, region-specific strategies do not yet exist in all partner regions or form only parts of other regional strategies. In the majority of the cases there are several national associations, initiatives, and programs addressing the topic of digitalization in various strategies. Those strategies build the basis and the framework conditions to further advance the digitalization of SMEs.

The competitiveness of the SME´s is a central issue in every partner nation and dependent on the quality of activities in the fields of research, technological development and innovation. As already mentioned, the various official strategic documents can be classified into different groups that focus on specific topics. Of course, some of these strategic documents generally deal with the digitalization of the national economy. Others focus on specific challenges and opportunities for different sectors through digital technologies, smart regional development, the emergence of a digital society, research and innovation, education, government and public administration as well as security.
It is obvious that some member states and regions are already well advanced – they developed already a variety of strategies and implementation plans – while others are still working on the fundamental strategic framework. There is still room for improvement of the well advanced member states and regions as well. Hardly any nation has implemented a specific regional strategy to support regional SMEs to exhaust the possibilities of digitalization. Nevertheless, in addition to the national strategies the digitalization of SMEs is becoming an issue in other regional strategies, for instance in regional economic strategies, development plans and operational programs. Furthermore almost every region is part of at least one Interreg-Project, which addresses the digitalization of SMEs in various contexts. It is obvious that the importance of the digitalization of SMEs at the regional level is increasing more and more, but there are still too few specific strategies dealing with this issue. Strong regions such as Baden-Württemberg (Germany), which already have developed specific strategies supporting SMEs to

realize, to handle and to benefit from digitalization, should be considered as role models to less developed regions in the Danube area. But also strong regions are suffering from the digital revolution as they still do not have enough competences to cope with all the digital transformation's challenges, especially in terms of the increasing digitalization of business processes by e.g. the „Internet of Things" or „Industry 4.0". In this regard, the development of new business models plays an important role not only for strong regions to remain competitive on global markets. Digital transformation is not possible without corresponding business model transformation. Therefore DIGITRANS aims at developing an SME appropriate innovation method enabling SME to create competitive digital business models within a specifically set up incubator space. The project focuses on Creative Industries, Health and Advanced Manufacturing - 3 sectors relevant to all Smart Specialization Strategies from the partner regions to pilot the innovation method and tools to be developed transnationally by the consortium.

4. Target Groups

As defined in the communication plan at the beginning of the project, DIGITRANS addresses the following main target groups:

- **SMEs from the creative industries, health and advanced manufacturing sector**
  SMEs as the end users of all DIGITRANS products are the most important target group to be addressed.

- **Business support organisations**
  Business support organisations play an important role as intermediaries to boost the digitalization of SMEs business models. They have to be invited to put the DIGITRANS products into value by offering additional services to SMEs and supporting policy stakeholders in establishing an economic friendly environment.

- **Higher education and research**
  Higher education and research institutions have to be addressed, to convert fundamental and up-to-date theoretical knowledge about digital business models that grows at universities and research centres into applicable knowledge that is of higher value for SMEs. By doing this products and actions for the digitalization process of SMEs, which have beneficial consequences for society and economy can be developed. Thus, those institutions can use the DIGITRANS training material to revise their own curricula and offer up to date trainings to their students.

- **Regional public authorities**
  Regional public authorities are important actors to be addressed by DIGITRANS to support the establishment of innovation friendly environments in the Danube region and therefore need to be addressed to uptake the DIGITRANS results especially the DIGITRANS incubation centre concept as well as the DIGITRANS method.

Based on the discussion during the sustainability workshop, run in April 2018, the consortium decided to also address the following target groups to reach sustainability:

- **Trainers and consultants**
  Trainers and consultants are important players as they can use the DIGITRANS products e.g. training material to offer similar trainings within the DIGITRANS partnership area. In addition trainers and consultants are important stakeholders to transfer the DIGITRANS outcomes also within other regions of the Danube program and by this, they support the sustainable uptake and implementation of the project.

5. Main sustainability tools

Sustainability of the projects measures has to be considered from the start of the project. This helps to build a solid ground for partners and relevant stakeholders within the regions from the beginning, from development until implementation of DIGITRANS outcomes. If it is clear, how the DIGITRANS measures can be maintained also after the project end and how they can be included in already existing strategies, the chances are growing that regional digitalization processes can be pushed to next level. To do this, the sustainability and transfer strategy indicates a variety of options for each measure. Before the individual main sustainability tools are defined, their basis should be taken into account: the DIGITRANS Method.

In 2017 the DIGITRANS consortium developed this method, which outlines the main steps within the method framework and their purposes to create value for SMEs when it comes to their digital transformation and more specifically - for development of innovative digital business models. The validated DIGITRANS Method Framework is divided into three main elements that describe the two main phases – the innovation and the transformation phases - as well as the methods and tools accompanying the phases. The first phase is called "Innovation" and contains three main sub-phases:

(1) The analysis, including the initial identification of the innovation potential of the respective company/of the concrete business case to be tackled during the workshop and the analysis of the stakeholders (targeted customers as well as potential partners).

(2) The design, comprising ideation, selection of potential solutions and creation of prototypes. The cost-benefit analysis of these potential solutions is also assigned to this phase.

(3) The testing, including the testing of the developed prototype and business model canvas.

The second phase is called "Transformation". It contains all relevant processes for digital business model transformation like development and organizational implementation including the change management at its core. Each phase has specific methods and tools assigned to it, which are regarded as best suiting the development of a digital business model. As a result of using this new developed DIGITRANS method framework SMEs are capable of creating and further developing a new or enhanced idea for a digital business model as the starting point for the digital transformation.

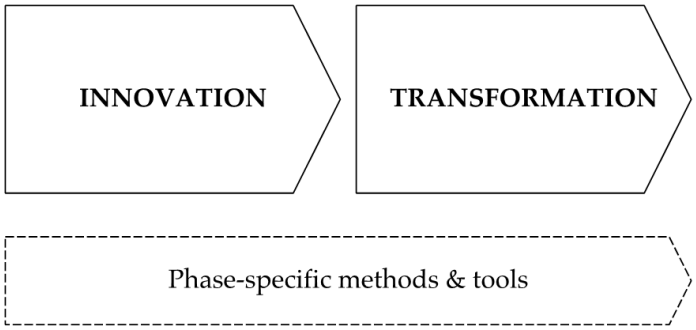

Fig. 1: Overview of DIGITRANS Method Framework

The DIGITRANS method is the basis to support SMEs in developing a new digital business model idea. It defines the way and the relevant steps a company should consider when developing a new creative digital business model. In addition, the DIGITRANS method is also the framework for the blended learning trainings to be offered to SMEs in the partner regions. Furthermore, the method is also the basis to the structure of the DIGITRANS Platform, which concentrates on the planning, provision and evaluation of the blended learning trainings taking place within the established and validated incubation centres also following the DIGITRANS method.

To reach sustainability of the project the DIGITRANS consortium decided to focus on the following main project results to be spread to the relevant stakeholders and within the partner regions:

a) DIGITRANS Platform

The DIGITRANS Platform is the digital hub where the DIGITRANS method, tools and guidelines are presented to SMEs, consultants, trainers, HE representatives interested in using the material to develop a new digital business model idea or offering innovative trainings.
The platform contains all relevant state of the art training materials, research papers and information about the transformative business approach to innovation and entrepreneurship with a particular focus on the emerging sustainable economic sectors (Creative Industries, Green Economy and Green ICT). It also serves as an online training tool for all stakeholders interested in digital transformation. In this way it will promote transnational synergy of excellent training methods and business ideas.

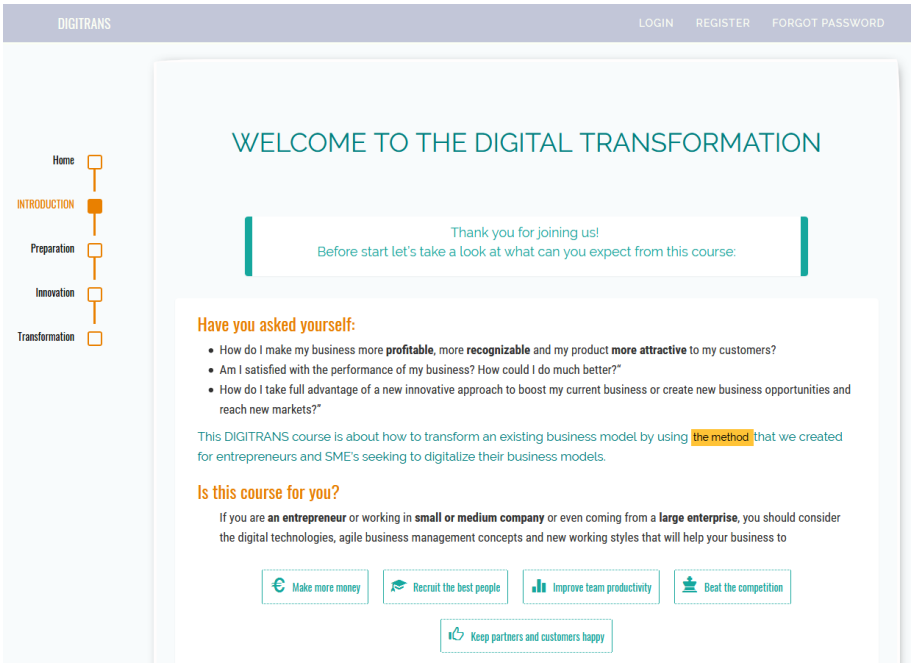

Fig. 1: Fig. 2: Prototyping as part of a DIGITRANS training

b) DIGITRANS Training Concept

The DIGITRANS Training Concept is the framework on how to offer the blended learning training on the development of a new digital business model to interested SMEs. It will later also be presented as a train the trainer guideline to support trainers and consultants in offering similar trainings to SMEs.

The main aim of the blended learning training is to empower SMEs from the creative industries, health and advanced manufacturing sector with relevant knowledge and competences to deal with digital transformation and enable them to develop their own new digital business model. The blended learning training will be a mixture of on- and offline training offer allowing SMEs to expand their knowledge in a flexible and attractive way.

The blended learning methodology combines on one side face-to-face training on application of innovative tools and methods and customized training for implementation of these tools and methods in specific company's context. On the other side supportive online material like handouts and hands-on method descriptions as well as online consultations and further support are offered. This innovative offering refers to the identified needs and expectations of the target groups.

Fig. 2: Prototyping as part of a DIGITRANS training

c) DIGITRANS Incubation Centres

The DIGITRANS Incubation Centres are the creative hubs especially set up for SMEs to offer them an inspiring environment to develop new creative ideas.

The power of incubation centres lies in the collaboration of heterogeneous groups of people from diverse sectors with different levels of expertise and experience – all working towards achieving some kind of goal. By taking them out of their everyday working contexts and forcing participants to take different perspectives when tackling a challenge, creativity and enthusiasm are fostered and their minds are opened. This is the value that the project consortium is

attempting to create with the idea of DIGITRANS incubation centres.
The incubation spaces are not only meant to help SMEs gaining a better understanding how to transform into the digital age but is also supposed to offer an open environment that is available to anyone that is looking for comfort of mind regarding the digital transformation as a whole, the use of innovation methods or that is simply looking for a place to collaborate with others following trial and error approaches without the fear of failure.
In the context of DIGITRANS, the aim of the incubation centres is to a) provide space for workshops and 1-on-1 sessions, b) provide space for interactive and creative working, c) demonstrate to SMEs how creative spaces can be designed, and d) to present the advantages of such innovation incubators to relevant stakeholders like politicians.

Fig. 2: Workshop area in a DIGITRANS incubation center

6. Main sustainability & transfer measures

The consortium decided to implement the following measures to ensure the sustainable uptake of the project's results in the partner regions and beyond:

a) Regional policy stakeholder and business support organisation workshop

These workshops, to be organised in the project partner regions during the last project period, will serve on the one hand to inform regional policy stakeholders as well as business support organisations on the DIGITRANS project outcomes such as the incubation centres, the DIGITRANS method including all the material developed and made available on the DIGITRANS e-learning platform as well as raising the regional policy stakeholders' awareness on offering such support to SME to further improve their readiness towards digital transformation. On the other hand these workshops will also be used to identify concrete recommendations together with the workshop participants to be considered when developing new policy programmes regarding setting up new qualification and competence development programmes to support SMEs and the social sector to cope with the challenges of the digital transformation. The results will be summarised, sent out to regional policy stakeholders and published on the DIGITRANS website as well as spread through various media channels including social media.

b) Targeted marketing and communication activities

The activities that should be targeted by each partner in order to reach sustainability are:

- Promotion of a DIGITRANS training offer through an effective campaign on partners website. Each partner should periodically public article about success stories from their target groups. The idea is to ask participants of the trainings to provide testimonials after the workshops which could also be used as part of promoted content.
- Blog posts. Those could be short stories about an experience from the users, stories about successful implementation of the business model, etc…
- Short articles on most popular channels such as Instagram where short video content can be produced in no time, especially during the workshop and later used as a promo material during the sustainability (we will test this in our next workshops and share Experience.)

c) Development of a guideline for the implementation of the DIGITRANS Training

To ensure a sustainable uptake of the training concept as well as the DIGITRANS method a guideline will be developed offering business support organisations, trainers, consultants, higher education as well as HR representatives from SMEs the opportunity to easily adapt the DIGITRANS concept into their own environment by taking into account the regional Smart Specialisation Strategies. This guideline can also be used by representatives from other Danube regions than the ones represented in the DIGITRANS consortium.

d) Financial strategy for the regional incubation centres

Each regional incubation centre will set up an individual financial strategy outlining how the DIGITRANS incubation centre will remain sustainable after the project funding has ended and how the partners will ensure to continue offering trainings to SMEs on the topic of digital transformation based on the DIGITRANS method.

e) Agreement on the further maintenance of the DIGITRANS platform and translation into partners languages

During the 5th project period the consortium will decide about how to ensure the DIGITRANS' platform sustainability based on the suggestion already made:

- Model 1: Cloud-hosting, multi-language (interactive), one portal
- Model 2: Cloud-hosting, single language, one basis/different content/functionality
- Model 3: local hosting, single language, independent functionality and maintenance

The promotion of the platform and its content to companies and stakeholders of the quadruple helix is one of the main challenges to ensure a sustainable use within and also transfer this project outcome to other areas. This can be done by direct company's contacts in preparation of the business model workshops, as well as during specific regional conferences, on websites of transfer agencies and via linked in group, Facebook and other social media channels. The translation of parts of the platform into partner's languages is another important step to ensure the use of the content by SMEs that are not familiar with English language.

f) Content available under an open license

Already when setting up the project proposal the consortium decided to publish all the content under the open licence CC BY-SA 4.0. This allows other users to copy and redistribute the material in any medium or format and to adapt, thus "remix, transform and build upon the material for any purpose, even commercially" as long as the user provides a link to the licence and indicates if changes were made. In case the user remixes, transforms or build upon the material s/he must distribute the contributions under the same license as the original. (see https://creativecommons.org/licenses/by-sa/4.0/?)

This allows other trainers, consultants, SME representatives to use the DIGITRANS material and adapt it to their own needs which will further contribute to the sustainable use of the DIGITRANS products.

The above mentioned measured can be associate to mid-term and long-term activities.

1. To ensure an efficient and effective set of measures to keep the incubators and trainings in use and grow the platform community, the following activities have to be taken into account:

mid-term activities

- Regional policy stakeholder and business support organisation

long-term activities

- Marketing and communication activities

workshop
- Marketing and communication activities
- Development of a guideline for the implementation of the DIGITRANS Training
- Financial strategy for the regional incubation centres
- Regional policy workshops

- Maintenance of the platform
- Platform content available under open license

2. For an continuous improvement and extensions of the platform content, taking into consideration technological advancements and growing online offers:

mid-term activities

- Marketing and communication activities
- Regional policy workshops

long-term activities

- Marketing and communication activities
- Maintenance of the platform
- Platform content available under open license

3. To reach intensified interest as well as induced motivation of the target groups to use, promote and further improve the DIGITRANS project results:

mid-term activities

- Regional policy stakeholder and business support organisation workshop
- Marketing and communication activities
- Development of a guideline for the implementation of the DIGITRANS Training
- Financial strategy for the regional incubation centres

long-term activities

- Marketing and communication activities

7. Outlook

In General an ongoing evaluation is needed to guaranty the sustainability of the procedures and measures. The PPs identified possibilities and options for a smooth transition from an Interreg financed structure to an alternatively financed and sustainable incubation center. This knowledge will help to ensure their future existence and to promote the points of the centers to other regions in the Danube area and beyond. However, each region has to find out for themselves which possibilities and options fit best. And also regarding to the DIGITRANS training concept´s sustainability the PPs defined key sustainability elements, relevant stakeholders and specific activities to ensure sustainability. The training concept has been proven and can be applied by various providers in different sectors. Furthermore, the PPs agreed to publish the DIGITRANS E-learning platform content under CC-licence CC BY-SA. By this, all users will be allowed to make use of, adapt and disseminate the content to their own needs free of charge, as long as the license as well as DIGITRANS is mentioned. After the project ends, the content can be used and also adapted by another institution. From the beginning of the project the E-learning platform was developed to be kept sustainable in the long run. Therefore, the platform can also be used by different actors in the future.

The next steps include the development of activities and measures for the sustainability of the project results and to ensure the continuation of these activities and measures after the project end. Together with the actors of the “quadruple helix” policy recommendations for increasing competences to cope with digital transformation will be developed in special workshops in the different partner regions. The overall goal of these actions will be the provision of an impetus for the regional policies to create a better framework for innovation, digital transformation and corresponding educational programmes and qualification initiatives, especially for regional industries and the regional social sector.

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