

DIGIBEST PR REPORT: CASE STUDY OF TÂMEGA E SOUSA, PORTUGAL

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List of abbreviations

AP	Advisory Partner
BDRM	Business Digitalization Regional Road Maps
DESI	Digital Economy and Society <i>Index</i>
CV	Curriculum Vitae
EC	European Commission
EU	European Union
GDP	Gross Domestic Product
GP	Good Practice
HP	Hosting partner
ICT	Information and Communication Technologies
IE	Interreg Europe
JR	Joint Report (DIGIBEST STUDY ON THE STATE OF DIGITAL TRANSFORMATION AND ITS IMPACT ON THE REGIONAL BUSINESSES)
MC	Management Committee
PP	Project partner
PR	Peer Review
PRM Guidelines	Peer Review Methodology Guidelines
PRR	Peer Review Report
RS	Regional Studies (DIGIBEST REGIONAL ANALYSIS OF TÂMEGA E SOUSA, PORTUGAL) and (DIGIBEST REGIONAL STUDY ON THE STATE OF DIGITAL TRANSFORMATION AND ITS IMPACT ON THE REGIONAL BUSINESSES IN LATVIA)
SH	Stakeholder
SG	Steering Group
SP	Sending partner
SME	Small and medium enterprise

1 Introduction

The main objective of this DigiBEST project PR process is to perform an external analysis about SME and microenterprise digitalisation for Tâmega e Sousa, Portugal and to provide potential solutions and recommendations for promotion of the digital transformation of SMEs and microenterprises, that could be used to improve policy instruments of HP. The objective of this PRR also includes elaboration of recommendations based on both, observations and analyses of existing digitalisation situation in Tâmega e Sousa and GPs and digitalisation approaches applied in SP countries/regions, that could be brought over to HP region.

Simultaneously, during the PR process Expert's objective is not only to facilitate digital transformation of HP region, but also during PR process to gain an experience about what policy instruments, GPs and other actions attributed to digital transformation of HP could be adopted by SPs to facilitate their digital transformation process as well.

The PR process for Tâmega e Sousa is carried out by two external Experts from two different SP countries (Latvia and Austria). More extended information about Expert team is discussed in Chapter 2 of this PRR.

During the PR process Expert's work consisted of two stages (desk research and field research) during which they gathered, reviewed and analysed information attributed to digital transformation of both HP and SP, to draw conclusions and provide suggestions to HP and SP countries/regions regarding digital transformation.

During the desk research, which was carried out between 1 May 2021 and 17 May 2021, Experts studied and evaluated documents provided by HP and other publicly available information about digitalisation situation of SP and HP. Main source for expert analyses was RS prepared by HP. RS provided rather extensive analyses about HP's region and its digitalisation traits and barriers. It discussed also other relevant supporting policy documents attributed to digitalisation strategy of Tâmega e Sousa. During this stage, to compare digitalisation situation between SP and HP, Experts also studied RSs of both SPs. Other publicly available information regarding socio-economic situation, milestones of EU digital strategy and regional digitalisation was obtained and studied mainly from internet resources. Materials studied during desk research, provided Experts with overall impressions and understanding about where HP stands in terms of digital development and what are potential problem points and challenges for digitalisation of HP. Experts note that main limitation in this PR stage was that part of relevant policy and digitalisation related information was in Portuguese, however Experts have limited working capability in this language.

Field research was carried out from 18 May 2021 until 20 May 2021¹. During this phase Experts had a chance to meet with SP and main SHs, that are involved in digital transformation shaping process in Tâmega e Sousa, and engage in discussion about digital situation in Tâmega e Sousa. Field research started with introduction session which was led by one of SHs (High School of Technology and Management). Introduction session followed by five meetings with main SHs, and other involved parties of Tâmega e Sousa

¹ **Error! Reference source not found.**

(Administrative Modernization Agency ², Baixo Tamega Municipalities Association³, Vocational Training Centre for shoe industry ⁴, Desenvolvimento Regional e Local, crl ⁵, Enterprise Institute of Tâmega ⁶, Vocational Training Centre of the Metal Industry ⁷, Portuguese Business Association⁸ Penafiel Business Association⁹, Petratex¹⁰, InvestAmarante¹¹, Representatives of GP Business Space from Municipality of Paços de Ferreira, Representatives of GP Industria 4.0, representatives of GP Citizen's Shop). During the meetings Experts encountered with different spectre of opinions regarding main characteristics of SME and microenterprise digitalisation in Tâmega e Sousa, however uniting factors, that Experts noticed were that there is lack of awareness about advantages that digital solutions could provide, lack of corporate digital strategy, lack of qualified ICT professionals who could facilitate digital transition, and dispersion in terms of digital skills and overall digitalization maturity between matured companies and small SMEs. Also, it was noted, that funding due to lack of financial strength and knowledge how to apply for funding is an issue for the region, as well as the fact, that SMEs very often rely on manual production process due to low labour costs, and therefore lack of incentives to streamline their production process.

Field research studies provided more in depth view on digital situation of Tâmega e Sousa, supported and complemented observations obtained during the desk research. However, PR Experts noted that major limitation is that to increase quality of the PRR more time than just three days for field research would be needed to get more familiar with digital transformation framework of Tâmega e Sousa. Also, not all SHs participated in active discussions due to language barrier, which prevented Experts from obtaining more diverse opinions and insights about digital transformation of Tâmega e Sousa.

In the following chapters of this PRR Experts have discussed more in details the PR process, findings and conclusions and their recommendations based on obtained information during desk and field research.

2 Presentation of the Peer Review team

According to PRM Guidelines the PR process involves collaboration of different PPs and all together they form a PR team. PR team is represented by Advisory partner (AP), Hosting Partner (HP), two Sending partners (SP) and two PR Experts. Structure of PR team is illustrated in Figure 1 below.

² <https://www.ama.gov.pt/>

³ <http://www.baixotamega.pt/pages/14>

⁴ <http://www.cfpic.pt/>

⁵ <https://www.dolmen.co.pt/>

⁶ <https://iet.pt/>

⁷ http://www.cenfim.pt/default_v2_en.asp#topo

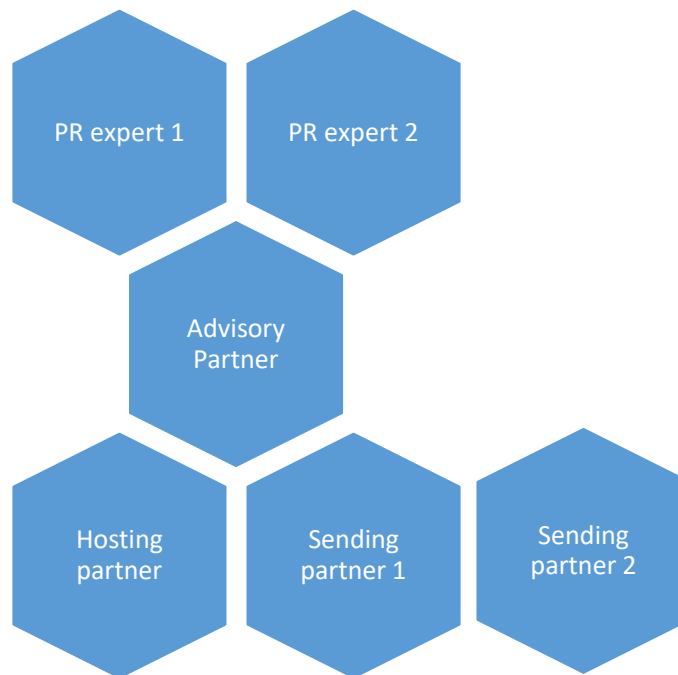
⁸ <https://www.aeportugal.pt/>

⁹ <https://www.aepenafiel.pt/>

¹⁰ <http://www.petratex.com/index.php?id=1>

¹¹ <https://investamarante.com/en/>

Figure 1: Structure of the PR team



University of Latvia acts as an AP. AP is responsible for PR methodology and it monitors, if it is taken into account during PR process. If necessary, AP consults and provides guidance to other PR team members regarding methodology and other matters of PR process. During PR of Tâmega e Sousa AP participated in all field research meetings and also actively participated in the conversations, therefore in times contributing to brainstorming process of PR. AP also was actively involved during kick-off period by giving instructions and advice on how desk research and field research could be organised and performed based on best practices.

During PR process of Tâmega e Sousa Sviluppo Basilicata SPA acts as a HP. The role of HP is to organise and host PR events that are part of field research phase. Also, before and after the PR event HP was responsible for communication with other PR team members by providing supporting PR documentation and coordinate agenda of the PR event.

During PR process of Tâmega e Sousa Ministry of environmental protection and regional development of the Republic of Latvia acts as one of SPs, representing Latvia. Austria Wirtschaftsservice Gesellschaft mbH acts as other SP, representing Austria. SP's responsibility in scope of PR process is to hire external PR expert and to coordinate communication between HP and PR Experts from SP country/region during the process of PR process. In the contract with PR Expert SP can also state specific objectives for PR experts in order to adopt GPs of HP and to facilitate development of SP's digital transformation.

Both SP has delegated their PR Experts. SP of Austria has hired independent contractor Klaus Buchroithner as an PR Expert. SP of Latvia has hired KPMG Baltics AS as PR Expert, that is

represented by two experts participating in the field work. PR Experts are responsible for implementation of PR according to PRM Guidelines. During the process PR Experts have to jointly carry out desk research and field research analyses and based on information obtained during these activities to prepare PRR. Desk research should be carried out based on the information and documents provided by the HP and SP, as well as other publicly available documents and information prior to PR event. During the field research PR Experts are supposed to obtain additional information through meetings, interviews and discussions about digitalisation situation of Tâmega e Sousa, that are organised by HP. After the field research in one month time Experts are supposed to prepare PRR, which should provide elaborated conclusions and recommendations on how to facilitate the promotion of the digital transformation of SMEs and microenterprises by improving HP's policy instruments described in RS. List of PR team participants is presented in Appendix .

According to PRM Guidelines both PR Experts must agree, how they are dividing their tasks during desk research, field research and PRR preparation. PR Experts are jointly responsible for quality and timely prepared PRR. Tasks and objectives of both PR Experts are described in Chapter 4.

3 Peer Review implementation

3.1 Desk research

As described in previous chapters two main parts of PR were desk research and field research. During desk research several sources of information were reviewed to gain understanding and first insights about digitalisation situation of SME's of Tâmega e Sousa. Probably the most significant documents reviewed during this phase were RS and JR, that provided consolidated but still rather extensive overview about background of Tâmega e Sousa, main local SHs, policy framework, GPs and other initiatives, main problem points regarding digitalisation in the region and possible solutions. PR Experts overall impression was that these documents are supplementing each other, and no discrepancies between them were found. During the desk research PR Experts did not find major changes since the time both research were conducted. Economic obstacles caused by Covid-19 pandemic has remained, however as described in RS and JR, it has also forced and encouraged SMEs and microenterprises to take an advantage of digital solutions.

During the desk review PR Experts also reviewed other public documentation and documents provided by HP and SP, that are considering information about digitalisation of SMEs and microenterprises and socio-economic situation of both SP and HP countries/regions. Sources can be categorised in five categories: EU digital strategy related policies, regional and local policy related documents, both research performed by SP or HP or provided by SP or HP, Other internet resources of GPs, initiatives and supporting information and information on statistics (DESI, GDP, unemployment, etc.). Summary of main sources reviewed during desk research are listed in Table 1.

Table 1: PR desk research findings

No	Source of literature, document or information on the website reviewed or analysed	Date	Main findings and conclusions
1	Tâmega e Sousa RS <i>Provided to experts by HP</i>	01.05.2021- 17.05.2021	Obtained overall impression about region and digital transformation challenges. Main observations were that there is a lack of awareness on digital solutions and their applicability among SME's, also SMEs often lack resources, both financial and human capital, to implement digital solutions in their business practices. It was discovered that the region is specialized in manufacturing industry, and Digital strategy of Portugal is primarily built around objectives of Portugal Industry 4.0.
2	DIGIBEST STUDY ON THE STATE OF DIGITAL TRANSFORMATION AND ITS IMPACT ON THE REGIONAL BUSINESSES: Joint Report (Draft) <i>Provided to Experts by Latvian SP</i>	01.05.2021- 17.05.2021	Similarly, as during review of RS obtained overall impression about region and digital transformation challenges. Joint report allowed to compare digitalisation of all regions/countries and to see Tâmega e Sousa case in contrast against other DigiBest partner regions/countries. Especially, to compare how Portugal performs according to DESI.
3	GOING DIGITAL INTEGRATED POLICY FRAMEWORK <i>OECD Digital Economy papers, February 2020, No.292</i>	01.05.2021- 17.05.2021	This OECD document provided information about the aspects that should be taken into consideration when designing policies. Main point was that policies should consist of seven dimensions: 1) access; 2) use; 3) innovation; 4) jobs; 5) social prosperity; 6) trust; and 7) market openness. Also, when addressing these dimensions, policy makers should regularly monitor policy objectives and progress, gaps and set priorities together with main SHs.
4	OECD Reviews of digital transformation: Going digital in Latvia	01.05.2021- 17.05.2021	This OECD report provided insights about digitalisation situation of Latvia and allowed to compare digital challenges of Latvia with digital challenges of Tâmega e Sousa. Main suggestions in the report were related to



			increase of digital skills and awareness rising. One of the main suggestions was to provide more support and grants to organisations, like NGO's that could promote more general use of ICT solutions and mentor focus groups of society. Latvia should work primarily with groups that make relatively little use of ICT (for example rural areas). Similar approach could be recommended also to Tâmega e Sousa.
5	COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS: An SME Strategy for a sustainable and digital Europe	01.05.2021-17.05.2021	<p>This EC document describes EU approach and priorities towards sustainable and digital Europe. It describes EU priorities and main pillars that EU member states should address when they are commencing digital transformation According to EC the main pillars for digitalisation of Europe are:</p> <ul style="list-style-type: none"> — Capacity-building and support for the transition to sustainability and digitalisation; — Reducing regulatory burden and improving market access and <p>Improving access to financing.</p>
6	https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age/shaping-europe-digital-future_en	01.05.2021-17.05.2021	PR Experts explored EC web page to obtain information about what EU priorities and strategy is in digitalisation of Europe. PR Experts understand, that main goals for EC is to create Europe as a fair and competitive digital economy, an open, democratic and sustainable society, to become a global role model for the digital economy, support developing economies in going digital, develop digital standards and promote them internationally.
7	https://ec.europa.eu/digital-single-market/en/content/european-digital-strategy	01.05.2021-17.05.2021	PR Experts explored EC web page to obtain information about the EU priorities and strategy in digitalisation of EU. Similarly, as in previous point 6, PR Experts gained understanding what EC priorities are regarding technology usage in EU, opening industry for technology, job market, and new enterprise creation.
8	https://ec.europa.eu/growth/smes/sme-strategy_en	01.05.2021-17.05.2021	This is another description from EC web page about SME strategy of EU. It highlights importance of reducing regulatory burden and improving market

			access, access to financing, EU country partnership for delivery.
9	https://digital-agenda-data.eu/datasets/desi/visualizations	01.05.2021-17.05.2021	PR Experts explored DESI index in context of Portugal and identified weak areas and areas where Portugal performs above average. Overall conclusions are that Portugal has improved its digital situation in comparison with past years, but there are still improvements needed regarding human capital and digital skills.
10	Norte2020: Synthesis of Programme <i>Obtained from: https://www.norte2020.pt/sites/default/files/public/uploads/programa/CCDR-N_brochura_Ingles_FINAL_NOVO.pdf</i>	01.05.2021-17.05.2021	This document summarizes one of the main EU funding programs for Norte region as Tâmega e Sousa is a part of this Norte region
11	S3NORTE Smart specialization strategy <i>Obtained from: S3Norte - Norte Region Smart Specialisation Strategy Synthesis of the Monitoring Report (ccdr-n.pt)</i>	01.05.2021-17.05.2021	This is a Norte region Smart specialization strategy, that provided insights about the Norte region priorities in relation to smart specialization. Main objectives listed in the document are: <ul style="list-style-type: none"> — Strengthening research, technological development and innovation; — Enhancing the competitiveness of SMEs; — Promoting sustainable and quality employment and supporting labour mobility; Investing in education, training and lifelong learning.

3.2 Field research

During field research PR Experts participated in an introduction meeting with representatives of Comunidade Intermunicipal do Tâmega e Sousa during which mainly policy framework and general information about digitalisation traits of Tâmega e Sousa were discussed. After this meeting five consecutive meetings with main SHs were attended by PR experts. During these meetings PR Experts carried out interviews and engaged in discussions about digitalisation of the region. Main topics discussed were GPs of the province, applicable policies of the region and overall pain points regarding digitalisation transformation regarding funding possibilities in the region, awareness raising learning programs and collaboration. For meetings HP had selected SHs in a way that they represent different organisations with different experiences regarding digitalisation of Tâmega e Sousa, Norte region and Portugal

in general. Although all SHs shared similar impressions, stating that main challenges for successful digitalisation of SMEs and microenterprises are the lack of general awareness in population and among SMEs about benefits of digitalisation and digital tools and that there is a lack of ICT skilled specialists who could shape digital development of SMEs. At the same time small SMEs often lack available funding to introduce technological solutions such as robotic solutions and automatization of manufacturing. It was also noticed that the landscape of SMEs differs. The primary business sector in Tâmega e Sousa is manufacturing, however such industries as agriculture are also present and should be included in digitalisation framework. Also, digital maturity level of SMEs differs in Tâmega e Sousa, however SMEs are the mostly represented by small enterprises who are in their early digital maturity stages.

Table 2: PR field research findings

Activity	Where and when	Stakeholders met	Policies and actions discussed
Presentation/discussion	Online meeting 18.05.2021	1) High School of Technology and Management 2) Comunidade Intermunicipal do Tâmega e Sousa	General policy framework and digitalization framework of the region
Discussion	Online meeting 18.05.2021	1) High School of Technology and Management 2) Comunidade Intermunicipal do Tâmega e Sousa	Discussion about RS of Tâmega e Sousa
Discussion	Online meeting 18.05.2021	1) Baixo Tamega Municipalities Association 2) Vocational Training Centre for shoe industry 3) Desenvolvimento Regional e Local, crl 4) Enterprise Institute of Tâmega 5) Vocational Training Centre of the Metal Industry 6) Portuguese Business Association	Discussion about financing options for SMEs in Tâmega e Sousa
Discussion	Online meeting 18.05.2021	1) Baixo Tamega Municipalities Association 2) Vocational Training Centre for shoe industry 3) Desenvolvimento Regional e Local, crl 4) Enterprise Institute of Tâmega 5) Vocational Training Centre of the Metal Industry 6) Portuguese Business Association	Discussion about digital education options, collaboration and awareness in Tâmega e Sousa

Discussion/Interview	Online meeting 18.05.2021	1) Penafiel Association 2) InvestAmarante	Business	Meeting with main SH of Tâmega e Sousa during which different topics regarding situation of digitalization were discussed to get overall impression about processes in Tâmega e Sousa.
Discussion/Interview	Online meeting 19.05.2021	1) Petratex (company) 2) COTEC Portugal 3) Portuguese Administrative Modernization Agency 4) Municipality of Paços de Ferreira		Meeting about GPs of Tâmega e Sousa.
Presentation and discussion	Online meeting 20.04.2021	Several involved stakeholders, who participated in meetings		PR Expert presentation of preliminary findings

At the end of the PR event PR Experts presented their preliminary findings and suggestions to SHs and HP¹².

4 Objectives and tasks of the PR Experts

4.1 Objectives and tasks of PR expert from Latvia

According to contract between the Ministry of Environmental Protection and Regional Development of the Republic of Latvia and KPMG Baltics AS, the main task for PR Experts was to perform PR process according to PRM Guidelines by evaluating digital transformation policies, GPs and support instruments, and to identify suggestions and recommendations for HP about how they could improve their digital transformation process. In addition, PR Experts were asked to prepare suggestions about possibilities to take over and implement GPs of HP in SP's country.

As stated previously besides direct objectives of PR process attributed to HP, during the desk research PR Experts were asked to study SP's RS about digital transformation situation in Latvia and its influence on entrepreneurship, including information about SME and microenterprise digital transformation policies and support instruments, as well as DESI results.

¹² **Error! Reference source not found.**

PR Experts also were asked to study HP's GPs, policy instruments, strategies and conclusions about them based on HP's RS and other available information. After review PR Experts are supposed to provide conclusions and suggestions how HP's GPs could be potentially implemented in Latvia in order to facilitate development of SME and microenterprise digital transformation in Latvia.

At the end PR Experts should prepare these suggestions about GPs and present them to SP.

Based on these suggestions PR Experts should provide suggestions for elaboration of road map and action plan to facilitate following areas of SME and microenterprise digitalisation:

1. Awareness raising among entrepreneurs of the benefits of using ICT solutions in business;
2. Improvement of the availability of information on the financial support instruments offered by the state in the field of digital transformation;
3. Development of entrepreneurial competencies and corporate environment (mentoring programs, technology audits, individual consultations, management training) to promote the digital transformation of entrepreneurs;
4. Digital transformation and cybersecurity issue integration into business support initiatives.

4.2 Objectives and tasks of PR expert from Austria

As far as the Austrian PR Experts are concerned, they refer to a contract between the Austrian Wirtschaftsservice Gesellschaft mbH (AWS) and Klaus Buchroithner. Their main objective in the contract relates to:

- Discussing the problems, that were identified in the Portuguese Regional Study, during the Peer Review
- Executing of the PR process by evaluating digital transformation policies of the Hosting Partner country;
- Analyzing best practices and available resources;
- Providing opinions and new perspectives in order to support and enhance good practices in the Tâmega e Sousa Region.

The Experts were asked to analyze the Regional Study of Portugal on the State of Digital Transformation in Entrepreneurship (SMEs). Furthermore, desk research on Portuguese footwear, textile, and clothing industry as well as the metalworking and furniture industry, especially for the Tâmega e Sousa region was required. After participating in the PR review event, where the problems that were identified in the Portuguese Regional Study were discussed, a presentation with inspiring insights should be made to the stakeholders.

Their work of in-depth analysis of the issues and comparison with the stakeholders involved in the process would be summarized in a report with the aim of raising awareness of emerging opportunities among institutions and SMEs themselves: in particular, they are asked ideas on how to improve communication, training, and awareness on digitalization tools and their application.

5 Characteristics of the SMEs digitalization

5.1 Country level of digitalisation

During Desk research and Field research one of the main objectives of PR Experts was to determine what is current digitalisation situation of SMEs and microenterprises of Portugal and Tâmega e Sousa, and how it compares with other EU countries/regions. First impressions and first hypothesis were developed during desk research and then later complemented by information from field research interviews.

Based on analyses, mainly supported by HP's RS and JR, and other statistics like DESI¹³, PR Experts observed that Portugal is digitally underdeveloped and according to overall DESI score of 49.6 in 2020, scored below EU average of 52.6 in 2020, however according to DESI Portugal has experienced gradual increase in digitalization level during previous year time as in 2014 it was only 44.0 (see Table 3).

Table 3: Historical DESI score of Portugal

Historical DESI score of Portugal								
Indicators	Portugal							EU average
	2014	2015	2016	2017	2018	2019	2020	2020
DESI Index	44.0	49.0	53.0	44.6	44.8	47.0	49.6	52.6
DESI: connectivity	51.0	59.0	62.0	49.9	44.3	48.4	53.9	50.1
DESI: human capital/digital skills	40.0	39.0	48.0	34.2	36.2	35.2	37.7	49.3
DESI: use of internet services by citizens	40.0	44.0	45.0	39.6	43.2	45.2	48.1	58.0
DESI: integration of digital technology by business	33.0	37.0	43.0	41.8	40.3	41.4	40.9	41.4
DESI: digital public services	56.0	67.0	70.0	61.9	67.4	73.4	75.1	72.0

Source: Joint Report (DIGIBEST STUDY ON THE STATE OF DIGITAL TRANSFORMATION AND ITS IMPACT ON THE REGIONAL BUSINESSES)

According to DESI score Portugal shows relatively good score in category of connectivity as the score in 2020 was 53.9. Such level is above EU average of 50.1. However, during the field research it was indicated, that connectivity is relatively low in rural areas, the internet quality and access is lower and therefore SMEs from rural areas of Tâmega e Sousa face additional challenges in their digital development. Under any circumstance's connectivity is still an aspect that should be considered in scope of digital transformation of Portugal and Tâmega e Sousa. Even though Portugal scores above EU average in connectivity, the score can still be

¹³ https://digital-agenda-data.eu/charts/desi-composite#chart={%22indicator%22:%22desi_sliders%22,%22breakdown%22:{%22desi_1_conn%22:5,%22desi_2_hc%22:5,%22desi_3_ui%22:5,%22desi_4_idt%22:5,%22desi_5_dps%22:5},%22unit-measure%22:%22pc_desi_sliders%22,%22time-period%22:%222020%22}

considered as low if compared with other DigiBEST project participant countries, like Latvia, Spain and Norway, which all scores above 60.

At the same time Portugal is performing relatively well in comparison with EU average in DESI category of integration of digital technology by business. According to DESI of 2020 EU average in this category was 41.4, and Portugal scored 40.9. Even though according to DESI score Portugal in this category is around EU average, a stagnation can be observed as there has not been significant improvements in comparison with previous years, moreover a slight drop in score can be observed in comparison with 2019, when it was 41.4 and with 2017, when it was 41.8. DESI index data are available in country level, and therefore cannot be directly related to Tâmega e Sousa. Based on interviews with SHs, Experts see that in Tâmega e Sousa integration of digital technologies by business should be improved. Especially it applies to family owned SMEs and SMEs from rural areas, where most of the businesses lack awareness and knowledge about technologies that could be beneficial for their businesses.

Portugal scores the best in digital public services by scoring 75.1 according to DESI in 2020 that is just slightly above EU average of 72, however according to Eurostat data in Norte region individuals who actually use internet in communication with public authorities is rather low - just 36% in 2019¹⁴. This possibly is an indicator, that the provided services by public authorities is in rather high digital level, however general population lacks awareness about digital public services or knowledge how to exploit them. Population of Norte region scores also relatively low regarding overall internet usage. For example, according to JR only 67 % of individuals are regularly using the internet, in age group from 16 to 74. This is the lowest level among DigiBEST project participant countries/regions. Among DigiBEST participant countries/regions Norte region shows also the second lowest level of individuals who use internet banking. Simultaneously in Norte region there is a high proportion (28%) of individuals who have never used computer in age group between 16 and 74, which is also the highest score among DigiBEST project participant countries/regions. DESI score category use of internet services by citizens supports these results, as Portugal scores only 48.1 in this category, that is significantly lower than EU average of 58 in 2020.

From other DESI categories it is worth mentioning also DESI category human capital/digital skills, where Portugal has a score of 37.8, that is significantly below EU average of 49.3. Limited digital literacy among SME managers, employees and general population was also one of the key issues that were highlighted by SHs during field research meetings. As it was discussed it is also a factor that holds SMEs back in further technology implementation in their businesses.

5.2 General impressions on digitalisation in Tâmega e Sousa

During desk research and field research PR Experts gained an impression that **Portugal and Tâmega e Sousa face similar digitalisation challenges as many other countries or regions in EU**. As supported by DESI scores and information from RS and JR possibly the greatest

¹⁴ <https://ec.europa.eu/eurostat/databrowser/bookmark/ac88a397-a99a-4585-84e6-f383014e3b11?lang=en>

challenge that Tâmega e Sousa needs to overcome is overall **level of digital skills among SME managers and employees**. Even though during the field research SHs shared several examples of digitally well-developed enterprises, this is not the case for average SME. During the conversation about GP “Industria 4.0” PR Experts were informed, that two thirds of Portuguese companies have low digital maturity and therefore face difficulties to adopt advanced digital solutions. The statement applies to all sector enterprises. Field research confirmed that the region is highly specialised in secondary sector with dominating shoe manufacturing, textile, furniture manufacturing and metalworks industries, however SMEs that practice farming and commerce cannot be excluded from the perspective. ICT companies are not broadly represented in Tâmega e Sousa. Usually start-up entrepreneurs and entrepreneurs who work in ICT or ICT consulting chose to operate in larger markets with easier access to talent.

It was identified, that a **significant gap exists between larger companies of mentioned business sectors and typical SME of Tâmega e Sousa**, and therefore their ability to elaborate corporate digitalisation strategies differ. Typical SME which is often family owned and has just 1 to 9 employees, the main problem is lack of needed resources and digital knowledge on how to implement digital solutions and what actual digital solutions, that might be beneficial to them, are available. As in Tâmega e Sousa prevailing business sector is industrial manufacturing besides such relatively simple digital solutions as e-commerce, digital marketing, in order to facilitate their digital transformation they need to implement more technical solutions that are related directly to manufacturing and analyses of manufacturing. Such solutions include manufacturing automation, robotic solutions, and big data analyses. Very often companies feel reluctant to implement solutions, as listed previously due to lack of knowledge and also due to economic factors like low salary level, that allows companies to use manual labour force. Based on information from conversations with SHs, major issue for further development is low salary level in the region that still allows SMEs to remain competitive in the market by not modernising their manufacturing approaches. At the moment the trend is that SME managers and owners concentrate on hiring good specialists who can do their job manually, instead of investing in business process automation.

At the same time involved SHs expressed their opinions that **other sectors, like retail and farming also need to upgrade their digital skill levels in usage of even simple computer skills** as Excel, and other digital solutions like e-commerce and digital marketing and to incorporate Internet of things solutions in their daily operations. During Covid-19 SMEs have increased use of e-commerce, however there is a lack of strategic approach to implementation of these tools, as they often were implemented in rush to address market changes. SMEs face difficulties in maintaining e-commerce platforms due to lack of digital skills how to do it, therefore additional training would be useful.

Besides previously mentioned problem areas, **Portugal and Tâmega e Sousa builds its strategy around identification of SME digitalisation and action plan development based on obtained digitalization monitoring results**. Identification is performed by applying maturity assessment tools and surveys. Unfortunately, according to information from several

SHs, SMEs are not active participants in these initiatives, therefore collection of such data is difficult. In Experts opinion this is another sign of low awareness and initiative among SMEs.

Significant challenge for Tâmega e Sousa is **the financing options for SME digitalisation**. Significant reason why manufacturing SMEs are not able to make next steps in their digital transformation is lack of awareness about financing opportunities and knowledge about how to navigate through bureaucratic application process of EU funds, as well as not sufficient financial strength to finance investments using own resources or obtain resources from banks. As Experts understood during field research banks very often do not understand the company needs regarding digitalization and therefore are reluctant to finance SME digitalization projects.

5.3 Main policies and instruments promoting digitalisation in Tâmega e Sousa

Tâmega e Sousa follows guidelines of national and regional policies. The main policies and financial instruments address main issues like digital literacy and digital solution promotion in business activities. One of the main policies that gets implemented in all regions of Portugal is “Industria 4.0”¹⁵, that focuses on promoting innovation and digitalisation in key strategic sectors across Portugal. Main central objectives of the strategy are:

- Accelerate the adoption of technologies and concepts of Industry 4.0 in the Portuguese enterprise sector;
- Promote Portuguese technological companies at an international level;
- Make Portugal an attractive hub for investment in the “Industry 4.0” context.

As Tâmega e Sousa is industrialised region, such digital solutions as robotics automation, intelligent machines, data analytics, etc. are of high importance under “Industria 4.0”. Total funding from this national level program is EUR 600 million.

From the financial support perspective Operational Program “Growth and Empowerment 2014-2020”¹⁶ is implemented to promote competitiveness of the regional economy. The program addresses Portuguese regions including Norte region¹⁷. Out of all funds for Norte majority of 37% are supposed to be allocated to support the competitiveness and innovation in SMEs.

Taking into consideration the fact that Portugal has relatively low level of digital skills among SMEs and general population, “National Initiative for Digital Competences e.2030” is aimed at enhancing digital competences.

To promote digital services of public organisations “Action Plan for the Digital Transition”¹⁸ was prepared by Ministry of Economy and Digital Transition.

¹⁵ <https://www.iapmei.pt/getattachment/PRODUTOS-E-SERVICOS/Incentivos-Financiamento/Sistemas-de-Incentivos/Industria-4-0/GuiaIndustria40-pdf.pdf.aspx?lang=pt-PT>

¹⁶ <https://ec.europa.eu/esf/main.jsp?catId=576&langId=en>

¹⁷ <https://ec.europa.eu/esf/main.jsp?catId=576&langId=en>

¹⁸ <https://eportugal.gov.pt/en/noticias/governo-lanca-plano-de-acao-para-a-transicao-digital>

Implementation of listed policies and fund allocation is carried out by several local and regional and national public and independent organizations. The strategy coordinator and regional authority in Tâmega e Sousa is Comunidade Intermunicipal do Tâmega e Sousa. Active promotion of SME digitalization is carried out by several business associations, that provide lobby to their associates and organise awareness events and campaigns for local SMEs. In Portugal Experts noticed a trend that in order to facilitate digital transformation SHs in local, regional and national level at first try to assess digital maturity of SMEs by applying maturity tests and surveys, in order to gather data and identify what different profile SMEs from different regions need to successfully identify and implement solutions for their digitalization. The process is carried out by GP owners as well as involved business associations. Business associations also work as a support for EU fund allocation and distribution to SMEs in order to limit complexity and in application process.

Policy framework, GPs and other initiatives are further discussed in Chapters 6 and 8.

5.4 Main barriers for SMEs digitalisation

As described previously despite active involvement of various public, private and NGO organisations, GPs and initiatives, several barriers exist for successful digital transformation, that are very often interlinked with each other. According to PR Expert's opinion, most important barriers are lack of general digital awareness among SMEs and microenterprises regarding the benefits that digitalization and digital transformation could bring for the success of the business. SMEs and microenterprises are not aware about potential benefits of digital technologies, where to apply digital solutions to business processes/channels or how to integrate such digital solutions. Also there is limited awareness about financing support options and limited knowledge and understanding of how to write applications for EU funded projects. This simultaneously leads to SME unwillingness to invest in digital solutions. Unwillingness to undertake digitalisation projects is also caused by risks of not succeeding or not getting out expected results instantly. At the same time SMEs, microenterprises and their managers are often not aware of digital solutions that they could use or benefits that would result from using them.

Even if managers of SMEs and microenterprises would be willing to adopt new technologies they often do not have enough technical capacity to introduce them. This situation is due to both lack of financial resources and lack of human resources.

Even though connectivity is in relatively good level with respect to EU average, as understood from obtained information during field research and DESI scores this digitalisation area could be improved. Especially in rural areas internet access and quality needs to be improved.

Lack of financing is another obstacle for SMEs to excel in digitalisation. One angle of the problem is SMEs being unaware about available EU funding and not enough expertise how to prepare project to apply for the funds. Another angle is lack of understanding in banking industry about innovation and lack of ability to evaluate which SMEs are ready to successfully enter digitalisation phase. Due to this reason Banks are reluctant to provide funding to companies who would be willing to invest in technology related to Industry 4.0 and other

digitalization tools. Third angle is lack of availability of venture capital and other alternative funding.

Main barriers of digitalisation are further discussed in Chapter 7.

5.5 Possible solutions

To increase overall digital literacy, that is one of the main problem areas in Tâmega e Sousa, it would be necessary to increase awareness about digital solutions and digital skill necessity among general population and SME managers, and employees, to successfully facilitate digital transformation and economic viability of SMEs. At the moment there are vocational education programs in place in the region, however those are focused primarily on digitalisation from manufacturing process perspective, which is good, but the region should introduce and popularize also programs related to life-long learning that train more basic digital skills like e-commerce, general computer skills, to facilitate skillset transformation of the population.

Additionally, coordinated awareness raising campaigns should be implemented, as well as active success story sharing should be organised to show SMEs advantages of digital solutions based on real life examples and encourage SMEs pay more attention to elaboration of corporate digital strategies.

Financing access and awareness about possible financing options could be increased as well. Possibly it can be done by implementing EU fund calls with less own involvement or state could collaborate with banks to develop bank programs that provide more favourable conditions for SMEs that are financially less stable. Possibly State can be involved as a co-guarantor for such loans.

Other conclusions and recommendations on how to improve the situation are described in more details in Chapters 9 and 10.

5.6 Comparison between host region and sending countries

5.6.1 Latvia

In both Latvia and Tâmega e Sousa business environment is dominated by relatively small SMEs with only 1 to 9 employees. Last available information from Portuguese RS states, that in 2017 proportion of such SMEs was around 80.9%, while in Latvia proportion of such SMEs in 2017 was around 88%. Dominant manufacturing industry in Tâmega e Sousa, which is relying on manual labour force, could explain why SMEs in Portugal have on average more employees than in Latvia.

Significant socio-economic problem in Latvia is high historical migration and aging population, which is negatively impacting labour market, that negatively impact on high skilled labour force and overall economic growth meanwhile according to RS, Tâmega e Sousa is one of the youngest regions in Portugal that could be considered as a potential opportunity for digitalization of Tâmega e Sousa.

When it comes to Digital development of both countries, Latvia shows highest scores in Digital public services part (Portugal- 75.1; Latvia- 85.1) and connectivity part (Portugal- 53.9; Latvia -61.8) of DESI in 2020. Nevertheless while Latvia is one of the best performing countries in two previously mentioned categories, Portugal is just above EU average in both of them. While still being below EU average (49.3) Portugal showed higher DESI scores (37.8) than Latvia (35) in human capital and digital skills category. In use of internet services by citizens Portugal scored lower (48.1) than Latvia (54), which is supported also by Eurostat data, that indicate, that population of Latvia is exploiting internet services more actively in communication with public authorities, online banking and other similar categories. For both countries' integration of digital technology by business category is an area for potential improvements, however according to DESI score, Portugal (40.9) scores significantly above Latvia (28.3), as this category is the weakest point for Latvia. According to overall DESI score both countries are around the same digitalisation level, as Latvia with score of 50.7 is ranked 18th in EU and Portugal with overall score of 49.6 is ranked 19th.

The main problem in Latvia similar to Tâmega e Sousa is that among SMEs and microenterprises there is lack of awareness about the potential benefits of implementing digital tools and digital transformation, about available technologies in the market and how these technologies could complement or transform their already existing businesses. At the same time SMEs and microenterprises in Latvia are often rather small, and therefore there is a lack of resources to introduce new technologies, information systems and IT tools.

5.6.2 Austria

When you compare the situation in Austria and in Portugal, you will find a lot of intersections. With Vienna, Linz and Graz also Austria has some well-developed cities/regions like Porto or Lisbon. On the other hand, there are also many regions in the countryside, where many people don't understand a lot about digital transformation.

A big difference between the countries is that there are very high wages in Austria and that leads to pressure on manufacturing companies. These companies only have two options in order to stay competitive. Either keep product development and sales in Austria and outsource production to a third country or they automate the production process with the new machines and technologies. Many of the manufacturers have already outsourced the production.

Despite this pressure, the DESI in 2020 shows that Austria is doing better than Portugal - with a score of 54,3 compared to 49,6 - but there are also areas where Portugal is doing better. When it comes to connectivity Portugal scores better than Austria. The problem in Austria is many rural areas where the 'Fixed Very High Capacity Network coverage' counts only to 14% with an EU average of 44% of households.

When it comes to human capital Austria scores 56,7 versus 37,7 in Portugal. As already mentioned the lack of digital natives and broad digital knowledge of society is one of the main challenges in Portugal and the Tâmega e Sousa Region at the moment. Due to the higher wages, people in Austria are forced to get higher education and a solid digital understanding. Furthermore, you also see a similar picture when you look at the score of "use of internet

services by citizens”. Especially the percentage of the society who use the internet for shopping is very high in Austria with 71%.

Surprisingly Portugal is doing a bit better in ‘integration of digital technology by business’ than Austria with a difference of 0,3. Particularly the values of ‘e-commerce turnover’ with 11% and ‘selling online cross-border’ could be explained by the strong e-commerce industry in Germany. Many of the well-known online shops in Austria are based in Germany. It is often difficult to compete with German companies because they have an excellent ecosystem and a large domestic market. It is certainly difficult for Portugal as well, as there is only one neighbouring country and Spain’s population is five times as large. Then there is the language barrier between these two countries.

Digital public services are well developed in both countries and therefore the value in Portugal and Austria is above the EU average. Austria has a slight advantage with 80.8 compared to Portugal with 75.1.

In general, there are many similarities between Austria and Portugal. Both countries struggle a bit with their rural areas when it comes to digitalization. Whereas Austria has already a well-educated population, Portugal has to make some improvements. Despite that, it has to be said that the Portuguese companies are doing slightly better in their digital transformation than the average of Austrian companies.

Table 4: DESI comparison between Portugal, Austria and Latvia (2020)

DESI score 2020				
Indicators	Portugal	Latvia	Austria	EU average
DESI Index	49.6	50.7	54.3	52.6
DESI: connectivity	53.9	61.8	47.2	50.1
DESI: human capital/digital skills	37.7	35.0	56.7	49.3
DESI: use of internet services by citizens	48.1	54.0	54	58.0
DESI: integration of digital technology by business	40.9	28.3	40.6	41.4
DESI: digital public services	75.1	85.1	80.8	72.0

Source: Joint Report (DIGIBEST STUDY ON THE STATE OF DIGITAL TRANSFORMATION AND ITS IMPACT ON THE REGIONAL BUSINESSES)

6 Policy context

In the Tâmega e Sousa Region companies have a lot of possibilities when it comes to public support. There are three different types of action that are supported by different programs, but mainly by Industry 4.0.

The first one is digital economy projects. In this area, projects are supported to strengthen the digital infrastructure, cloud computing, and cyber security, AI, E-Commerce and E-Marketplaces, Advertising, and many more.

The second one is productive innovation. It’s all about reinventing the way products are made and the processes around them. Intelligent production processes, intelligent machines, 3D printing, and autonomous robots to name just a few.

The third type is research and development, where projects around Virtualization and Simulation, Artificial intelligence, Augmented Reality, Nanotechnology and more are supported¹⁹.

As there are three different types of projects that are supported, the supporting programs are also divided into three different levels: national level, regional level, and local level.

On the national level, there are a lot of different programs like Portugal i4.0. With the initiative 'Portugal i4.0' the Ministry of Economy and Digitization of Portugal tried to identify the needs for Portuguese industrial companies. The aim of this project was three key topics: to accelerate the adoption of technologies and concepts of Industry 4.0 in the Portuguese enterprise sector; to promote Portuguese technological companies at an international level, and last but not least to make Portugal an attractive hub for investment in the Industry 4.0 context. With a budget of up to 2.26 billion EUR, it's one of the biggest programs in Portugal. More than 550.000 people already participated in this program and it's planned to train 200.000 people additionally in the future within 350 projects.

Also on the regional level, there are several projects to support SME's like Norte 2020, which enables SMEs to invest in digital transformation, with a huge positive impact. There are 12 different projects at the moment only on the regional level.

According to RS of Tâmega e Sousa, the Tâmega e Sousa Region has only one program on a local level. It's called B.Box and it's a development program for entrepreneurs and business persons promoted by various local institutions.

As one can see, there are many programs and initiatives to help SMEs in the region to transform their business. But it is also confusing with all these different players on the market and it seems that many SMEs don't even know about their possibilities. It seems that even all the program managers are not 100% aware of all the other projects provided. It could be helpful to offer a central point that informs SMEs and entrepreneurs about their options.

In the PR event, PR Experts have learned that there is already a good practice that could accept this role. The Citizen's Shop is a concept where several public and private services are brought together in one place. The feedback from the stakeholders showed that this project could be the key to overcome many of the given challenges. It provides the technological infrastructure to everyone, provides fast access to Experts, and also connects different people of different ages in one place.

The digital infrastructure is relatively well developed, however improvements are still needed according to information obtained during field research interviews with SHs Especially it applies for the countryside, as often there is a lack of a fast internet connection. The Tâmega e Sousa Region has no attractive universities and the competition for labour force from other regions like Porto or Lisbon is high.

The logical consequence is that it is difficult to keep the region attractive to young talents. Porto, Lisbon, or going abroad are big competitors for companies, which try to get the best

¹⁹ DIGIBEST REGIONAL ANALYSIS OF TÂMEGA E SOUSA, PORTUGAL

talents. These regions have better universities and international companies, which both attract young people the most. Tâmega e Sousa has a lot of rural areas where technology is the only key to hold talents.

Covid-19 has showed that many things are possible when working remotely and that teleworking is growing fast. This could be a good opportunity for the region to hold talents there.

What is more, the salaries are higher in other countries like France, Spain, and Switzerland. Local initiatives to raise awareness about new technologies can help to train the society, but there is more effort needed to hold the best talents in the region or even country. Tax benefits when companies hire tech talents could be one key element to slow down this development.

When it comes to policies PR Expert main findings are the following:

1. Most of the policies effecting Tâmega e Sousa are either National policies or regional policies that are covering Norte region.
2. There are a lot of different programs, projects, and initiatives that support SMEs. But what is missing is a central point to go for advice about all the opportunities.
3. Solutions to reach all SMEs not only those who are in relatively high digital maturity level are needed.
4. It will need special programs for micro-businesses to help them understand what they need and help them to implement new processes and new technologies.

7 Main barriers for SMEs digitalization and possible solutions

It has to be mentioned that the Northern Region of Portugal is lacking a bit behind when it comes to the use of electronic commerce. What is more also the number of workers who use ICT is one of the lowest in the European Union.

On one hand, there are some companies with the newest technology on the market, and on the other hand, there are many SMEs that hardly use technology at all. In this region, there are a lot of production companies in the textile sector. For many of them, new technologies are not always needed right now but essential for the long-term success of these companies. Especially after the last financial crisis, many entrepreneurs are very careful with bank-financed investments into new technologies and machines.

One of the most popular ways to measure the status quo of digitization of a country is the Digital Economy & Society Index (DESI). In 2020 Portugal ranked in 19th place (out of 28 EU Member States in total) in this index. As the EU average also Portugal increased last year due to initiatives against the pandemic crises.

Especially when it comes to digital public services Portugal does a very good job. Also at connectivity, the country scores quite well. That means that the majority of society has access to fast internet. But there are also some topics with potential for improvement. ‘Human capital/digital skills’ and ‘integration of digital technology by the business’ are lagging behind.

Especially the Northern Region of Portugal has one of the lowest numbers of people who frequently use E-Commerce services. It seems that not only their shopping behaviour is conservative but also their attitude in many different areas. Finally, it cannot be ruled out that the attitude is precisely one reason why the Portuguese population is moderately trained in the use of new technologies.

However, dealing with digital devices and services is not only important in the private sector but above all essential for digital job opportunities. This fact makes it harder to hire well-educated people for SMEs in the region. Within the PR event, PR Experts got the impression that the region has a problem with the lack of digital awareness. There are already some initiatives to improve workers' digital skills and that is a good prospect for the whole region.

The COVID-19 pandemic has showed that there are many possibilities with digital solutions. Many things that were used to be done at a specific place also for enterprises were done online and by working remotely. The speed that so many companies adopted new technologies was incredible and showed how fast things can develop. Nowadays you have the chance to attend meetings with people from all over the world via teleconferencing tools. Despite the fact that in the manufacturing sector physical meetings are very important as it is necessary not only to see but also to feel the quality of the products and manage the overall production and management processes, not every meeting has to be attended physically anymore.

Even if Covid-19 pandemic has caused economic turmoil, it opens up many opportunities especially for small and flexible companies that are open to adapting their business. New processes and digital tools can be implemented quickly and this creates a competitive advantage. Both the state and the European Union are also promoting many investments in digitization within the programs and initiatives already mentioned. The decisive factor will be whether the entrepreneurs understand quickly enough how to deal with digitization. It is not enough to buy a few expensive machines. You have to realign the entire business, adapt the organizational structures, train existing staff and hire digital natives. So, the most important thing for the Tâmega e Sousa Region is to help their entrepreneurs and CEOs understand what they have to do.

When it comes to digital transformation financial investment is necessary for new machines and tools. However, the cooperation and communication between companies to build up new streamlined processes and products are even more important. The feedback from the stakeholders at the PR event showed us that there is huge unused potential in collaborations. Collaborations are an essential tool for knowledge transfer between companies. Digitization is a challenge for every company and, especially now in times of the pandemic, when economic downturn has been experienced. Understandably, companies are afraid to reveal too much knowledge to their competitors. However, PR Experts experience shows that cooperation usually benefits all sides, and the overall output increases if successful cooperation avenues can be found.

But not only collaboration between companies is important. SMEs could also try to launch more projects with universities. Together with the universities it is possible to develop projects that the company could not have done on its own. Not only external expert knowledge

is available in such a way, but also an opportunity to present company as an employer at the same time. And so the companies benefit from the research work of the university and can also network with talented people. That can be a crucial competitive advantage when a company wants to hire the best people. It is possible to get to know them early on during their education and thus identify the right people.

If companies are now ready to take the appropriate steps to create digitization, then above all they need financial resources. Since the last economic crisis, which was primarily a banking crisis, many entrepreneurs have been sceptical about investment using external capital. The European Union tries to support companies with various programs to support loans. However, many banks often lack an understanding of digital assets. A software usually does not provide any security for the bank loans. Instead - if the bank is ready to provide financing - physical assets like machines or real estate are financed. The banking sector needs better knowledge about digitization and need to be involved in support programs so that the banks support regional companies.

To summarize the major problems for SMEs when it comes to digitalization it has to be said that society has to adopt more digital skills. A well-trained workforce is a key to a powerful economy.

Furthermore, the entrepreneurs and CEOs in the Tâmega e Sousa Region need to understand that digitalization is helping them to grow. But they need to understand that they have to invest and especially understand where to invest. It is not done by buying expensive machines. A digitalized company needs the right form of organization and the right people to execute.

Collaborations are another rarely used tool to accelerate the growth of the region. Entrepreneurs need to understand that they can do a lot more together than alone. The real competition is not the neighbour but foreign regions with better production opportunities.

Last but not the least financial situation for the companies is important. During to field research it was revealed, that financing from banks would have to become more accessible for SMEs, therefore possibly state could take part in dialog with banking industry to establish programs that are more favourable for SMEs.

8 Relevance of Good Practices

In RS of Tâmega e Sousa there were three good practices highlighted: “Espaço Empresa/Business Space”²⁰, Programa Portugal Indústria 4.0 - Estratégia Nacional para a Digitalização da Economia (Portugal Industry Program 4.0)²¹ and “Loja do Cidadão/ Citizen’s Shop”²².

Industria 4.0 is a national policy document that **sets the strategy that promotes digitalisation through adoption of innovative and smart solutions**, like machine learning,

²⁰ Appendix 1: GP Business Space

²¹ Appendix 2: GP Portugal Industry Program 4.0

²² Appendix 3: GP Citizen’s Shop

AI, robotics, process automation, big data, etc. The concept of Industria 4.0 includes new innovative product and service creation, that is based on analyses of customer needs and is manufactured and delivered in smart way sticking to sustainability measures, and modern manufacturing approaches.

Majority of Industria 4.0 objectives are relevant for manufacturing industry which is a strong industry in the Tâmega e Sousa region. However, the approach of Industria 4.0 introduction is to at first understand the needs and profile of the companies in Portugal, and then act accordingly based on obtained information about maturity and profile of Portuguese enterprises. In the identification phase a self-assessment tool called THEIA is used. The tool that is considered as a best practice by EC allows firstly to identify where Portuguese companies stand now in digital maturity and thus also to identify what are the areas for improvements to increase maturity level, thus indirectly also raising awareness and understanding about the benefits for company if digital transformation would be pursued. The tool analyses each company individually, however data can be pooled together in order to analyse digital maturity of Portugal as a whole and across specific industries in order to identify further strategy in scope of Industria 4.0.

The strategy and approach is very relevant in overall facilitation of Digitalization in Portugal, however as it was also discovered during field research sessions about GP that not all companies in Portugal are at the digital maturity level to implement such advanced tools and solutions as Industria 4.0 promotes, meaning that the framework of Industria 4.0 does not fit less digitally mature companies which is also the case with majority of SMEs in Tâmega e Sousa. During the introduction of Industria 4.0 also other tools are applied to identify and overcome shortcomings and barriers of digital transformation of Portugal, and is supposed to tackle companies in individual level through collaboration with local and regional business associations and governments.

Another important GP in Tâmega e Sousa is “**Business Space**”. It is a local level GP operating in Municipality of Paços de Ferreira. The GP **provides advice and support adjusted to the needs of individual SMEs in a timely manner**. The entrepreneurs have at their disposal a varied range of digital services including information about where to find these solutions and general information about them and a mediated service for licensing processes of new enterprises. SMEs can also get an information advice regarding legal and economic matters, how to communicate efficiently with public authorities in digital environment.

This is a crucial GP for SMEs, especially taking into consideration population of Portugal is not exploiting communication with public authorities to its full potential. The GP also allows to receive individual advice on how to establish company, and address other administrative issues in a single location making the process of assistance to SMEs easier and more efficient. The GP is easily transferable to other regions or countries.

To increase digital literacy and public service usage among individuals another GP of two other good practices are developed in Portugal. **Citizen’s stops** are physical locations across Portugal that citizens can visit and get individualised assistance on how to use online services and internet in general, as well as how to work with computer. The initiative is meant to

support individuals who either do not have internet at home or who don't know how to use internet or computer. This initiative is particularly relevant for Portugal, taking into consideration that internet usage by individuals is one of the lowest in EU.

Citizen's shops however provide possibility for the citizens and companies to have access to a wide range of public and private services in a single space. The program has significantly facilitated the quality levels and demand related to the availability of public online services in the country.

Both initiatives are particularly relevant for Portugal, taking into consideration that internet usage by individuals is one of the lowest in EU, as well as the usage of public services through internet could be increased. Both initiatives allow a time and costs saving and thus efficiency gains while increasing the access to public services in the regions.

Besides already highlighted existing good practices from Portugal, Experts noticed that there are also GPs that could be transferred to Portugal to tackle the main issues for the Tâmega e Sousa region. One of the probably main issue in Tâmega e Sousa is digital literacy and awareness about digital solutions among SME managers and employees, and therefore more focus on developing good practices and activities to facilitate this aspect could be developed.

From other country and region experience one good example of GPs that target **digital skill transition into population is program from Austria "Digital Pro Bootcamps"**²³ which is organised by Austrian Research Promotion Agency (FFG) and is part of DigiBEST project. According to IE "The "Digital Pro Bootcamps" program addresses the development of digital skills, the support of digital further training to master the challenges of advancing digitalization and the fight against the shortage of skilled workers". The program is designed to increase digital literacy among SME and microenterprise employees. PR Experts see those similar programs could be created and co-financed by ESF, in a way that individual ICT companies from the region provide such boot camps to learning willing potential employees with limited current digital literacy. This would provide opportunity for companies to train, integrate and select new potential employees through practical tasks. PR Experts opinion is that ICT companies who could potentially provide such boot camps would have to be incentivised to prevent their own resource spending. This could be done by creating ESF funded local, regional or national program. Main potential barrier for implementing such practice could be lack of human resources among ICT companies to organise such boot camps and selection of trained skills that are needed in the labour market, but at the same time are relatively simple and easy to learn for people with limited digital literacy.

Another example of GPs that could be transferred to Tâmega e Sousa is a **GP "Trainings for SME for development of innovations and digital technologies"**²⁴ from Latvia, that is described in IE web page under SKILLS+ project and is developed by Latvian Information and Communication Technology Association and implemented by Baltic Computer

²³ Appendix 4: GP Digital Pro Bootcamps

²⁴ Appendix 5: Trainings for SME for development of innovations and digital technologies

Academy, Ltd and Computer Science Center, Ltd. The program was aimed at raising productivity, innovations and increasing the long-term competitiveness of small and micro-enterprises by providing trainings on how to effectively apply ICT technologies and e-skills. According to IE, “The training courses offered by the project are designed to improve ICT skills of SME workers and the self-employed”, however similar activity could be potentially co-financed by ESF and provided to SME managers and possibly also to general population. The program is already proven to be easy transferable to other regions, as it was implemented also in Bulgaria.

PR Experts believe that such program could be transferred entirely to other regions. To do it successfully one practice owner with strong enough contacts and authority in the region to promote such practice would have to be selected. In Tâmega e Sousa case that could be The Comunidade Intermunicipal do Tâmega e Sousa.

To facilitate awareness raising in coordinated and centralised approach a Latvian practice called “**Digital week**”²⁵ which is organised by **Latvian Information and Communication Technology Association and Ministry of environmental protection and regional development of the Republic of Latvia** is recommended. This is a week-long event during which, both central events and discussions were organized, which could be followed live on the Internet and TV, as well as other online events organized by partners in all regions of Latvia: schools and libraries, non-governmental organizations, municipalities and companies. It was possible to test individual digital skills in self-assessment tests and competitions. The primary goal of the event is to initiate a discussion in society about digitalization from various angles, including digitalization of SMEs and by doing it to increase awareness among general population and companies.

Experts believe that such coordinated and intense event could add value to overall digital transformation in the region and facilitate awareness raising among SMEs who are not yet aware either about necessity and importance of digitalization or potential digitalization options, support mechanisms and collaboration opportunities, and benefits. The event could be organized at national or regional level and the implementation would require appointment of responsible organization at national and/or regional level and assignment of required funding. The main precondition for such event is that there is enough responsiveness and participation facilitated from business associations, academic environment and other stakeholders, as well as from enterprise side.

During the desk research and field research Experts discovered that there is a limited interaction between SMEs and consulting companies or ICT companies that could provide assistance to SMEs in their digital transformation process by providing their services specific to SMEs needs and providing knowledge about potential digital solutions or vision about corporate digital strategy development. To address this aspect two GPs from Spain region of Granada could be highlighted. “**Digital Advisors**”²⁶ programme, that is coordinated by

²⁵ <https://likta.lv/digitala-nedela-2021/>

²⁶ Appendix 6: GP Digital Advisors

RED.ES, and **TICCAMARAS**²⁷ program that is coordinated by CAMARA DE COMERCIO DE ESPAÑA and are national level initiatives. Both **programs focus on individualised SME and microenterprise need analyses and tailored digitalisation strategy elaboration by help of qualified experts.** This is one of the key elements in successful digital transformation, meaning, that SMEs very often are not enough sophisticated in new technologies and their applicability, as well lacking financial, time resources or required skills.

Digital Advisors programme is aimed at promoting the digital transformation of Spanish SMEs through individualized advice by specialized agents. This service is focusing on the realization of a Digitalization Plan for the incorporation of ICT in its processes (business management, relationship with third parties, electronic commerce, digitalization of services and solutions). The program includes a diagnosis of the state of digitalization of SMEs and an action plan for its digital transformation. On the one hand, beneficiaries are SMEs which can receive a grant up to 5,000 EUR per SME. And, on the other hand, beneficiaries are digital advisors, who have to register at the database of programme to provide an individualized advice.

TICCAMARAS promotes the systematic incorporation of the IT to the usual activities of SMEs as competitive key tools in its strategy, as well as to maximize the opportunities that IT offer to improve its productivity and competitiveness. The program is characterized by its orientation towards the specific needs of the targeted companies through the development of a mixed methodology of diagnosis, support in the process of solutions' implementation and dissemination of the knowledge. The program materializes through the following actions of direct support:

In the 1st phase, technological advisors bring a qualified vision and recommendations about the solutions that could be suggested to improve the competitiveness to the company:

- Tools of productivity in the cloud (e.g., ERP, CRM, Big Data, virtual reality);
- E-Commerce (e.g., web, online shop, footbridge of payments, e-invoicing, digital signature);
- Digital marketing (e.g., social web positioning, marketing email, media, mobile applications).

In a 2nd phase, mentoring and assistance is provided to SMEs for the elaboration and the follow-up of a personalized plan implementation based on the advisors' recommendations. The Chamber of Commerce of Motril provides financial aid of 4,900 euros for digital solution implementation, if SMEs invest at least 7,000 euros in IT solutions (computer developments, licenses, solutions, hardware and connectivity).

Both programs with sufficient resources and coordination could be implemented in Portugal. The main precondition for such activity is identification of consultants with needed qualification who would be willing to participate in such initiative from one side, and funding allocation for such program to finance support projects. Taking into consideration specific characteristics of Tâmega e Sousa business environment, which is dominated by

²⁷ Appendix 7: GP TICCAMARAS

manufacturing companies, selected expert services could be tailored to match the needs of manufacturing companies. Probably in Tâmega e Sousa case services in smart manufacturing techniques and production process automation could be emphasised.

In addition, in Tâmega e Sousa a coordinated initiative related to support of SMEs and general population in order provide **individual mentor consultations about digital solutions and also support life-long learning, seminars about digitalization etc. could be beneficial.** Experts understand that partly this role is done by business association, however a single organization that covers previously mentioned areas would provide more centralized approach and could be recognizable among wider variety of SMEs, not just those who are part of some certain business association. Of course, events and programs organized by such organization could be carried out in joint collaboration with business associations, educational institutions and other SHs. In Latvia a GP **“Consultancy on business support”²⁸ organized by “Zemgale Region Human Resource and Competences Development Centre”²⁹** fills this purpose. It provides mentored consultations free of charge to SMEs, including home producers about how to establish their visual identity in the Internet & increase market competitiveness. The organization also provides other services, such as life-long learning courses, seminars and conferences in cooperation with other associations, social entrepreneurs, and other organizations. The program could be implemented in Tâmega e Sousa taking into consideration that the region is highly represented by manufacturing companies.

9 Findings and conclusions

After reviewing the case of Tâmega e Sousa and Portugal, general conclusion is that in digitalization path Portugal and Tâmega e Sousa is relying on Industria 4.0 and on the programs that are developed at national level. The Industria 4.0 strategy is especially relevant for industrialized business environment as it is in Tâmega e Sousa. Overall the strategy at national level is well designed and the measures and support instruments in the process of digital transformation are aligned with goals and objectives of EU. The long-term goal of the strategy is to rely on high-end digital solutions, however at the moment there are many obstacles for their practical implementation and adoption by SMEs regionally.

During field research it was understood that assessment of current situation of digital maturity of SMEs and their actual need identification in order to profile the SMEs and provide tailored solutions for their further digitalization is a crucial step in digitalization of Portugal. In Expert’s opinion this is a very good practice to start with, and is crucial for further strategy elaboration, taking into consideration that the same approaches can’t be applied to all SMEs.

During field research COTEC Portugal representatives indicated that partially due to the maturity testing it is identified that at the moment many of the SMEs are not ready to introduce

²⁸ **Appendix 8:** GP Consultancy on business support

²⁹ <https://www.zrkac.lv/index.php?view=pakalpojumi&id=22>

high end digital solutions in their business activities yet. From field research PR Experts identified that the main reasons for companies not being able to implement sophisticated digital solutions right away are:

- Low level of management and digital skills in SMEs and no corporate digital strategy in place for most of SMEs;
- Insufficient economic incentives to streamline business processes;
- Low level digital literacy among population in the region;
- Low awareness about necessity of digitalization in long term, and potential benefits that digital solutions can provide;
- Low awareness about digital solutions, that are available in the market, and how they could be implemented;
- Insufficient awareness level about possible funding options, and lack of resources in terms of knowledge, time and human capital to draw applications for EU funding and other support mechanisms;
- Limited amount of sources for alternative funding (e.g. venture capital, seed funds) and lack of bank financing options.

Based on conversations with involved parties, during field research it was identified that there is a lack of collaboration in joint digitalization strategy elaboration and execution in Tâmega e Sousa between business associations, local government bodies and other organizations. There is not a single customized strategy or policy planning document regarding digital transformation specific for Tâmega e Sousa, therefore all involved bodies of Tâmega e Sousa, Norte region are rely on National and regional policy framework, and the implementation is often fragmented and actions are not aligned. Therefore, it might be beneficial to elaborate local Tâmega e Sousa roadmap and action plan with described responsibilities for collaboration of involved stakeholders and other digital transformation facilitators of Tâmega e Sousa.

It was observed during the field research that Portugal is dedicated to changing the digital culture, and through this process business associations, local and national governments are trying to involve also SMEs through digitalization situation motoring. As it was previously mentioned it is done by applying self-assessment tests and surveys, that are sent out to SMEs. This is a crucial part of the transformation process and policy shaping that allows to understand the digitalization landscape in country better and then act accordingly. It is also advised to gather frequent feedback about policy implementation and digital transformation progress from all involved parties, such as government bodies, involved stakeholders and business representatives themselves, to adjust and steer the transformation process in the right direction, based on obtained up-to date data.

Probably the main challenge to be addressed is how to change a culture of Tâmega e Sousa and Portugal, to increase SME willingness to take part in existing support programs and increase their awareness about existing support instruments. The awareness raising events are organised by business associations and other organizations individually, there are relatively strong educational programs in place, however entrepreneurs lack long term vision, as they

have used to work with conventional methods, and do not see a need to change. The awareness cannot be changed overnight, the initiative has to come also from SME and general population's side. To change the attitude probably the best approach is to share with SMEs real life tangible success stories through coordinated campaigns or through collaboration between SMEs, when digital champions are able to spread the word about their success stories. At the same time proposed strategies should be supported by targeted funding and incentive mechanism that can be reached by SMEs.

10 Recommendations for the Hosting Partner

Main recommendations for Tâmega e Sousa are regarding how to **raise an awareness among SMEs for need of digitalization, to enhance their proactiveness and the digital strategy implementation process, and regarding support programs to help SMEs in new digital solution implementation as well as regarding possible financing solutions for smaller SMEs**, that otherwise can't access enough funding to initiate their digitalization. In addition GPs from other countries and regions highlighted in section 8 could be reviewed to be implemented in Tâmega e Sousa region: "Digital Pro Bootcamps" (Austria), "Trainings for SME for development of innovations and digital technologies" (Latvia), "Digital week" (Latvia), " Digital Advisors" (Spain), TICCAMARAS (Spain), "Consultancy on business support" (Latvia).

At the same time it was noticed that Tâmega e Sousa is dependent from national and regional policies, and there is no policy document or planning guidelines particularly attributed to Tâmega e Sousa and actions related to digital transformation are carried out by various business associations, government bodies and other shareholders, making the process of digitalization rather fragmented and overlapping in terms of involved party responsibilities.

While in general Industria 4.0 addresses national level goals that are also applicable to the region, the SMEs in the region have various digital maturity levels and thus Industria 4.0 might not address more specific needs of enterprises in the region. To create the digitalization process in Tâmega e Sousa more tailored to specific region needs of SMEs, it might be considered to have a **local planning document or digital strategy guidelines that are specifically targeting digital transformation of Tâmega e Sousa or region specific planning aspects to be included in the national level documents**. If in line with Portugal's governance structure it is possible to develop sub-region specific planning document or strategy, such document could identify specific goals for the Tâmega e Sousa (e.g. taking into account the industry specifics), involved parties and their coordinated responsibility areas and actions, and describe their joint collaboration framework between state and municipality institutions and regional stakeholders. The goals could include quantitative and qualitative targets for Tâmega e Sousa that should be accomplished by the end of certain period. Such targets could include for example, % of SMEs applying for EU funding, % of SMS having corporate digital strategy, % of SMEs using e-commerce, etc. Experts would suggest for digital strategy of Tâmega e Sousa to focus also on smaller scale SMEs, therefore facilitating gradual growth of maturity among SMEs. Such steps would be implementation of e-

commerce, more simple streamlining and planning ICT tools and general computer skill literacy, that are fit for smaller companies, as well as constant awareness raising activities that are jointly coordinated and oriented on collaboration among digital champions and other SMEs to change the mindset of SME managers in medium term.

Additionally, to address financing issue of SME digital solutions, from perspective of non-EU fund financing perspective, **it might be considered to introduce either separate state financial institution like ALTUM in Latvian case, that is operated by regional government or national government, or it would be beneficial for state to start a dialog with banking industry for development of programs specifically designed for SME digitalization purposes. Such programs would possibly provide more favourable funding conditions to SMEs with a purpose to develop their businesses.** In scope of such program state government or regional government could act as co-guarantor to the loans, therefore taking of the burden from SMEs. Similar organization ALTUM³⁰ operates in Latvia. It is a state development financial institution, that with a help of different financial instruments provides financial support in areas that state has defined as important for economic development, and for which other credit institutions does not provide financing. Development of similar initiative could be also included either in local or regional level planning document, assigning responsible initiative owners and targets of the initiative.

The strategy of Tâmega e Sousa could also potentially address an issue on how EU funding could be made more available in practice to SMEs, that are not yet in high managerial and financial maturity level.

Most common reasons why such SMEs are not able to take part in funding programs is lack of skills how to apply for such funds and insufficient financial strength to do that. This challenge could be addressed by individual consultations on how to draft EU or state funded projects, similarly as consulting is provided regarding digitalization solutions by GP “Digital Advisors”, that is described in Section 8.

Such program as “Digital Advisors” or similar individualised consulting program could also address the issue of e-platform maintenance, as one of the issues that PR Experts identified during the field research was that SMEs very often establish their e-commerce platforms or web pages, however they do not have sufficient skillset or time resources to maintain them in high quality, therefore the full potential of e-commerce and digital marketing is not fully exploited.

To increase the awareness among SMEs about necessity of digitalization and potential digital solutions, that could be adopted by SMEs, the planning documents of Tâmega e Sousa could include areas about importance of coordinated awareness raising activities, and list programs initiatives that should be developed jointly with involved SHs and business associations. Specifically talking about approaches that could be implemented, Experts already mentioned one in Chapter of Relevance of Good Practices, where Latvian awareness raising activity “Digital week” was described. Consistent such coordinated and extensive event organization

³⁰ <https://www.altum.lv/lv>

would be beneficial, mainly due to fact, that they share also success stories of other enterprises, which is one of the main tools how to convince SMEs to change with a help of real-life examples. Besides this approach collaboration between SMEs should be facilitated, possibly by identifying and assigning digital champions, who could be more actively involved in organized experience sharing campaigns and seminars.

Probably it might be also beneficial to establish either in municipal level or regional level competency centres (or extend the services provided by the CitizenShops) to provide business assistance in terms of business incubators, relatively simple training programs on how to start doing e-commerce or establish visual identity, as well as provide free consultations about what the possible digital solutions are, technologies, that could be fit for SMEs, as well as provide guidance about funding possibilities and collaboration with educational institutions in R&D process, and provide training programs on ICT tools, and other life-long learning programs. Similar initiative is considered to be a GP of Latvia called “Zemgale Region Human Resource and Competences Development Centre”.Relevance of Good Practices

Appendixes

Appendix 1: GP Business Space

Good practice general information	
Title of the good practice	Espaço Empresa/Business Space
Organisation in charge of the good practice	Municipality of Paços de Ferreira
Description	
Short summary of the practice	<p>The establishment of this initiative was a response of Portuguese government to a need of a single space where SME entrepreneurs could solve problems and other issues related to their business activity. It was clear that the Portuguese SME had serious problems concerning management, but also digital services. Therefore, the municipality of Paços de Ferreira took part, as a pioneer, in the implementation of an innovative space for companies and entrepreneurs.</p> <p>SME entrepreneurs and future SME can receive information, advice and support adjusted to the needs of their company in a timely manner. The entrepreneurs have at their disposal a varied range of digital services, including information about them and a mediated service for licensing processes.</p> <p>The provided services are: Information, support (legal and economical) and advice for SME companies; Intermediation and facilitation (interface with Central Public Administration services); and Assisted digital service - support for the realization of online services provided by the public administration.</p> <p>In the digital aspect, the ePortugal portal provides area for an Espaço Empresa services, which includes: Informative content supporting business and investment; Electronic services for the fulfilment of legal formalities (related with the creation and incorporation of companies and the licensing of economic activities); Forms for submitting requests for both meeting scheduling and online information.</p>
Resources needed	2000 EUR/month for equipment and for Human Resources (one full-time person and another half time person) this cost is supported by the budget of the municipality of Paços de Ferreira
Timescale (start/end date)	April 2017 – ongoing
Evidence of success (results achieved)	This practice is considered good because of the number of service customers that attended the Espaço Empresa/Business Space. From the beginning until now the Espaço Empresa/Business Space has assisted 700 people in the municipality of Paços de Ferreira, which is a huge number

Potential for learning or transfer	<p>The Espaço Empresa/Business Space is a service heavily oriented to customers with specific needs to create a small company and/or to solve problems directly related to their small or medium businesses. Being assisted by a specialized technician, help can be found in a very easy manner. By one hand, they have a person to whom the situation can be explained and, by the other, they can address the problem immediately through the digital services. The key success factors are the available specialized technicians, the concentration of different services from different public entities and the digital services available for free.</p> <p>This practice can easily be transferred and implemented to address a wide range of situations, preventing people from visiting a huge number of places to create their business or to solve a problem. All the actors involved have benefits, the public services increase their efficiency and the customers save money and time</p>
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Source: <https://www.interregeurope.eu/policylearning/good-practices/item/3924/espaco-empresa-business-space/>

Appendix 2: GP Portugal Industry Program 4.0

Good practice general information	
Title of the good practice	Programa Portugal Indústria 4.0 - Estratégia Nacional para a Digitalização da Economia (Portugal Industry Program 4.0)
Organisation in charge of the good practice	Portuguese Ministry of Economy and Digital Transition (and IAPMEI)
Description	
Short summary of the practice	<p>Through the Industry 4.0 initiative, of the National Strategy for the Digitization of the Economy, the Ministry of Economy intends to generate favourable conditions for the development of national industry and services (SMEs) in the new paradigm of the Digital Economy, through a set of measures that are based on three axes of action:</p> <ul style="list-style-type: none"> -Accelerate the adoption of i4.0 by the Portuguese business community Provide the economy with knowledge and information through the Capacitar i4.0 program, implemented in conjunction with the InCoDe.2030 initiative, of which IAPMEI (Portuguese Agency for Competitiveness and Innovation) is one of the driving agents, and promote a set of tools that facilitate business transformation. -Promote Portuguese technological suppliers as i4.0 players <p>Capitalize on the scientific and technological ecosystem, creating a favourable context for the development of i4.0 start-ups that can present projects with an impact on the digitalization of the economy.</p> <ul style="list-style-type: none"> -Making Portugal an attractive hub for investment in i4.0 <p>Communicate Portugal as a HUB for sharing experiences and know-how to attract resources, creating favourable conditions (legal and tax) for investment in Industry 4.0.</p> <p>The Industry 4.0 program is currently in Phase II, which includes a</p>

	set of accelerating measures and recommendations based on three axes: Generalize, Empower and Assimilate. Having been developed based on the contribution of more than 50 entities.
Resources needed	4.0 has a budget of up to 2.26 billion EUR, through PT 2020, for the following instruments: Vale i4.0 (global allocation of 12 M€, will cover 1500 companies, each voucher has a unit value of 7,5k€); Qualification of SME; Productive Innovation; “Research and Technological Development” Programs.
Timescale (start/end date)	May 2017 – ongoing
Evidence of success (results achieved)	95% of the 64 measures defined in the i4.0 program have already been implemented, covering more than 24 thousand companies and 550 thousand people. In the future, it is intended to train 200 thousand more workers and finance more than 350 transformational projects. With an inclusive approach, supported by the know-how of more than 50 public and private entities.
Difficulties encountered	We can infer that Portugal has a good level of preparation than current competitiveness, revealing that the 4th Industrial Revolution is a clear opportunity to blur the typical barriers to the competitiveness of the country, such as the lack of scale of the internal market and peripheral location.
Potential for learning or transfer	The Industry 4.0 Program is a lever for achieving the objective of a decade of sustained economic convergence with the European Union, as part of the National Strategy for Horizon 2030. The progress of the industrial sector and SMEs in industry 4.0 is directly linked to economic growth. The convergence for the group of leading countries in the i4.0 context, may represent an additional GDP growth (in Portugal only) compared to the forecast of 1.8% / year, filling and exceeding the stipulated convergence objective. The context of i4.0 in Portugal is marked by the existence of three distinct groups of companies regarding the level and pace of assimilation of the i4.0 concepts, with companies leading the implementation of the i4.0 concepts (based on a vision of what it can represent for the market, and in its own resources and skills), also “mid-tier” and “laggard” companies that need support for progress in i4.0.

Source: <https://www.interregeurope.eu/policylearning/good-practices/item/3925/programa-portugal-industria-4-0/>

Appendix 3: GP Citizen’s Shop

Good practice general information	
Title of the good practice	Loja do Cidadão/ Citizen’s Shop
Organisation in charge of the good practice	AMA – Portuguese Administrative Modernization Agency
Description	



Short summary of the practice	<p>The creation of Citizen’s Shop in 1999 was the first step towards the introduction of the one-stop-shop concept in public service in Portugal. The possibility for the citizen and companies to have access to a wide range of public and private services in a single space, represented an important increase in the quality and levels of demand related to the provision of public services in the country.</p> <p>In 2007, with the introduction of the a new concept, the first one-stop shops were created (Multiservice Counter, Lost wallet, etc.), marking a paradigm shift resulting from the national administrative simplification strategy - public services are also organized according to companies day-to-day affairs (e.g. changing data in several documents simultaneously, creating companies or buying a house).</p> <p>This model, more flexible and economical, allows to further optimize savings and improve efficiency in the provision of services, having in the municipalities a strategic partner was decisive for the success of these spaces.</p> <p>The shops have been appearing as the main channel in the relationship of SME with the state services. With the launch of the e.portugal web platform, information on more than 1,000 public services, access to digital services that don’t require travel to shops or service points, is now available to SME, thus allowing greater digital interaction for companies with public services. Allowing a time and costs saving, while increasing the digital interaction of companies.</p>
Resources needed	<p>he cost of implementation and management varies with the store’s size, and it can be funded by municipalities budget or by the national government budget, from a few hundred EUR to more than 20k EUR per month. HR costs are not accounted for, as they are guaranteed by the employees' home services.</p>
Timescale (start/end date)	<p>January 1999 – ongoing</p>
Evidence of success (results achieved)	<p>Citizen Shop is today one of the most distinctive brands in the relationship of SME’s with Public Administration. At the end of 2011, the service reached 100 million users. The high levels of demand (there are alternatives) that reveal the user’s preference for this model of public service provision, with consistent and generally positive evaluations. In 2018 the Territorial coverage rate in Portugal was 19%, compared to the 11% rate for 2013.</p>
Potential for learning or transfer	<p>In addition to providing comfort and convenience to citizens allowing them to deal with various issues in the same space, with time and travel cost savings, the stores also allow sharing resources, infrastructure and platforms, enhancing efficiency and cost reduction in the Government Body.</p> <p>All the actors involved have benefits, the public services increase their efficiency and the customers save money and time:</p> <ul style="list-style-type: none"> • Reducing the number of local offices and posts, which multiply in rents and infrastructure costs; • Sharing infrastructures, platforms and software between some of the present entities; • Benefiting from the presence of private entities, which contribute to the sustainability of the model by covering 33% of total expenses;

Source: <https://www.interregeurope.eu/policylearning/good-practices/item/3926/loja-do->



cidadao-citizen-s-shop//

Appendix 4: GP Digital Pro Bootcamps

Good practice general information	
Title of the good practice	Digital Pro Bootcamps
Organisation in charge of the good practice	Austrian Research Promotion Agency (FFG)
Description	
Short summary of the practice	<p>The "Digital Pro Bootcamps" program addresses the development of digital skills, the support of digital further training to master the challenges of advancing digitalization and the fight against the shortage of skilled workers.</p> <p>Highly motivated specialists from Austrian companies are transformed into "digital professionals" during the learning phases (4-week bootcamps). They are enabled to understand complex interrelationships of digitization and practical problems. In addition to profound IT expertise and advanced digitalization skills on specific focal points of digitization, practical skills are the focus of the qualification. Companies use this learning format to support digital expertise in the company in order to ensure rapid and effective higher qualifications on a permanent basis and thus strengthening their digital competitiveness.</p> <p>The strategic goals:</p> <ul style="list-style-type: none"> • To support companies in the systematic development and upgrading of existing research and innovation personnel. • The intensification of knowledge transfer between universities or universities of applied sciences and companies, in both directions equally. <p>Operational goals:</p> <ul style="list-style-type: none"> • Increasing research, development and innovation competence in future-relevant technology fields through the qualification of employees • Facilitating access to Research Technology Innovation+Digitalisation qualification measures, especially by Austrian SMEs • Establishing sustainable collaborations with higher education&research
Resources needed	<p>Funding within first call (2018-2019): EUR 1.67 million (2 persons within the Austrian Research Promotion Agency (FFG) responsible for implementation of the call)</p> <p>Funding within second call (2020): EUR 1 million (2 persons within the FFG responsible for implementation of the call)</p>
Timescale (start/end date)	January 2001 – ongoing

Evidence of success (results achieved)	<ul style="list-style-type: none"> • EUR 1.67 million approved funding within first call • Four funded Bootcamps within the first call, focusing on data science, data security and artificial intelligence • 55 employees from 34 companies (including 16 SMEs) in the bootcamps with 11 scientific partners (high demand for the program itself) • combination of presence and online phases was a success
Difficulties encountered	Within the first call (pilot), the bootcamp had a duration of nine weeks. According to the feedback of the participating employees / companies, the duration of nine weeks was far too long. Therefore, the duration has been reduced to four weeks within the second call.
Potential for learning or transfer	SMEs in particular have to catch up with digitization. This applies above all to e-commerce, social media marketing and the use of cloud services. With the program Digital Pro Bootcamps, Austria implements targeted measures and grants to ensure that SMEs remain internationally competitive. This enables companies to rapidly further qualify their staff, carry out digitization initiatives and pursue the development of new technologies and products.

Source: <https://www.interregeurope.eu/policylearning/good-practices/item/4862/digital-pro-bootcamps/>

Appendix 5: Trainings for SME for development of innovations and digital technologies

Good practice general information	
Title of the good practice	Trainings for SME for development of innovations and digital technologies
Organisation in charge of the good practice	LIKTA (Latvian Information and communication Technology Association)
Description	
Short summary of the practice	<p>The project was developed by Latvian Information and Communication Technology Association and implemented by Baltic Computer Academy, Ltd and Computer Science Centre, Ltd. The project was aimed at raising productivity, innovations and increasing the long-term competitiveness of small and micro-enterprises by teaching them how to effectively apply ICT technologies and e-skills.</p> <p>In total, 1446 SMEs were involved in the project in the first stage (2012-2015) and 3249 unique employees of enterprises were trained. Trainings were held in 20 municipalities of Latvia, over 7000 trainings in total provided.</p> <p>The second project is started in 2016, by 2020 it plans to deliver more than 7000 trainings involving around 1000 companies.</p> <p>The training courses offered by the project are designed to improve ICT skills of SME workers and the self-employed.</p> <p>The training consists of three thematic blocks, each offering several courses:</p> <ol style="list-style-type: none"> 1. Digital Technology - focus on the latest digital technologies such as cloud services, online collaboration, infrastructure and security. 2. Digitization of Internal Business Processes - skills acquisition that will help you digitize your internal business processes, business

	and financial management, marketing and document management. 3.Digital tools for production and service development will provide digital design tools, customer relationship management and communication tools, digital tools and application for production and process management
Resources needed	1) modular training program tailored to EU Digital Competence framework and multi-sector business needs 2) experienced and motivated training providers 3) public funds support to co-finance the training costs for SMEs 4) nationwide awareness raising campaigns to motivate SMEs to participate
Timescale (start/end date)	October 2018 – ongoing
Evidence of success (results achieved)	1) Over 1500 companies involved in project since 2013, 2) over 9000 trainings provided since 2013 3) positive impact evaluation from enterprise managers involved in the project 4) general overall positive rating of the training quality by trainees - 9.17 in the scale of 10 5) 87% of participants confirmed they would recommend the trainings for their colleagues and partners 6) project was finalist of the Digital Skills and Jobs Award 2017 in the category "Digital skills for workforce"
Potential for learning or transfer	The project has already been transferred to Bulgaria: http://www.glbulgaria.bg/en/digisme "Digital Skills for Small and Medium Sized Enterprises in Bulgaria" project is being implemented by Global Libraries - Bulgaria Foundation (GLBF). Partners of GLBF are the "Made in Bulgaria - Union of Small and Medium Business" Association and the Latvian Information and Communication Technology Association (LIKTA). It is funded under the "Transnational and Danube Partnerships for Employment and Growth" procedure of the "Human Resources Development" 2014-2020 Operational Programme, co-financed by the European Union through the European Social Fund. Its implementation period was one year and finished at the end of 2018. 30 representatives of SMEs were trained in a pilot training, thus increasing their prospects for sustainable employment. Also other countries: Italy , Finland, Romania, Sweden has expressed interest to implement project

Source: <https://www.interregeurope.eu/policylearning/good-practices/item/1680/trainings-for-sme-for-development-of-innovations-and-digital-technologies/>

Appendix 6: GP Digital Advisors

Good practice general information	
Title of the good practice	Digital Advisors
Organisation in charge of the good practice	RED.ES Red.es is a public corporate entity belonging to the Ministry of Energy, Tourism and the Digital Agenda, and which depends on the Secretary of State for Information Society



	and Digital Agenda. https://red.es/redes/
Description	
Short summary of the practice	<p>Spain has been successful in tackling the recession, particularly regarding the development of the digitisation of the industry. Looking into Spain's digitisation development of the last years (2016-2018), there has been a constant improvement and Spain has surpassed the EU average. In particular, Spain has advanced in terms of digital public services and e-government and the integration of digital technology. However, one of the biggest challenges remains in reaching SMEs and support their digitization development.</p> <p>Digital Advisors programme is aimed at promoting the digital transformation of Spanish SMEs through individualized advice by specialized agents. This service is focusing on the realization of a Digitalization Plan for the incorporation of ICT in its processes (business management, relationship with third parties, electronic commerce, digitalization of services and solutions).</p> <p>The program includes a diagnosis of the state of digitalization of SMEs and an action plan for its digital transformation.</p> <p>On the one hand, beneficiaries are SMEs which can receive a grant up to 5,000 EUR per SME. And, on the other hand, beneficiaries are digital advisors, who have to register at the database of programme to provide this individualized advice</p>
Resources needed	<p>The budget for this programme is EUR 5 million, it is financed by the ERDF and co-financed by the Operational Program for Smart Growth.</p> <p>Red.es allocates up to 80% of the costs of specialized advisory services, with a max amount of 5,000 EUR per SME. The SMEs must co-finance at least the remaining 20%</p>
Timescale (start/end date)	November 2017 – ongoing
Evidence of success (results achieved)	<p>267 Spanish SMEs are presently participating in the programme (133 are specifically from Andalusia). These SMEs are receiving financial support of up to 5.000 EUR for the contracting of advisory services in the digitalization of their business. Moreover, there are 79 enterprises registered as Digital Advisors. The Digital Economy and Society Index (elaborated by the European Commission) for 2018 report highlights the work carried out by the Red.es with programs such as Digital Advisors.</p>
Potential for learning or transfer	<p>The Spanish government (through the public entity RED.ES) launched a grant programme to promote the Digital Transformation of SME. This good practice is easily transferable to any region or EU member state. The entity responsible of the programme, through a general invitation, prepares a list of providers of digital advice services: Registry of Advisors. For the incorporation to this Registry of Advisors, an application must be submitted.</p> <p>This programme is an efficient way to transfer funds to SMEs to initiate their digital transformation process. So, SMEs can obtain a specialized and personalized advice service that is specified in the realization of a Digitalization Plan for the incorporation of ICTs in SME processes.</p>



	Any SME which wants to participate in the program must send all the required documentation in the call.
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Source: <https://www.interregeurope.eu/policylearning/good-practices/item/3995/digital-advisors-programme/>

Appendix 7: GP TICCAMARAS

Good practice general information	
Title of the good practice	TICCAMARAS
Organisation in charge of the good practice	SPANISH CHAMBER OF COMMERCE https://www.camara.es/
Description	
Short summary of the practice	<p>TICCAMARAS promotes the systematic incorporation of the IT to the usual activities of SMEs as competitive key tools in its strategy, as well as to maximize the opportunities that IT offer to improve its productivity and competitiveness.</p> <p>The program is characterized by its orientation towards the specific needs of the targeted companies through the development of a mixed methodology of diagnosis, support in the process of solutions' implementation and dissemination of the knowledge.</p> <p>The program materializes through the following actions of direct support:</p> <p>In a 1st phase, technological advisors bring a qualified vision and recommendations about the solutions that they will make to improve the competitiveness to the company:</p> <ul style="list-style-type: none"> • tools of productivity in the cloud (ERP, CRM, TPV, Lot, Big Data, virtual reality) • e-Commerce (web, online shop, footbridge of payments, e-invoicing, digital signature) • digital marketing (social web positioning, marketing email, media, mobile applications, Lot) <p>In a 2nd phase, the accompaniment is made in the elaboration and the follow-up of a personalized Plan for implementation based on the advisors' recommendations. The Chamber of Commerce of Motril helps companies with 4,900 euros if they invest at least 7,000 euros in IT solutions (computer developments, licenses, solutions, hardware and connectivity).</p> <p>TICCámaras organizes also local actions in awareness-raising of the advantages of using the IT.</p>

Resources needed	The 1st phase costs 1.200 € per SME, and also TICCámaras helps with 4.900 € more to implement the 2nd phase. For example, Chamber of Commerce of Motril advises about 12 SMEs per year. So, TICCAMARAS Motril needs 73.200 € each year. In this case, the human resources required are just one person
Timescale (start/end date)	March 2014 – March 2020 (annually renewed).
Evidence of success (results achieved)	Since 2014, 60 local businesses have participated in TICCAMARAS Motril and increased their productivity by using digital marketing, e-commerce and business management tools by using cloud technology. In addition, every year Chamber of Motril organizes seminars aimed at SMEs in order to explain the advantages of IT usage. Each year, TICCAMARAS in Spain has the following global results: - More than 1.000 Diagnoses to SMEs - More than 1.000 IT plans implemented in SMEs
Difficulties encountered	As a lesson learned, Chamber of Commerce of Motril has find out many interesting IT solutions to help SMEs in their digitalization process. The difficulty encountered during the implementation of TICCAMARAS in Motril is to collect all the required documents from each SME participating in the program
Potential for learning or transfer	We consider this practice as potentially interesting for other European regions. A lot of SMEs do not invest in IT if they are not motivated. Thanks to TICCAMARAS many of them are starting their digital transformation and, as a result of this process, are increasing their competitiveness. The evaluation of TICCAMARAS shows that the amount of money received for each SME is enough for these companies (up to 4 900 euros). Moreover, this economic incentive requires an effort for SMEs, hiring IT services for 7.000 euros. In this way, TICCAMARAS is motivating a lot of SMEs to initiate their digitalization. We firmly believe that one of the key factors of TICCAMARAS is that once the SME is advised, they have to pay the IT investment, proving the expenses. This program was initially implemented by Chamber of Commerce of Spain and later it was spread through 36 local Chambers of Commerce around the country, such as Motril, Madrid, Valencia, Sevilla, Mallorca, etc.

Source: <https://www.interregeurope.eu/policylearning/good-practices/item/3996/ticcamaras/>

Appendix 8: GP Consultancy on business support


Good practice general information	
Title of the good practice	Consultancy on business support
Organisation in charge of the good practice	Zemgale Region Human Resource and Competences Development Centre (ZRKAC)
Description	



Short summary of the practice	<p>Development of business and its digital aspects is a priority in Zemgale region (no. of population 230 331 in 2019) because competitive, innovating and export driven businesses are the foundation of economic development of a region and state.</p> <p>Business support consultancy helps entrepreneurs:</p> <ol style="list-style-type: none"> 1) to carry out the promotion of a SME's products on the external market by using the available tools - advice on use of trading platform Etsy.com; 2) to ensure that SME's websites are easily accessible to potential clients - advice on optimizing the SEO of web page; 3) to create a visually appealing product design - practical workshops, using free online tools to design their product; 4) Zemgale Enterprise Catalogue - gives citizens/SMEs the opportunity to choose local products, goods and services by supporting each other, helps to find partners. <p>Benefits for SMEs: product brand identification both locally and abroad; increase in turnover.</p>
Resources needed	<p>Consultations are held free of charge and are provided by two employees with basic local remuneration amount covered by municipality budget.</p> <p>ZRKAC events are always organised in cooperation with some partners (e.g., British Council, Social Business Association, social entrepreneurs, etc.)</p>
Timescale (start/end date)	2009 - ongoing
Evidence of success (results achieved)	<p>Since 2009, ZRKC has provided 5668 business consultations in total: e.g., in 2009 – 143 consultations, but in 2019 already – 1120. Benefits obtained by SMEs:</p> <ol style="list-style-type: none"> 1. 28 SMEs improved e-commerce & increased product turnover (20 – 50%); 2. 7 practical workshops (68 SMEs) about the online tools; 3. 48 SMEs created promotional campaigns and visual identity for their products using online tools; 4. 5 seminars on digital marketing in 2019 (43 participants); 5. Zemgale Region Enterprise Catalogue (137 enterprises/businessmen, 1982 categories, also~ 50 deals concluded and 20 partnerships established during one year)
Potential for learning or transfer	<p>The consultancy service is an easy establishing tool to support business development in areas with the less dense population. Entrepreneurs greatly appreciate the advices which they can receive free of charge: individual consultations, workshops, seminars, match-making activities, projects, regular communication, support for the creation of new products, etc (Minox, Minisociton, etc.). Always find actual and most interested topic for advice – continuous learning. Cooperate with the most knowledgeable Experts from different fields in organising events.</p>

Source: <https://www.interregeurope.eu/policylearning/good-practices/item/4093/consultancy-on-business-support/>

Appendix 9: Portuguese Peer Review event Online agenda: Tâmega e Sousa – Portugal


Peer Review Visit | Comunidade Intermunicipal do Tâmega e Sousa
18th, 19th and 20th of May 2021

Agenda

18th of May

09:30 am	Reception https://zoom.us/j/96572754607?pwd=THM8B9oQnBTQXVlZmdzRVovaXQ5Zz09
09:45 am	Presentation about the digitalization in Portugal
10:30 am	Discussion of the Regional Analysis
10:50 am	Coffee break
11:00 am	Discussion Group Theme 1 – “Public policies on access to funds for technological solutions to the SME’s of Tâmega e Sousa” Theme 2 – “SME’s in Tâmega e Sousa digital transition: learning processes, collaboration and awareness”
01:00 pm	Lunch
02:00 pm	Interviews with selected stakeholders https://zoom.us/j/98888250022?pwd=WmFLWCuxEEFisy3E3VCFEzUUNjOT09
04:00 pm	End of session

19th of May

09:30 am	Good Practises: presentation and discussion https://zoom.us/j/98774557436?pwd=ZnovanI0RT9aRUyVlhM53hFZ2k4UT09
12:00 pm	End of session

20th of May

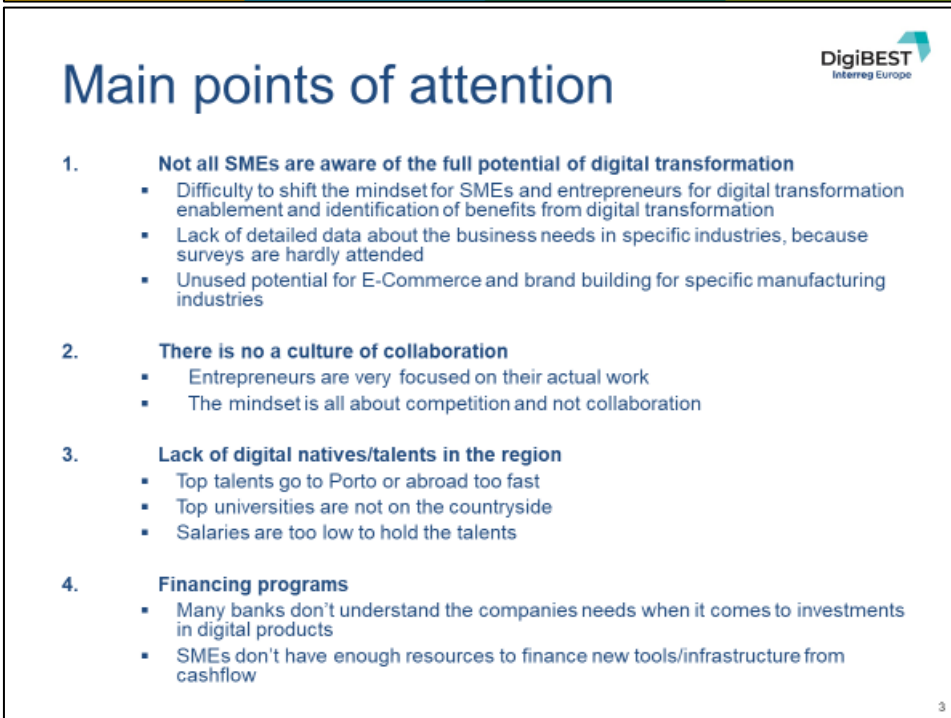
9:30 am	Conclusions presentation by the experts https://zoom.us/j/98211962719?pwd=bEpnK2Nlc0cyWlRrb2ZmVGVGZUJUZz09
10:30 am	Closure session



Appendix 10: PR event presentation



The slide features a large, stylized teal arrow graphic pointing downwards and to the right. In the top right corner, the DigiBEST Interreg Europe logo is displayed above the European Union flag and the text 'European Union European Regional Development Fund'. The main title 'Peer Review Summary' is centered in a large, dark blue font. At the bottom right, the date and event name are listed: '20th May, 2021 | DigiBEST Conclusions meeting'.



The slide has a white background with a teal arrow graphic in the top right corner. The title 'Main points of attention' is in a large, dark blue font. The DigiBEST Interreg Europe logo is in the top right. The content is organized into four numbered points, each with a bold heading and a bulleted list of details.

Main points of attention

- 1. Not all SMEs are aware of the full potential of digital transformation**
 - Difficulty to shift the mindset for SMEs and entrepreneurs for digital transformation enablement and identification of benefits from digital transformation
 - Lack of detailed data about the business needs in specific industries, because surveys are hardly attended
 - Unused potential for E-Commerce and brand building for specific manufacturing industries
- 2. There is no a culture of collaboration**
 - Entrepreneurs are very focused on their actual work
 - The mindset is all about competition and not collaboration
- 3. Lack of digital natives/talents in the region**
 - Top talents go to Porto or abroad too fast
 - Top universities are not on the countryside
 - Salaries are too low to hold the talents
- 4. Financing programs**
 - Many banks don't understand the companies needs when it comes to investments in digital products
 - SMEs don't have enough resources to finance new tools/infrastructure from cashflow

3



Main goals



1. **Enable digital transformation for SME's**
2. **Rise awareness of the benefits of digital transformation for SME's**
3. **Develop programs and tools for the SME's**

4

Areas of suggestions



1. Incorporate in local strategy more attention to small SMEs and micro-enterprises

1.1 Design local financial support programs to access ESF specifically for small SMEs and micro-enterprises

1.2 Design wider variety of learning and training programs, that are meant specifically for small SMEs and micro-enterprises (e-commerce, more basic, but widely applicable tools)

1.3 «Good practices»/ support programs that specialise on smaller SMEs and microenterprises.

1.3.1 One stop shop (Granada Empresas)

1.3.2 TICCAMARAS and Digital Advisort

	2014	2015	2016	2017
Population of active enterprises (from 1 to 9 employees)	10 108	10 108	10 108	10 108
Population of active enterprises (10 employees and more)	2 190	2 332	2 392	2 449

5

Areas of suggestions



2. Facilitate experience exchange programs more to raise awareness and generate new ideas

- 2.1 Hackathons and deep learning sessions
- 2.2 Business accelerators
- 2.3 Experience exchange events
- 2.4 Provide software licences

3. Identify and design support and instruments for specific industry needs in the region that have untapped potential for economic development through digital transformation/digitization

- 3.1. Develop tools and support to facilitate the usage of E-commerce tools in footwear and textile industries to reach more customers, enable export potential and local brand development

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Interreg Europe



Thank you!

Questions welcome





Appendix 11: Participant list for Portuguese peer review 2021

Time	Agenda	Participants
18th of May		
9:30 am to 9:45 am	Reception	CIM TS
9:45 am to 10:30 am	Presentation about the digitalization in Portugal	CIM TS
		ESTG
		Others
10:30 am to 10:50 am	Discussion of the Regional Analysis	All
Break		
11:00 am to 01:00 pm	Discussion Group: Theme 1 - Public policies on access to funds for technological solutions to the SME's of Tâmega e Sousa Theme 2 - Digital transition of SME's in Tâmega e Sousa: learning processes, collaboration and awareness	AMBT
		CFPIC
		Dolmen
		IET
		CENFIM
		AEPortugal
Lunch		
02:00 pm to 04:00 pm	Interviews with the main stakeholders	AEPenafiel
		InvestAmarante
19th of May – Good Practices		
9:30 am to 12:00 pm	Good Practises: presentation and discussion	Business Space
		4.0 Industry
		Citizens Shop
		PETRATEX
Lunch		
Rest of the day	Experts analysis and conclusions	Experts
20th of May		
9:30 am to 10:30 am	Conclusions presentation by the Experts	

Appendix 12: PR team

PARTICIPANT LIST FOR PORTUGUESE PEER REVIEW 2021			
Representatives	ENTITY	COUNTRY	POSITION
Representative of Ministry of Environmental Protection and Regional Development of the Republic of Latvia 1	Ministry of Environmental Protection and Regional Development of the Republic of Latvia	LATVIA	DigiBEST Project Manager
Representative of Intermunicipal Community of Tamega and Sousa 1	Intermunicipal Community of Tamega and Sousa, Portugal	PORTUGAL	Director of General Administration Department
Representative of Intermunicipal Community of Tamega and Sousa 2	Intermunicipal Community of Tamega and Sousa, Portugal	PORTUGAL	Team Leader of Competitiveness and Internationalization
Representative of Intermunicipal Community of Tamega and Sousa 3	Intermunicipal Community of Tamega and Sousa, Portugal	PORTUGAL	Team Leader of Procurement
Representative of Intermunicipal Community of Tamega and Sousa 4	Intermunicipal Community of Tamega and Sousa, Portugal	PORTUGAL	Project Manager
Representative of Intermunicipal Community of Tamega and Sousa 5	Intermunicipal Community of Tamega and Sousa, Portugal	PORTUGAL	Project Manager
Representative of Austria Wirtschaftsservice Gesellschaft mbH 1	Austria Wirtschaftsservice Gesellschaft mbH	AUSTRIA	EU-Project Manager
Representative of Austria Wirtschaftsservice Gesellschaft mbH 2	Austria Wirtschaftsservice Gesellschaft mbH	AUSTRIA	Project Manager

Representative of Austria Wirtschaftsservice Gesellschaft mbH 3	Austria Wirtschaftsservice Gesellschaft mbH	AUSTRIA	Project Manager
Representative of Experts from Austria	Klaus Buchroithner	AUSTRIA	Self-employed expert
Representative of Ministry of environmental protection and regional development of the Republic of Latvia 2	Ministry of environmental protection and regional development of the Republic of Latvia	LATVIA	Project Coordinator
Representative of Ministry of environmental protection and regional development of the Republic of Latvia 3	Ministry of environmental protection and regional development of the Republic of Latvia	LATVIA	Head of Digital Skills Promotion Project Division
Representative of University of Latvia 1	University of Latvia	LATVIA	DigiBEST Advisor Partner
Representative of University of Latvia 2	University of Latvia	LATVIA	DigiBEST Advisor Partner
Representative of KPMG 1	KPMG Baltics, advisory services	LATVIA	PR expert: Senior Manager Management Consulting
Representative of KPMG 2	KPMG Baltics, advisory services	LAVTIA	PR expert: Senior Advisor Management Consulting