



**DC4WORK**  
Digital Competence 4.0



# WORK-BASED LEARNING IN A DIGITAL AGE

study on training needs and trends of the  
Tourism and Trade sector

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[www.dc4work.eu](http://www.dc4work.eu)

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## 1. Introduction

### 1.1. DC4Work Project

DC4WORK project, supported by the European Commission under the Erasmus+ programme, aims at achieving high-quality skills and competencies, supporting individuals in acquiring and developing key competencies – including transversal and soft skills and especially digital skills – to foster long-term employability and professional development.

To accomplish this aim, the project will generate the following results:

- Study on “Learning in a digital age – a job-related approach” involving SMEs from tourism and commerce/trade sectors;
- Guidelines and training to support digital competence promoters in integrating and implementing learning processes in SMEs in a digital age;
- Online Toolbox 4.0 addressed to digital competence promoters in SMEs.

Involving five partners from Germany, Austria, Portugal, Belgium and Finland, the project has as main beneficiaries' staff and professionals (e.g. trainers, consultants, tutors, among others) of Small and Medium Enterprises from the sectors of tourism and commerce/trade. Overall, all professionals that may act as multipliers and promoters of Digital Competencies in SMEs are potential beneficiaries of the project.

During the 2-years of the project the consortium expects to:

- raise the awareness of staff on what digitalisation requires from them and why;
- actively use informal learning at the workplace with ICT (work-based learning 4.0);
- assess staff's digital competencies adapting and implementing the DigComp Framework;
- propose means to improve digital competencies of staff according to their needs and companies' strategy.

## 1.2. The study in the context of the project

The comprehensive study performed at the beginning of DC4Work aimed to partners knows and understand the awareness and practices existent in the SMEs of the sectors of tourism and commerce/trade, in what concerns the measure, promotion and development of employees' digital competencies at their workplace. In detail, the study contributed to identifying:

- Key-digital competencies required by SMEs of Tourism and Commerce sectors;
- Mismatches between employers' qualification/competencies and SME's needs (in these sectors);
- Flagship initiatives of practices existent in SMEs, suitable to be used as a benchmark.

To accomplish this, the study comprised four main tasks, as follows:

- T1.1. Desk research
- T1.2. Collection of surveys and implementation of focus group
- T1.3. Description of innovative good practices in companies (Flagship Initiatives)
- T1.4. Recommendations

The results of these tasks will allow partners to establish possible scenarios/recommendations for the development of a common framework on digital skills for SMEs, concerning:

- Sector-specific digital skills (Tourism and Commerce sectors)
- Transversal digital skills (boosting exploitation and upscaling)

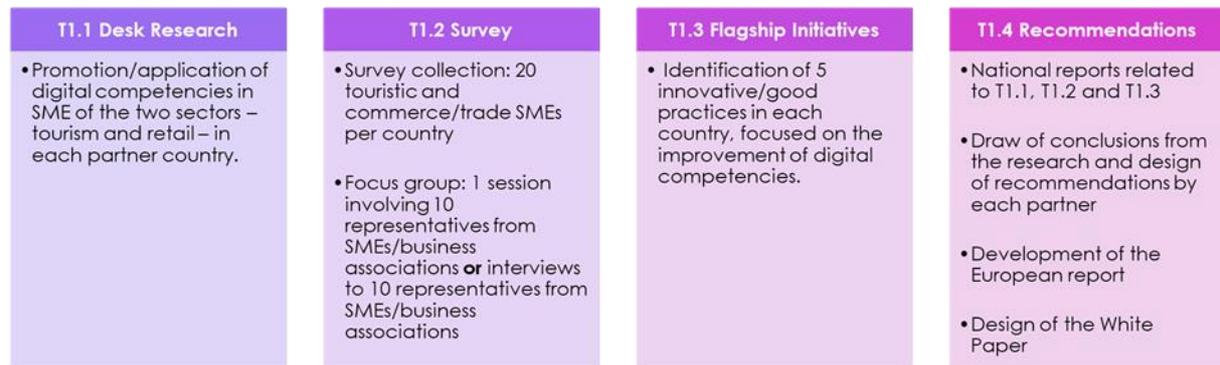
The main outcome of this study will be a strategic paper with recommendations and guidance for SMEs and "Digital Competencies Promoter", allowing them to:

- Apply the DigComp framework in the identification of digital skills needs at the workplace;
- Define training actions to be implemented (LO, Digital competencies);
- Raise awareness of the company related to the relevance of digital competencies.

## 2. Digital Competencies in SMEs of Tourism and Trade sectors

### 2.1. Methodological guidelines, tools and instruments

The comprehensive study held in the first period of the project comprised 4 main activities as shown in Figure 1.:



*Figure 1 – Structure of the comprehensive study held by partners in the first period of the DC4Work project and brief description of their focus and main results.*

For each one of these tasks, it was defined and agreed among the partnership a set of guidelines and supporting documents, followed by the partnership in the identification and collection of relevant information to boosting the development of the main products of the project.

### Desk research

The desk research was the basis of all activities held in the framework of the comprehensive study, essential for the development of IO2 and IO3. The main goal of this first task was to understand and know the state of art regarding the promotion/application of digital competencies in SME of the two sectors – tourism and commerce – in each partner country.

To accomplish this, all partners carried out a thorough identification of relevant quantitative and qualitative sources at policy (e.g. regional/national frameworks, programmes, strategies, agendas), business (e.g. strategic documents, on-the-job training plan) and VET level (e.g. qualification profiles, training curricula, studies/diagnosis) related to the actual characterisation, evolution, trends and needs of SMEs related to the promotion and development of digital competencies of their workers. The main idea was to collect strategic documents, identify relevant projects/initiatives, allowing partners to:

- Get a common overview of the panorama of the learning in a digital era in SMEs and fostering the development of digital competencies by their workers;
- Improve the research tools and instruments to support the desk research on state-of-art of assessment and development of digital competencies in SMEs (including, surveys, focus group, identification of good practices, national reports and recommendations).

All documents, projects and/or initiatives identified were compiled using a single template (see **Annex I**) and were published and shared in the section of “Desk Research-National analysis” of the Moodle Platform of the project ([here](#)). Each country was responsible for reading and analysing the documents selected and for preparing a short document (see **Annex II**) answering the following questions:

- ❖ To what extent is the topic “digital competencies in SMEs” recognised as being relevant in your country?
- ❖ Is there any strategy or programme defined at policy level, fostering the promotion of digital competencies in SMEs?
- ❖ Do SMEs from touristic and commercial/trade sectors recognise the promotion of digital competencies in companies as being strategic? Please explain.
- ❖ Is there any qualification, curriculum or unit in the National Qualification Framework (NQF) of your country focused on digital competencies acquisition?

## Collection of surveys and implementation of focus group

To better understand the panorama of the measure and development of digital skills of workers from SMEs of the sectors of tourism and commerce/trade in partners’ countries, two complementary activities were prepared and implemented by partners:

- Collection of surveys
- Implementation of Focus Group/interviews

Mentortec prepared the templates and protocols to support all partners in the preparation, implementation and closure of these activities, which the main results and findings are gathered in a national report, jointly with the national results from desk research, the identification of good practices in companies and the design of recommendations for the design and development of IO2 and IO3.

A draft version of the survey was designed by Mentortec and is organised in five sections (see **Annex III**):

- Section 1- Personal Information => Section with questions focused on collection of personal information about the person answering to the survey, data that will be used for statistical purposes only.
- Section 2 – Characterisation of organisation addressed => Section related to the overall characterisation of the company, data that will be used for statistical purposes only.
- Section 3 - Digital devices and media at the workplace or Vocational training => the main goal in this section is to know and understand the digital devices, programmes and tools that workers/trainees have available to use in the organisation you represent.

- Section 4 – Company training policy => in this section, partners expect to understand the awareness, knowledge and policy of the companies on digital competencies assessment and promotion at the workplace.
- Section 5 – Identification of needs and trends => With this section, the consortium expects to understand which the needs of the companies of the sectors of tourism and commerce/trade are, concerning the digital competencies more relevant to the sectors.

To facilitate the dissemination, collection and analysis of the results, partners agreed on having online survey, available in an open source in English, German and Portuguese.

The main goal of this survey was to collect information about:

- the awareness and policy of European SMEs in what concerns the measure and development of digital competencies of their workers;
- the most relevant digital competencies for each one of the sectors of activity, identifying companies' needs in what concerns the training in digital competencies.

Partners expected to collect 100 answers (approximately, 20 per country) from staff and professionals from SMEs, VET providers, Chambers of Commerce and other representatives from companies of the tourism and commerce/trade sectors (e.g. managers, human resources managers, training managers, in-company trainers & tutors, experts and workers).

Each one of the partners gathered all the results obtained through desk research and survey collection to introduce them to key-experts and representatives of tourism and commerce/trade sectors in a focus group or interviews. Overall, the consortium decided to prepare and promote focus groups/interviews, involving 50 different representatives of the sectors (10 per country). To accomplish this, it was structured a document providing information on:

- ❖ what is expected to achieve in the Focus Group/Interviews;
- ❖ who should participate or be involved in the Focus Group/Interviews;
- ❖ key-questions to launch to the participants of the Focus Group/Interviews and
- ❖ procedures and instruments for the registration of the main findings of these Focus Group/Interviews.

Several documents were prepared and shared among partners to support them in the preparation, implementation and reporting the results related to the focus group and/or interviews (see **Annexes IV to X**).

## Description of innovative good practices in companies (Flagship Initiatives)

All partners were involved in the identification of innovative/good practices focused on the improvement of digital competencies at the workplace, in general, and in SMEs. The selection criteria applied was broad and includes:

- A clear focus on the promotion of conditions in the workplace, fostering the acquisition and development of digital competencies of the workers of the companies;
- The existence of documentation/description concerning the implementation and promotion of the digital competencies at the workplace (clear information about companies' strategy, the activities being implemented/to be carried out, about workers involved and their roles, supporting tools/instruments available to support the activity, necessary results, among others);
- Whenever possible, identify a practice integrating a component of evaluation and of the practice impact in the company and workers;
- The practice should have the potential to be replicated in other companies and countries; The practice should be sustainable.

Overall, the partnership agreed on collecting, at least, 25 good practices that were incorporated in the National reports prepared by each partner (see **Annexes XI to XIV**).

## Recommendations

Four national reports on the results obtained by the desk research, collection of surveys and implementation of focus group/interviews were structured (see **Annexes XI to XIV**). by partners, according to the following structure:

1. Tourism and Commerce/Trade sectors => section in which partners can describe the evolution of the sectors, how it can be characterized nowadays, and which are its main trends.
2. Characterisation of the companies involved in the study => Brief description of the profile of the companies involved in the study, namely those answering to the survey and participating in the focus group.
3. Main findings on the study => summary of the main results and findings resulting from the desk research, collection of surveys, implementation of focus group and identification of innovative/good practices.
4. Conclusions and recommendations => section to highlight the key findings in each country with recommendations for the development of the profiles.

## 2.2. Characterisation of the sectors

The project was designed to answer to the digitalisation needs of two sectors - tourism and commerce/trade - in particularly in what concerns the design, implementation and monitor of a strategy for the assessment and development of workers digital competencies in both sectors.

A brief analysis of the sectors in Germany, Austria, Portugal and Finland was made, allowing the identification of some similarities between the sectors of the four countries.

### a. Tourism

In the four countries, the tourism sector is characterized by being:

- represented, in large scale, by Small and Medium Enterprises (SMEs);
- one of the sectors growing, being strategic for the boost of National economies;
- an International sector that is growing every year.

There are some differences related to the sector, in what concerns the digitalisation and the promotion of digital competencies of the workers, nevertheless, the development of strategies and programmes for both (industry/services digitalisation and development of digital competencies of workers) is a growing need in all countries.

### b. Commerce/Trade

This sector is also important in the four countries and widely represented by SMEs in Germany, Austria, Portugal and Finland. As in the tourism sector, commerce/trade represent an important sector in the countries and is growing as well. However, the subsector in which they are growing is different (see Annexes XI to XIV).

The digitalisation of this sector in the four countries is a demand of the costumers, nonetheless, many companies are not ready to incorporate it and to invest in the promotion of workers digital competencies. This means that an investment in raising the awareness of the companies related to the impact of the digitalisation in the sector and the need of investing in capacity building programmes is crucial for the continuous growth, competitiveness and innovation of the sector.

### 2.3. Policies

In the four countries in the analysis, there are general and specific programmes and strategies fostering, not only the digitalisation of the industry/services but also the capacity building of workers in digitalisation. Overall and what concerns the existent policies available in Germany, Austria, Portugal and Finland, is possible to say that all countries have:

- National/regional Agendas for the digitalisation of the industry/services/business, which are already being implemented;
- National/regional programmes/strategies boosting the digitalisation of the tourism and commerce/trade sectors, also in implementation in the countries;
- National/regional/local training or capacity building programmes, fostering the workers' digital competencies in general and specifically designed for both sectors.

Detailed information related to these programmes and strategies are introduced in the National reports (see Annexes XI to XIV).

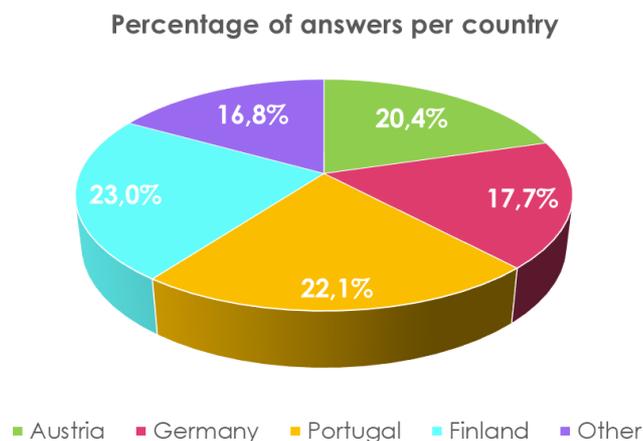
## 2.4. Digital Competencies in SMEs: a job-related approach

DC4Work survey was launch in February 2018 and remained available to be filled in until September 2018. In total there 227 answers were collected from respondents from Germany, Austria, Portugal, Finland and other European countries (in a minor percentage), but only 113 of them are completed (49,8%). This means that the consortium achieved the expected number of surveys defined in the proposal and guidelines, which was 100 completed surveys.

### Section 1 – Personal Information

In this section is requested some personal information of the person answering to the survey, data used for statistical purposes only, that includes: the country of residence, age, gender and qualification of the respondents of the survey.

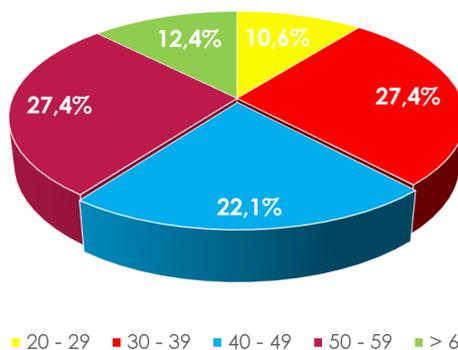
As shown in Graphic 1., there is a certain balance between the answers collected from Finland (23,0%), Portugal (22,1%) and Germany (20,4%). There is a small difference regarding the surveys collected in Austria (17,7%), which is not significant for the analysis of the results. The support from EfVET in the dissemination allowed, as well, to collect surveys from other European countries (16,8%), namely from Cyprus, Denmark, Greece, Italy, Lithuania, The Netherlands, Romania, Spain, Sweden and The United Kingdom.



*Graphic 1 – Percentage of completed surveys collected per country.*

In terms of characterisation of the respondents according to the **age** and as it can be seen in the Graphic 2., most of the respondents have between 30-39 years old (27,4%) and 50-59 years old (27,4%), followed by the age group of 40-49 years old (22,1%); 12,4% of the respondents have more than 60 years old, 12% more than 60 years old and 10,6% between 20-29 years old.

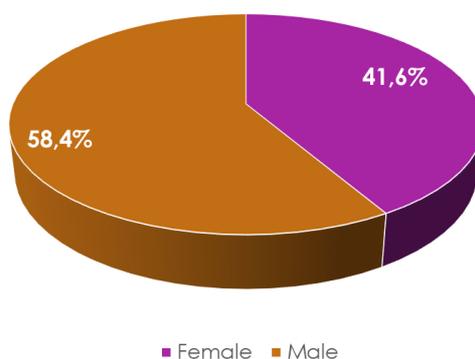
Characterization of the respondents according to their age



Graphic 2 - Characterisation of the respondents in terms of their age.

Regarding the **gender** of the respondents, 58,4% are males and 41,6% are females (see Graphic 3.):

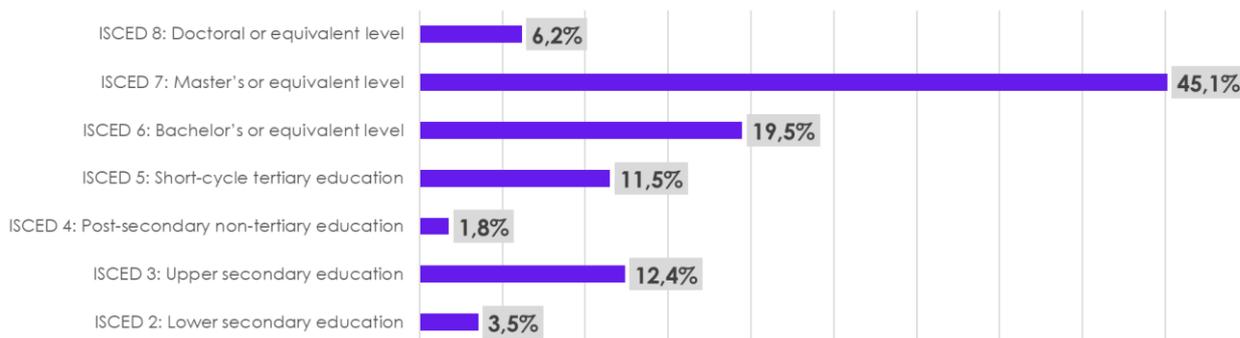
Characterization of the respondents according to gender



Graphic 3 - Characterisation of the Portuguese respondents in terms of their gender

Concerning the **level of qualification**, 45,1% of the respondents have a master (or equivalent), 19,5% a bachelor (or equivalent), 12,4% the upper secondary education, 11,5% a short-cycle tertiary education, 6,2% a doctorate (or equivalent), 3,5% lower secondary education and 1,8% post-secondary non-tertiary education (see Graphic 4.):

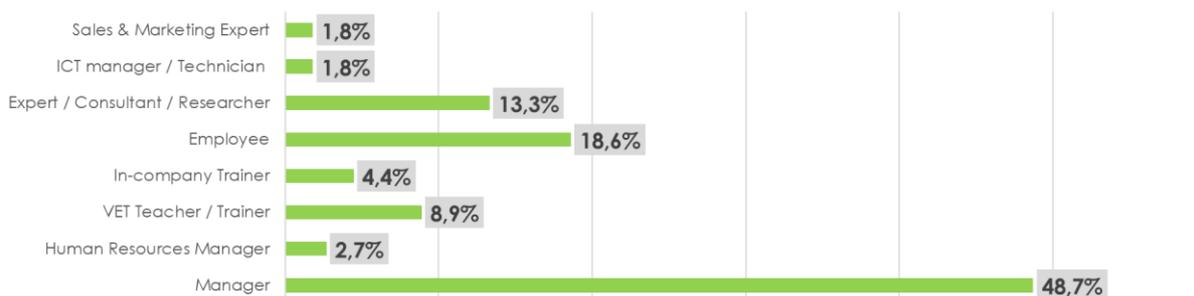
**Characterization of respondents according to the level of qualification**



*Graphic 4 - Characterisation of the Portuguese respondents in terms of their level qualification.*

Considering the **function** of the respondents in the organisation they represent in the DC4Work survey and based on the results of Graphic 5, 48,7% are managers, 18,6% employees, 13,3% experts/consultant/researcher, 8,9% VET teacher/trainer, 4,4% in-company trainers, 2,7% Human Resources Managers and 1,8% are sales & marketing experts and ICT manager/technician.

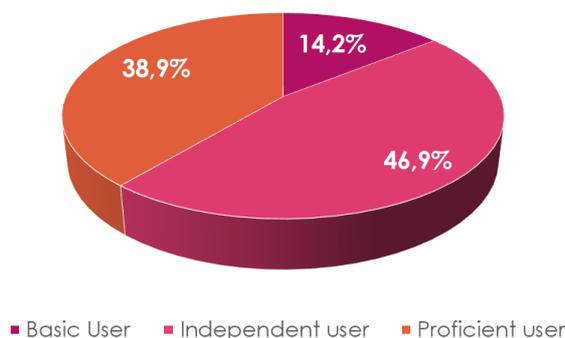
**Characterization of the respondents according to their function**



*Graphic 5 - Characterisation of the respondents in terms of their function in the organisation.*

Respondents were also asked about their **proficiency in the use of digital devices and tools**: 46,9% considered that is an independent user, 38,9% consider that is a proficient user and 14,2% consider that is a basic user (see Graphic 6).

**Characterization of the respondents according to their digital competence level**



*Graphic 6 - Characterisation of the respondents in terms of their proficiency in the use of digital devices and tools.*

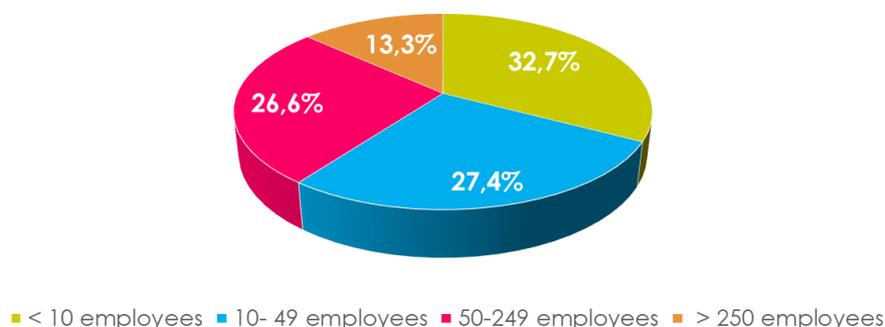
## Section 2 - Characterisation of your organisation

In section 2, respondents were asked to provide some information of characterisation of the organisation that they represent when answering to the DC4Work survey, data that is used for statistic efforts only.

First, one interesting aspect is the fact of 49,6% of the respondents identified the companies which they represent, against to 50,4% that didn't identify the company they represented in this context.

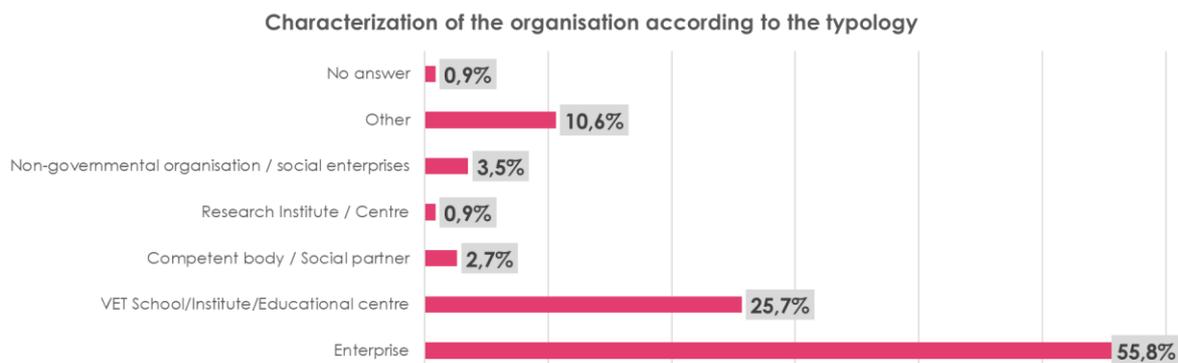
One of the aspects analysed was the **size** of the organisations, based on the number of employees. At this level and according to the information from Graphic 7, **32,7%** of the companies have **less than 10 employees**, **27,4%** have between **10-49 employees**, **26,6%** have between **50-249 employees** and **13,3%** have **more than 250 employees**.

**Characterization of the organisation according to the size**



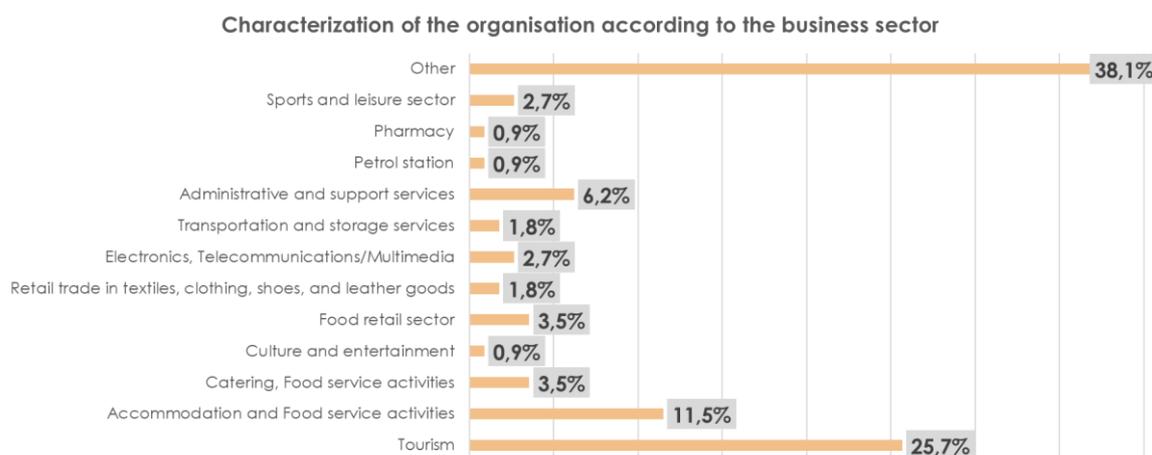
*Graphic 7 - Characterisation of the Portuguese organisations answering the surveys, in terms of the size/number of employees.*

About the typology of the organisations answering to the survey, the most part are **enterprises (55,8%)**, **VET schools/institutes/educational centres are also highly represented (25,7%)**, followed by NGOs/Social enterprises (3,5%), Competent Body/Social partner (2,7%) and research institute/social partner (0,9%). 10,6% of the respondents identified their organisation as “other” (see Graphic 8).



*Graphic 8 - Characterisation of the organisations answering the surveys, in terms of typology.*

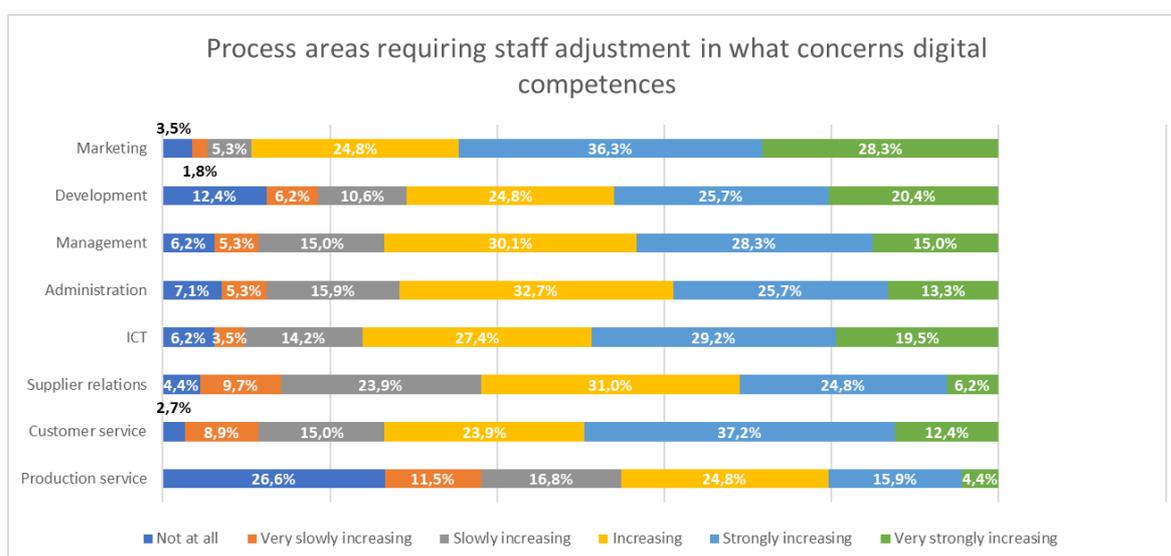
When analysing the business sector of the organisations answering to the survey (see Graphic 9): **25,7%** are from the **sector of tourism**; 11,5% from accommodation and food service activities; 6,2% from administrative and support service; 3,5% from food retail sector and catering, food service activities; 2,7% from sports and leisure sector and electronics, telecommunications/multimedia; 1,8% from transportation and storage services and from retail trade in textiles, clothing, shoes and leather goods; 0,9% from pharmacies, petrol stations and culture entertainment. There is a high percentage of organisations mentioning that were from “other” sector (38,1%), that covers sectors such as Education and training (e.g. VET provider and school), business representatives (e.g. Consultancy and Chamber of Commerce and Industry) and Wine producer.



*Graphic 9 - Characterisation of the organisations answering the surveys, in terms of business sector.*

Considering the **devices and digital media available in the organisations** answering to the survey is important to understand in which departments or areas of activity of the organisations, the digitalisation requires a major investment and need in the promotion of the acquisition and development of their staff digital skills.

The analysis was made by department of activity of the organisations as it can be seen in Graphic 10. Analysing the results is clear that **in all departments there is a need of reinforcing the staff digital skills**. In some cases, the demand is higher, like in the Marketing, ICT, Development, Customer Service, Management and Administration departments, in other cases, there is a balance, such as in Supplier relations department and in other lower like in Production service department.



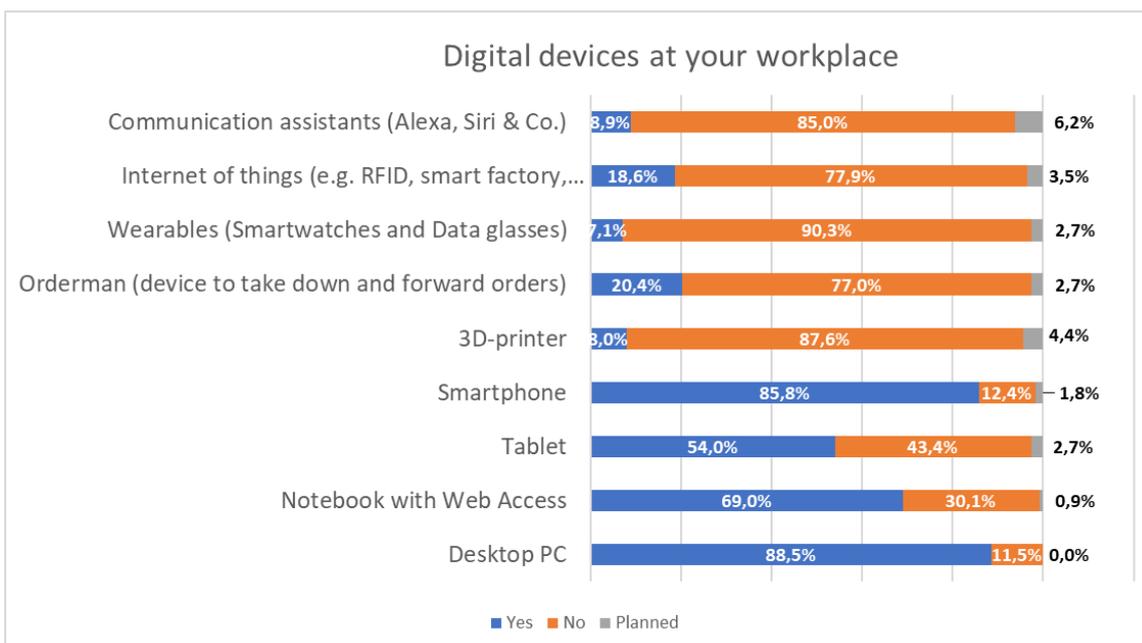
Graphic 10 - Characterisation of the organisations answering the surveys, in terms of the demand for staff digital skills per department.

### Section 3 - Digital devices & media at the workplace

Section 3 is related to the identification of the devices existent, available and used by the workers/trainees in the organisation represented by respondents.

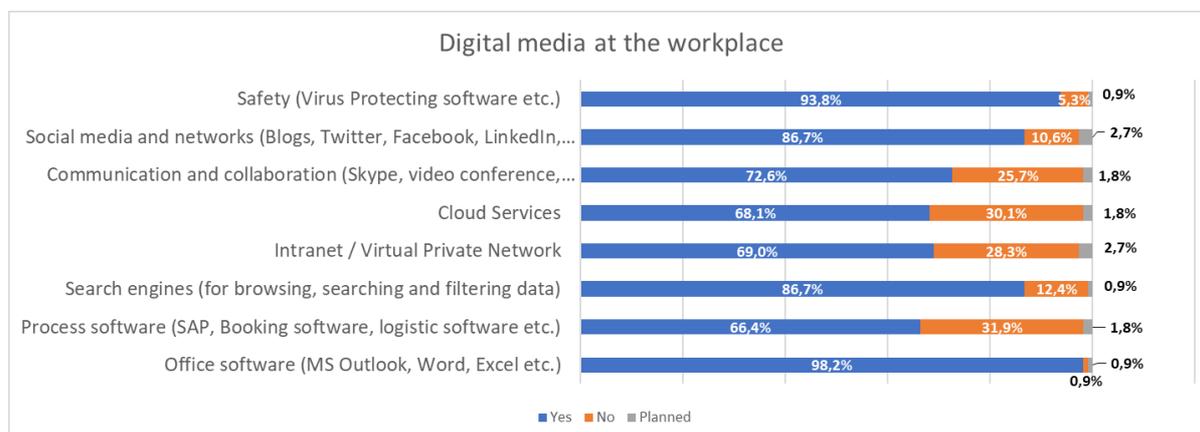
The survey also covered an analysis related to the devices and media available at the organisations and the adequacy of the staff digital competencies, according to the level of digitalisation of the organisation.

In what concerns the **digital devices available** in the organisations, more than half of the organisations have **Desktop PC (88,5%)**, **Smartphones (85,8%)**, **Notebooks with Web Access (69%)** and **Tablet (54,0%)** However, in what concerns other devices, less than ¼ of the organisations have it: only 20,4% have Orderman, 18,6% have Internet of Things, 89% have communication assistants, 8,0% have 3D-printers and 7,1% have wearables.



Graphic 11 - Characterisation of the organisations answering the surveys, in terms of devices available at their organisations.

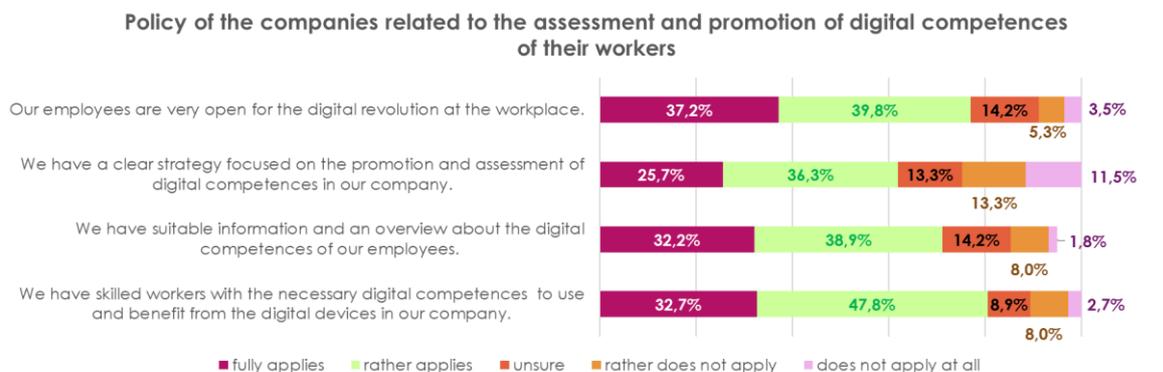
Analysing the **media available in the organisations** answering to the survey it becomes clear that the **most part of the organisations have the all-digital media** included in the survey, namely: office software (98,2%), safety media and office software (93,8%), social media and networks and search engines (86,7%), communication and collaboration media (72,6%), intranet/virtual private network (69,0%), cloud services (68,1%) process software (66,4%).



Graphic 12 - Characterisation of the organisations answering the surveys, in terms of digital media available at their organisations.

## Section 4 - Awareness and policy on digital competencies

The fourth section comprises four statements related to the awareness, knowledge and policy of the companies on digital competencies assessment and promotion.



*Graphic 13 - Policy of the Portuguese companies answering to the survey, concerning the assessment and promotion of digital competencies of their workers,*

According to Graphic 13., the results related to the awareness of the companies and their workers related to the reinforcement of their digital skills and the policy of the companies at this level are quite high:

- 77% of the companies answering to the survey consider their workers to be open for the digital revolution at the workplace;
- 62% of the companies answering to the survey mentioned that there is a clear strategy for the promotion and assessment of digital competencies in their company;
- 71,1% of the companies answering to the survey consider that they have suitable information and an overview about the digital competencies of their workers;
- 80,5% of the companies answering to the survey consider that their workers have the necessary digital competencies to use and benefit from the digital devices available in the company.

## Section 5 - Identification of needs and trends

In this section, companies were asked about the training needs and trends related to the measure and development of digital competencies of its workers, based on the areas and units of competencies of The Digital Competence Framework 2.0 (DigComp).

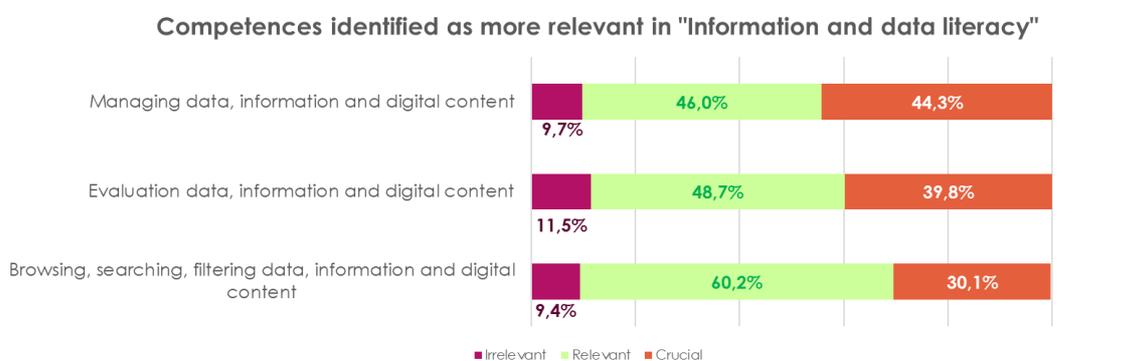
DigComp identifies the key-components of digital competencies that are organised in 5 main areas as identified below:

1. Information and data literacy
2. Communication and collaboration
3. Digital content creation
4. Safety
5. Problem solving

For each one of these 5 areas, 3-6 components are identified in the framework, which were included in the DC4Work survey, aiming at identifying the needs and trends of the companies in terms of their staff digital skills.

### Information and data literacy

According to Graphic 14., respondents consider that all the units of competencies identified in the area "Information and data literacy" are relevant for them and, in some cases, even crucial.

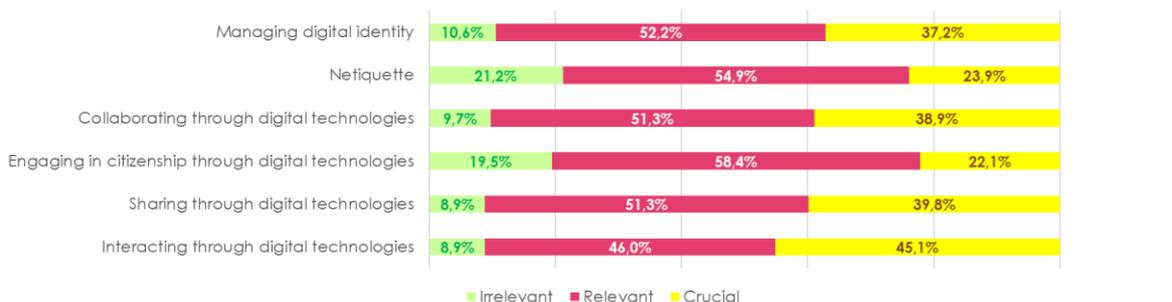


*Graphic 14 -Relevance of the units of competencies of the group of competencies "Information and data literacy" of DigComp in accordance to the perspective of the companies answering to the survey.*

### Communication and collaboration

In the case of the group of competencies "Communication and collaboration", there are four units of competencies identified as being more relevant in the perspective of the companies: "Interacting through digital technologies", "Sharing through digital technologies", "Collaboration through digital technologies" and "Managing digital identity". The other two units of competencies are identified as being moderated relevant: "Netiquette" and "Engaging in citizenship through digital technologies" (see Graphic 15.).

**Competences identified as more relevant in "Communication and collaboration"**

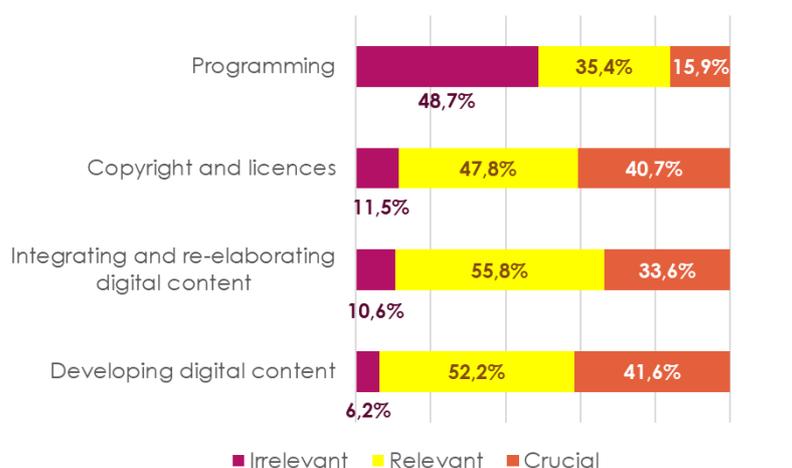


Graphic 15 - Relevance of the units of competencies of the group of competencies "Communication and collaboration" of DigComp in accordance to the perspective of the companies answering to the survey.

**Digital content creation**

Related to the group "Digital content creation" it is clear that "Programming" is the unit of competencies identified as less relevant, despite 35,4% consider it relevant. The other three units of competencies – "Copyright and licenses", "Integrating and re-elaborating digital content" and "Developing digital content" are seen as relevant or crucial (see Graphic 16.).

**Competences identified as more relevant in "Digital content creation"**

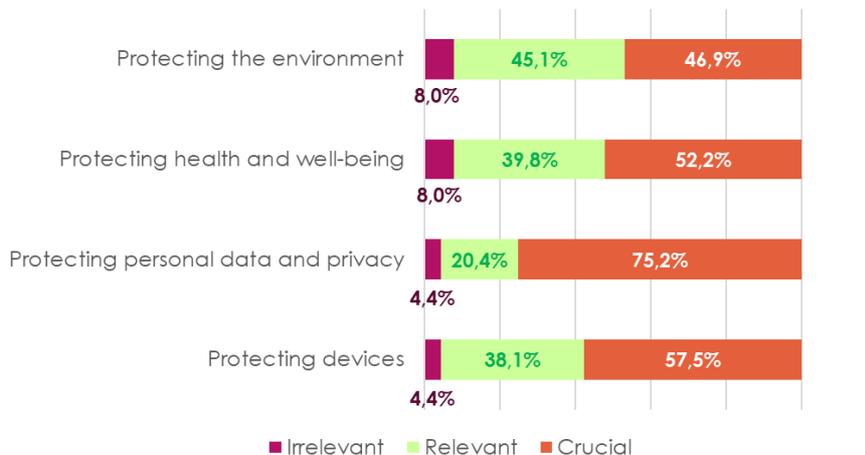


Graphic 16 - Relevance of the units of competencies of the group of competencies "Digital content creation" of DigComp in accordance to the perspective of the companies answering to the survey.

**Safety**

"Safety" is one of the groups considered as more relevant by the companies that responded to the survey. In fact, most part of the units of competencies are identified as being crucial – "protecting personal data and privacy" (75,2%), "Protecting devices" (57,5%), "Protecting health and well-being" (52,2%) and "Protecting the environment" (46,7%) (see Graphic 17.).

### Competences identified as more relevant in "Safety"

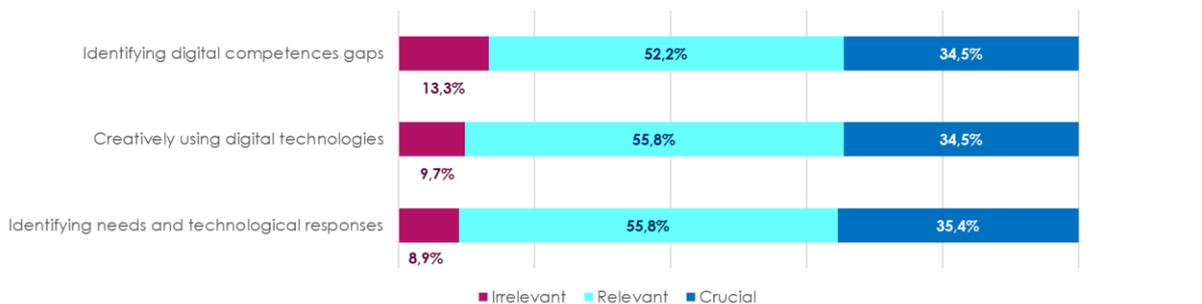


Graphic 17 - Relevance of the units of competencies of the group of competencies "Safety" of DigComp in accordance to the perspective of the companies answering to the survey.

### Problem solving

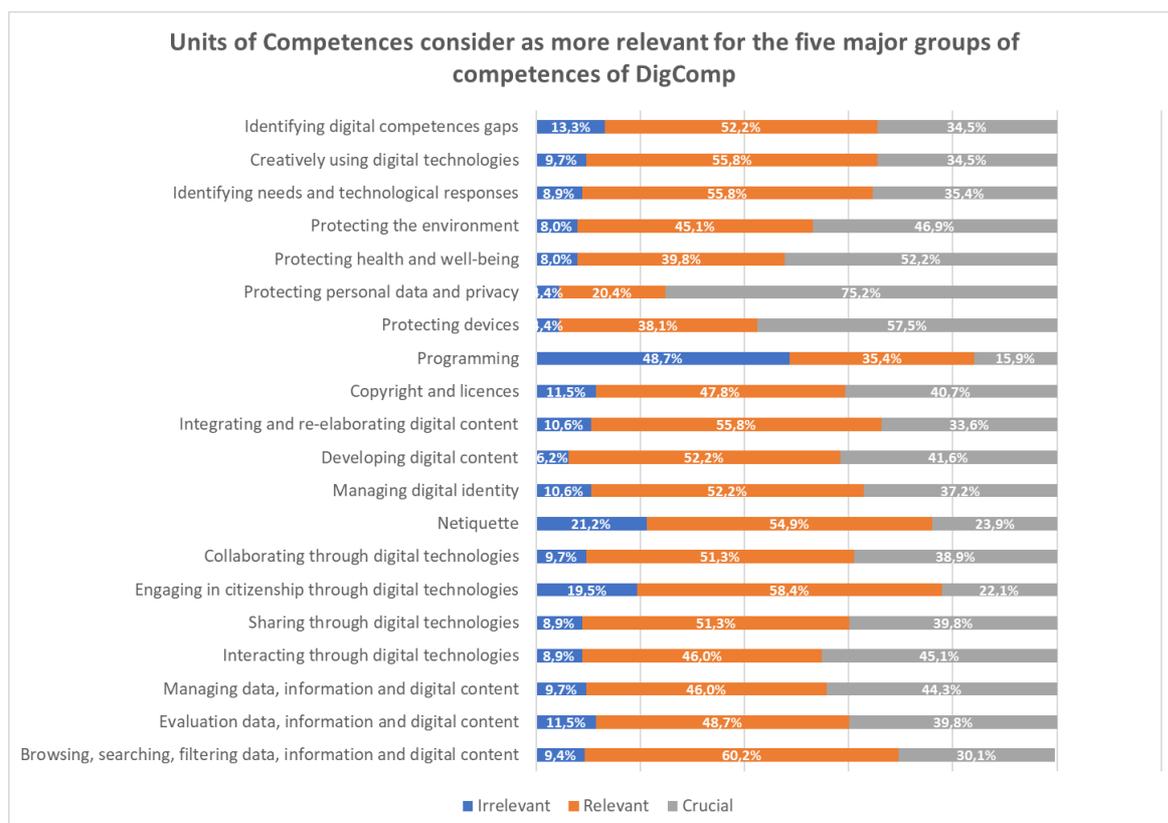
In what concerns the last group of competencies, "Problem solving", and in accordance to the Graphic 18., companies mostly agree that the unites of competencies are relevant and some of them consider them crucial, as well:

### Competences identified as more relevant in "Problem Solving"



Graphic 18 - Relevance of the units of competencies of the group of competencies "Problem Solving" of DigComp in accordance to the perspective of the companies answering to the survey.

Analysing the group of competencies altogether it is possible to draw some important conclusions (see Graphic 19.):



*Graphic 19 - Relevance of the units of competencies of the five major groups of competencies of DigComp in accordance to the perspective of the companies answering to the survey.*

The areas identified as being crucial by the respondents are:

- Safety, namely in what concerns the protection of personal data and privacy (95,6%), protection of devices (95,6%), protection of health and well-being (92%) and protecting the environment (92%).
- Communication and collaboration, the component of interacting through digital technologies (91,1%).
- Digital content creation, integrating and re-elaborating digital contents (89,4%).

All the other components were considered relevant as well, being important to highlight that “programming” - Digital content creation (48,7%), “netiquette” - Communication and collaboration (21,2%) and engaging in citizenship through digital technologies Communication and collaboration (19,5%) were the components identified as being less relevant.

## 2.5. Digital Competencies in SMEs: the perspective of experts

To better understand the results of the surveys, the consortium defined to prepare and implement focus group and/or interviews at the National level.

Overall, partners implemented:

- 4 focus group in Germany, Belgium and Finland, involving 10 experts from 5 companies and;
- 37 interviews in Germany, Austria, Finland and Portugal with 37 experts from 35 organisations.

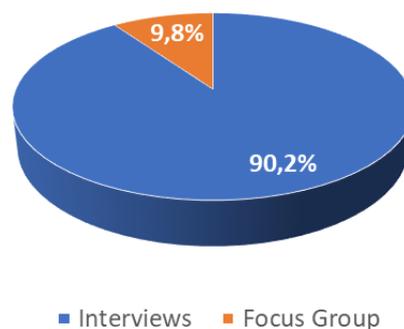
In these activities, the consortium expected to involve 50 representatives from local/regional authorities, business and workers from the sectors (10 in each country) and altogether, partners involved 47 experts from 40 organisations.

Considering this, in this section are introduced the main results from focus group and interviews performed, starting with the characterisation of the participants/interviewees to the presentation of the main outcomes related to each one of the 8 questions made in both activities.

### Section 1 - Characterisation of the participants/interviewees

The validation of the results from surveys by experts was made, mostly, by performing interviews (90,2%), in some countries, complemented with focus group promoted in some countries (9,8%) (see Graphic 20).

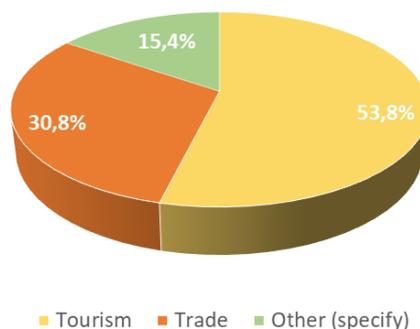
**Percentage of focus group and interviews promoted by partners**



*Graphic 20 – Percentage of focus group and interviews performed by partners.*

Most of the organisations represented in the both activities are from tourism (53,8%) and Trade (30,8%) sectors, nevertheless some were from other sectors (15,4%), mainly from: education and training sector and consultancy (see Graphic 21).

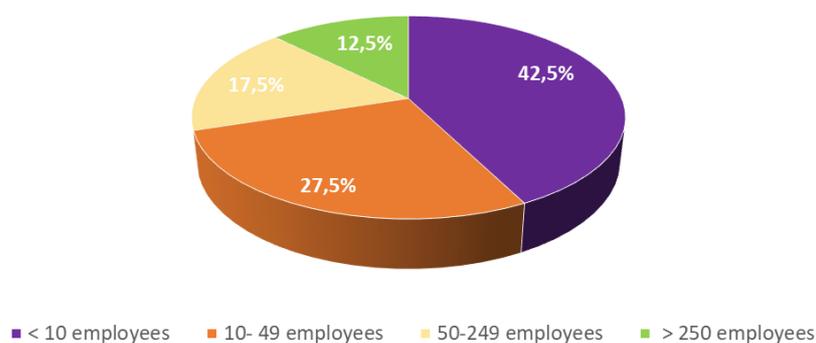
**Sector of the activity of the organisations interviewed & involved in focus group**



*Graphic 21 – Sector of activity of the organisations participating in the focus group and interviews.*

Concerning the size of the organisations involved in the focus group and interviews (see Graphic 22), 42,5% have less than 10 employees, 237,5% have between 10-49 employees, 17,5% between 50-249 employees and 12,5% more than 250 employees.

**Characterization of the organisations according to the number of employees**



*Graphic 22 - Characterisation of the organisations that participated in the focus group and interviews according to their size.*

## Section 2 – Main findings of the focus group and interviews

In the focus group and interviews, partners had the opportunity of analysing the:

- relevance of digital competencies in the actual economic setting, in general, and in each one of the sectors in the analysis, in particular;
- policy and practices already being implemented in and by the companies (e.g. definition of a digital strategy, digital devices available, employee's assessment and training);
- employees' skills for the efficient use of the digital devices and applications available;
- digital skills need and trends of the companies of the tourism and trade sectors.

To better understand these topics, the consortium structured a protocol for both activities, based on 8 key-questions, which main results are introduced above.

### 1. How do you see and describe Digital Competencies in the actual economic setting?

Interviewees recognized and mentioned that digitalisation is globalized and is happening in all sectors, which means that:

- digital competencies are crucial in actual economic settings;
- workers digital competencies are a key-aspect for companies from any sector of activity;
- due to digitalisation new professional profiles and set of skills need to be acquired and developed by workers.

For experts, digital competencies are about **thinking business processes differently** and **developing new business models**. When asked about the most **relevant digital competencies**, some differences between two sectors emerged, mostly due to the differences of the speed of digitalisation in the two sectors, for one hand, and to the size of the company's representative of the sectors, for another hand. Nevertheless, **“content creation”** (social media, digital marketing, online shops, trade online platforms...), **“communication and collaboration”** (namely with customers) and **“safety”** (personal data protection, company's IT security) were identified as **critical** by experts. In many cases, experts mentioned the **need and relevance of investing** in the acquisition, development and/or consolidation of **basic digital skills**, but also introduced the concept of **“digital fluency”**, related to the ability to select and use the appropriate digital tools and technologies to achieve a particular outcome. Behind this concept of “digital fluency”<sup>1</sup> is the need of matching workers digital competencies with the objectives and goals of the company.

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<sup>1</sup> The concept of “digital fluency” is available [here](#).

## 2. To what extent are digital competencies 4.0 relevant for the touristic and/or trade sectors, nowadays and in the future? Please explain.

From the focus group and interviews, it becomes clear that the relevance of the digital competencies depends a lot of the sector we are focusing, in the case of DC4Work, mostly because:

- Digitalisation in Tourism is increasing very fast, demanding a quick change and development of the digital competencies of workers;
- Digitalisation in retail, particularly in micro and small companies (e.g. stores, small restaurants, ...) is happening very slowly. However, customers are demanding, more than ever, a shift on the digitalisation of the sector.

Considering this, the relevance of digital competencies for each one of the sectors differs in some aspects (see Figure 2.):

Sector	Main outcomes from interviews
Tourism	<ul style="list-style-type: none"> <li>• Digitalisation is the basis of many of the companies of the sector at different levels: management, customers services, communication and marketing</li> <li>• Requires presence online and a digital brand</li> <li>• Requirements for technical infrastructure and informational services (rural areas)</li> <li>• Most relevant transversal skills: communication, openness for new topics and technologies, creativity and engagement.</li> <li>• Competencies identified as being crucial: social media management, customer relationship and information, optimisation of internal workflows, proper digital distribution systems, customer data management, interaction with customers on rating platforms, online ski tickets sales, Knowledge and Understanding of the psychology of digital customers, POS systems.</li> <li>• Some tools are already being used for personal reasons and are important to start using it properly for professionals' reasons (such as Pinterest, interaction, profiling)</li> <li>• Need for rethinking about the tourism sector</li> <li>• The existence of different generations at the workplace is, sometimes, a challenge for digitalisation</li> <li>• The future and trends are focused, mainly in the development of features and application for mobile devices and the development of digital contents</li> </ul>
Retail	<ul style="list-style-type: none"> <li>• Increased interest in shopping online =&gt; marketing digital services are crucial; refreshment of the image and brand of traditional retail shops; new requirements of software</li> <li>• Despite the relevance of digitalisation for the sector, Digitalisation in retail, particularly in micro and small companies (e.g. stores, small restaurants...) is happening very slowly</li> <li>• The identification of a person responsible for management DC assessment and development can play a strategic role in raising the awareness of managers and workers, however, the high level of rotation of staff and the low qualification of the workers (in some countries) is a constraint</li> <li>• Specific need of competencies such as: online shopping and sales, online shops, payment systems e.g. APP via Blue Code; mobile payment, web shops, virtual shopping experience for costumers. Understanding customer retention instruments, Knowledge on "MultiChannel Selling"</li> <li>• The future and trends are focused on the development of devices/applications to support the management at distance and the promotion of the services (development of digital contents)</li> </ul>

Figure 2 - The relevance of the digital competencies 4.0 for the both sectors, according to participants/interviewees.

### 3. Based in your experience/knowledge, do companies have a strategy to evaluate and develop the digital competencies of their employees?

The answers to this question in the five countries are quite similar and two main conclusions can be identified:

- Experts understanding is that companies would benefit from having a strategy for the evaluation and development of employees' digital competencies;
- Most of the companies, in particularly the SMEs, do not have a strategy for this, mostly due to lack of know-how, time, investment and vision to do it.

Despite this, there are examples and some practices implemented by companies fostering the acquisition and development of workers digital competencies. For example:

- Many large companies have strategies for developing and managing their employees' competencies and digital skills are included.
- There are some moments in companies in which digital competencies are assessed implicitly: a) during job interviews when competencies are being discussed in general or b) after a while of being in a job when it is becoming clear who has a talent for which digital activity.

There are already some tools that can support companies in the assessment of workers' digital competencies, however many of them are not known by companies. Austrian experts identified two of the tools they know:

- A tool for [evaluating employee skills](#)
- Digitalisation self-checking tool developed from MCI.

So, there is a need of supporting companies in developing their digital strategy and design supporting tools to monitor and assess its implementation.

#### 4. Which digital devices need to be used in the future for an innovative tourism / retail trade or have already proven themselves in use for innovative additional offers?

Experts identified devices that are or will be used in a general way in both sectors and identified, as well, devices that are being used or will be used in each one of the sectors (see Figure 3.):

Sector	Main outcomes from interviews
<b>Cross sectoral</b>	<ul style="list-style-type: none"> <li>Managers: smartphone (communication and interface to merchandize management)</li> <li>Social media players: Facebook for older customers and Instagram for younger ones</li> <li>Other devices: car shop, drone to take pictures/videos, interactive information boards, professional cash register, QR codes, Google Analytics, Free tools for Marketing, Virtual reality and videos</li> </ul>
<b>Retail</b>	<ul style="list-style-type: none"> <li>Workers: tablet (stock management and requisitions, communication with other stores); VR glasses (experimenting clothes)</li> <li>Automatization of some process requires new/updated devices: storage and handling documents</li> <li>Orderman and PDAs</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>Guide and information services travelling</li> <li>Digital storytelling</li> <li>Customer feedback and booking guides online locally</li> <li>Further development of mobile devices and applications</li> </ul>

Figure 3 – Identification of the devices that are being used or that will be used in the both sectors.

#### 5. Do employees of the companies of these sectors make efficient use of the digital applications made available to? Is it possible to improve it? How?

Generally, experts mentioned that it is crucial to companies to have knowledge of the digital potential of their workers and on how they can benefit from it. Basically, there is an understanding that there is a huge potential to improve the efficient use of the devices available in companies, however, this is not being done, mostly due to the lack of knowledge and constrains in the assessment of workers digital competencies. Bigger companies in which employers and employees recognize the relevance of these devices and its impact in the efficiency of the process and companies results, they are efficiently used, but this is not generalized to all companies. Additionally, experts identified the existence of a “generational gap” in what concerns the use of the devices, of applications, that has also a negative impact on companies.

In the case of trade sector, which is the sector identified as having potential and in which the digitalisation is occurring slowly, some constrains and difficulties, besides those mentioned above, were also identified by experts:

- Digital devices are not fully active yet, employees need more support to speed the digitalisation in the companies;
- Digital devices and applications are mostly used for operational tasks, however, there is a need of increasing the use of the devices/applications in other processes of the companies;
- There is a lack of investment in social media and online presence of the SMEs of the sector;
- Low qualification of workers from this sector can be a constrain in the use of these devices/applications;
- Despite the general use of these devices/applications for personal reasons, workers are not prepared to use them in professional contexts.

6. In your perspective, are the companies of these sectors willing to invest in training offers to adult workers fostering the acquisition, development and consolidation of their digital competencies? In which fields or set of competencies?

Experts' feedback related to the willing of companies in investing in training offers to foster the acquisition and development of workers digital competencies are not unanimous: if for one hand, companies recognise the relevance in investing in training, in general, and in the development of digital competencies of their workers, in particularly; for another hand, only large groups or companies incorporated in National Associations invest and provide training, including in digital competencies acquisition and development. In smaller companies, the training provided is, many times, made by the companies providing the devices/software/applications and only for the use of that specific device/software/application. This means that despite companies consider it important to promote the digital skills of their workers, many of the companies, namely the smaller ones, do not really provide any specific training for it, for different reasons:

- Companies do not know how to evaluate workers digital skills, essential to plan training to strengthen these skills;
- Companies do not have the expertise to provide specific training on digital skills;
- Despite being mandatory to promote training to workers by companies, many of the companies understand the training in companies not as an important investment, but as a mandatory process without any positive impact in the workers and company.

In what concerns the set of competencies considered as more relevant, once again experts identified the areas of content creation, communication & collaboration and safety as more relevant.

## 7. In your perspective, how can these digital competencies be trained and developed at work / on the job?

When asked about how digital competencies could be promoted at the workplace and by whom, experts answered as follows (see Figure 5.):

Who	How
<b>Companies and Business Associations</b>	<ul style="list-style-type: none"> <li>• Information and raise awareness of companies to embrace the digitalisation and to the relevance of share information and responsibilities</li> <li>• Action-training of managers/tutors: combining training with consultancy, supporting not only the definition of digital strategy but also providing specific tools</li> <li>• Retail: "Waking retailers up" in what concerns the needs of the digital world.</li> </ul>
<b>Workers, Entrepreneurs and/or Trainees</b>	<ul style="list-style-type: none"> <li>• Raising awareness of workers/entrepreneurs/trainees for the relevance of acquiring and developing digital competencies</li> <li>• Individual learning by access to online materials and resources</li> <li>• Peer learning (at the workplace)</li> <li>• Intergenerational learning (at the workplace)</li> <li>• External tutor/expert (at the workplace)</li> <li>• Learning groups in social media.</li> </ul>

Figure 4 – Suggestions made by experts related to how to promote the acquisition and development of workers digital competencies.

Experts also identified some topics that should be approached in training programmes in companies:

- Social media management: how to use social media platforms; how to deal with costumers complains online
- Office (basics are important)
- Cloud technologies
- Awareness of data security
- Fundamentals of electronics, data technology, telecommunications for the average consumer.
- Online marketing
- Basics on Google Tools
- Market research, market innovation
- Retail: Online Distribution
- Tourism: Social media management

8. From the following set of digital skill, grade them from 1 to 5, considering 1 the most important and 5 the less important for your sector/company: a. Information processing (Search and process information); b. Communication (Communicate and collaborate); c. Content creation (Produce digital content); d. Safety (protect and act safely) and e. Problem solving (problem solving and action).

Analysing the rates given by experts to these five areas is possible to identify the three more important areas:

1. Communication & collaboration and Content Creation
2. Safety
3. Information process and problem solving

## 2. Learning in a digital age – a job-related approach

### 2.1. Digital competencies in tourism and trade sectors: Needs and trends

Digitalisation of the economy and companies is globalized and is happening in all sectors, which means that:

- digital competencies are crucial in actual economic settings;
- workers digital competencies are a key-aspect for companies from any sector of activity;
- due to digitalisation new professional profiles and set of skills need to be acquired and developed by workers.

From surveys and focus group/interviews it becomes clear that:

- the demand of digitalisation in tourism and trade sectors is occurring in different speeds (is faster in tourism) and the drivers are also different (tourism: as an answer to the competitiveness of the sector; trade: as a demand of the costumers).
- many of the organisations of the sectors provide digital devices to support workers in their work, namely desktop PC, smartphones, notebooks with internet access and tablets. Nonetheless, considering other devices (e.g. Orderman, Internet of Things, communication assistants, 3D-printers and wearables) are not some common as that.
- most part of the organisations display of the necessary media needed to workers perform their activities, which includes the existence of office software, safety media and office software, social media and networks and search engines, communication and collaboration media, intranet/virtual private network, cloud services and process software.

Despite the demand of digitalisation and of many organisations of the sectors have the adequate devices and media to support workers in their daily work (more evident in the tourism sector), the results of the study indicate that:

- The generality of the companies, SMEs of these sectors, do not have a structured and formal strategy fostering the acquisition and development of workers' digital competencies, even in the cases in which companies recognise this strategy as being relevant<sup>2</sup>.

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<sup>2</sup> It must be highlighted that there is a discrepancy between the results from surveys and from focus/group/interviews in what concerns the existence of this strategy: in surveys 62% of the companies mention that this strategy does exist, however in the focus group/interviews experts mentioned that this is not a general practice.

- It seems that companies are not aware of the digital potential and competencies that its workers have, mostly because they do not know how to assess their workers' digital competencies<sup>3</sup>.
- In the perspective of the organisations, their workers have the necessary competencies to use the devices and media available in the company, however, at the same time they mention that workers have potential to use those devices and media in a more efficient way.

Considering this, **why are not companies investing in the development of their digital strategy and providing training** fostering the acquisition and development of their **workers' digital competencies**?

In accordance with the results, this is happening mostly due to the lack of the:

- Know-how of companies to assess workers' digital skills, essential to plan training to strengthen these skills;
- expertise of companies to structure and provide specific training on digital skills;
- time, investment and vision of the companies to do it.

So, **what it needs to be done to change this?**

The study has shown that it is important to structure a set of activities to be implemented in companies aiming at:

- raising the awareness of companies to embrace the digitalisation and to the relevance of share information and responsibilities;
- raising awareness of workers/entrepreneurs/trainees for the relevance of acquiring and developing digital competencies;
- promoting the acquisition of knowledge and skills of managers/tutors on how to promote workers' digital competencies assessment and development (e.g. combining training with consultancy);
- creating the setting and conditions for the acquisition and development of workers' digital competencies (e.g. by Individual learning, peer learning (at the workplace), intergenerational learning (at the workplace). Support from an external tutor/expert (at the workplace) and/or learning groups in social media).

In what concerns the training, which **areas are considered as more relevant** to approach, **in these sectors**?

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<sup>3</sup> Once again, there is a mismatch between the results from surveys – in which 72% of the respondents consider that the companies are aware of workers digital competencies – and experts' feedback – who understands that companies don't know which digital competencies their workers have and at what level.

Considering the five areas identified in the DigComp, the three considered as more relevant are: communication and collaboration, safety and content creation.

Based on these areas, organisations and experts identified some of the topics that should be approached in training programmes in companies:

- Social media management: how to use social media platforms; how to deal with customers complains online
- Office (basics are important)
- Cloud technologies
- Awareness of data security
- Fundamentals of electronics, data technology, telecommunications for the average consumer.
- Online marketing
- Basics on Google Tools
- Market research, market innovation
- Retail: Online Distribution
- Tourism: Social media management

## 2.2. Digital competencies in SMEs

Another important part of the study is related to the identification of innovative/good practices focused on the improvement of digital competencies at the workplace, in general, and in SMEs.

All partners identified flagship Initiatives, mostly related to:

- practices for promoting digital competencies (education);
- Examples for new digital (technical) developments at the company level
- Example to raise awareness and involve staff in the course of the companies' digital development.

Altogether, partners identified **30 practices** that are introduced in Figure 6.:

N.	Practice	Country	Brief description	Source
1	KMU Digital Status Quo Check – Potentialanalyse (potential analyse)	Austria	KMU digital is a support program from the Austrian Economic Chamber (WKO). It provides digital status checks and potential analysis for enterprises (with special developed KMU digital trend carts) in order to collect their status quo and to offer adequate advanced training possibilities to specific subjects concerning digital education. The offers are available for small and medium-sized corporations and are financially supported by the WKO.  Besides, the KMU digital offers workshops and tutorials to different topics concerning digitalisation.	
2	Reifegradmodell 4.0 – Fraunhofer (maturity model for Leaders)	Austria	Fraunhofer Austria wants to guide enterprises towards digitalisation of production by integrating information- and communication technologies into physical products and processes. With the maturity model 4.0, experts evaluate how far Industry 4.0 is already being implemented within the company and what can still be achieved in this area. Based on the model, 4-day workshops are offered to support the concern and to guide him towards individualised digitalisation.	
3	Werde.digital.at	Austria	wervedigital.at collects and offers different kinds of material about digitalisation. It also provides workshops and additional training possibilities concerning the subject.	More <a href="#">info</a>

N.	Practice	Country	Brief description	Source
4	Schule 4.0	Austria	The aim of Schule4.0 is to gradually incorporate all changes resulting from the advancing digitalisation into the Austrian education system. The Austrian ministry of education is therefore about to develop a masterplan which can be followed on the website.	
5	Digital Roadmap Austria	Austria	An information platform of the Austrian government that sums up all measures and fields of action concerning digitalisation in Austria.	More <a href="#">info</a>
6	EB-MOOC	Austria	EBmooc offers free online courses for teachers and trainers of adult education where basics and tools for digital learning with adults are provided in six different units. In addition to self-study, the platform also includes forums, online meetings (webinars) and groups for exchange with other students.	
7	Pakt für digitale Kompetenz & Fit4Internet	Austria	<p>The Digital Competence Pact is an association of business and educational institutions and public administration to promote basic digital skills within the whole population.</p> <p>The Fit4Internet initiative should equip the group of citizens who are not embedded in any educational process with digital skills in mobile Internet use.</p>	More <a href="#">info</a>
8	Gronda Plattform – Recruiting employees Tourism	Austria	The Gronda platform simplifies the recruiting process in the tourism and hotel branch by directly connecting enterprises and employees via their profiles.	
9	Learning Analytics - Tailor-made individual learning opportunities	Austria	This project uses data elevated by universities in order to support the students in their learning progress and to optimize success both for the learner and for the trainer. The first conference about this topic took place in Montreal in 2008. Further information about meetings and assessments can be found on	More <a href="#">info</a>
10	Training Digital Competencies Online	Finland	<p>The concept "Oppiminen Online" (Training Digital Competencies Online) is the MOOC (Massive Open Online Course) for VET teachers. By the MOOC there is available about 50 different kind of small courses to learn digital approaches to learning, like web tools, learning environments, pedagogical approaches and networking. There are mainly videos as a learning material. After studying a topic, it is possible to show competencies related by applying an Open Digital Badge.</p> <p>There are three levels of qualifications: some novice, some expert and some developer. The program is funded by the Finnish National Agency of Education and it is free for its participants. In the year 2018, we have started a development project related to the MOOC. The target is to disseminate still the MOOC in order to offer it even to wider audience (teachers).</p>	More <a href="#">info</a>

N.	Practice	Country	Brief description	Source
11	See the Goal Project	Finland	SEE THE GOAL is an EU-financed cross-national project under the Erasmus+ K2 Action. Experts and practitioners from Slovenia, Denmark, Finland and Portugal want to strengthen their VET systems. SEE THE GOAL focuses on in-company training and learning processes in practice. The partners develop methods to support the design, communication, training and self-assessment of in-company learning outcomes. The material related to the project is freely usable through web pages and is partly translated also in Finnish to be able to share the best practices among teachers.	More <a href="#">info</a>
12	MOOC: Designing online learning process	Finland	MocomaMOOC project aims to improve VET teachers' skills for designing online learning processes. It is MOOC fully based on online course with personal scaffolding. The contents of the MOOC are: pedagogical models online, individual study plans online, visualizing learning and competencies by digital tools, and learning analytics as teacher's tool for scaffolding. The program is funded by the Finnish National board of education and it is free for its participants. The target group is VET teachers. The practices are implementable also in companies for enhancing employees' digital skills.	More <a href="#">info</a>
13	EEP - Empowering ePortfolio project	Finland	The aim of EEP is to develop student-centred education by focusing on assessment and guidance practices and by developing an empowering and dynamic approach to the ePortfolio process. This is being done in order to increase students' motivation in their learning and career management, enhance employability prospects as well as their social participation in the digital world. The main target of the project is to develop students' continuous engagement in assessment and improve their digital competence in making their professional identity transparent by steering their career learning using an ePortfolio. The project seeks innovative ways and models to improve the educational environment in a way that the students can create portfolios during their studies and use them in different transition stages from one level of education to another or from education to work life (and vice versa). EEP enhances digital integration in learning through an improved ePortfolio process used in HE institutions, which eases the students' guidance and assessment processes and enables their competencies to become more transparent both to their HE institutions/teachers and to their possible future employers.	More <a href="#">info</a>
14	Training program for VET teachers and company trainers / Digitalisation in learning (30ECTS)	Finland	In the year 2017 a new curriculum (30 ECTS) for a special education program for VET teachers and trainers of the world of work was approved by Finnish National Agency of Education and the first course started last October to be continued the whole springtime. The program is for teachers and the content is related to digitalisation of learning processes and more deeply it is searching answers to digitalisation in general in each discipline. The participants will develop their work in their organisations during the program and apply their personal learning environments (PLEs) as well as their connections to working life SMEs in the learning process. The digital competencies are demonstrated by Open Digital Badges.	More <a href="#">info</a>

N.	Practice	Country	Brief description	Source
15	DigiReWork - Regional Development Work - Digitalisation Renewing Working Life	Finland	DigiReWork is a regional training programme of digitalisation in Häme region in Finland for SMEs. The goal is to increase awareness of digital disruption in businesses as well as train new skills and know-how. The target group of the programme are over 50-year-old employers, who need guidance and support in the new digital working environment. There are both individual and group-based training in the programme and workshops on reforming business as well as wellbeing and effectiveness in work.	More <a href="#">info</a>
16	The Federation of Finnish Enterprises: DigiSchool	Finland	The Federation of Finnish Enterprises organises free workshops of digital leap in SMEs in Finland. The workshops include practical examples of digitalisation in SMEs and working on participants current digital challenges. The partners in coaching are companies Fennia, Elisa and Holvi. The specific theme areas in 2018 are Cyber Safety, Cloud Services and Digital Accounting and Finances. The training is national, free and modified for all branches. It collects the best practices from the Finnish SMEs and presents them to all as models and pathways to digitalisation.	More <a href="#">info</a>
17	General schools: integrated media education	Germany	In the context of the transformation process towards a digital education, the government of the Federal State of Brandenburg grants absolute priority to the pedagogical mission. Against this background, the framework curriculum for a grade one to ten (relevant to new semester 2017/2018) includes the new basic curriculum on media education. Therefore, media education is not designed as separate subject, but as a subject-integrative task. According to this concept media education covers the competencies: collect, communicate, present, produce, reflect and analyse information. The focus is on learning with, through hand about media.	More <a href="#">info</a>
18	New apprenticeship programme "Management assistant in e-commerce"	Germany	In the wake of booming online trade, the new dual training occupation of "management assistant in e-commerce" was introduced on 1st August 2018. This is the first new commercial training occupation to be launched for ten years and has been specially tailored to the needs of this specific growth market. Management assistants in e-commerce will work for companies which sell goods or services online. These include manufacturers and service providers as well as firms involved in the wholesale sector, foreign trade, retail or tourism.	More <a href="#">info</a> and <a href="#">here</a>
19	Pilot initiative for Vocational Education and Training 4.0	Germany	Vocational Education and Training 4.0 has been launched. This is the joint initiative of the Federal Ministry of Education and Research (BMBF) and the Federal Institute for Vocational Education and Training (BIBB). Within the next two years, qualifications for specialist staff and competencies for the digitalised world of tomorrow will be systematically examined on an example basis. A wide range of projects has also been brought together under the umbrella of the initiative. These include projects already underway such as the preliminary examination of the potential restructuring of IT occupations, the joint VW-BIBB project on operational maintenance 4.0 and the new special programme "Digital transformation in inter-company vocational training centres (ÜBS) and competence centres".	More <a href="#">info</a>

N.	Practice	Country	Brief description	Source
20	JOBSTARTER plus-Projects promote Vocational Training 4.0	Germany	"JOBSTARTER plus" supports the goals of the National Alliance for Initial and Further Training 2015-2018 and is part of the Federal Government's Skills Development Initiative to strengthen educational opportunities and increase the permeability of the education system. It also forms part of the "Education Links to Obtain a Training Qualification" initiative.	More <a href="#">info</a> and <a href="#">here</a>
21	Retail Dialogue Platform	Germany	In order to flag up new prospects in the structural change of retail trade (demographic change, digitalisation etc.), to counteract a decline in inner-city areas and a lack of supply in rural areas, the Economic Affairs Ministry has set up the Retail Dialogue Platform. It seeks to open up new prospects for retailers and all others affected by these developments. The focus is on a dialogue between the relevant stakeholders, i.e. companies and business associations, academia, the trade union, the Federal Government, the Länder and municipalities. How can the retailers, municipalities, Länder and the Federal Government respond to the far-reaching structural change? What are the challenges for the employees? These and other questions are to be discussed with the stakeholders in workshops, and ways forward are to be mapped out. In their recommendations, the members of the Retail Trade Dialogue Platform have spoken out in favour of pilot projects that would see new cooperation between different retail companies. This would allow these firms to pool their staff and their retail and warehouse space and thus cut costs. Furthermore, cooperation between several different municipalities could ensure that citizens have access to local shopping facilities. For instance, it would be possible to establish small-scale department stores that would also cooperate with providers of different kinds of services. The main outcomes of the work completed by the Retail Trade Dialogue Platform can be found in the brochure 'New Prospects for the Retail Sector' (in German), which is available for download <a href="#">here</a> .	More <a href="#">info</a>
22	Crowd-Delivery / Logistics	Germany	Passenger car occupancy has been falling for years. Partly empty vehicles on our road networks decrease passenger transport sustainability but also contain an opportunity for freight transport. Within Crowd logistics (CL), delivery operations are carried out using passengers' excess capacity on journeys that are already taking place, resulting in economic, social and environmental benefits. Existing CL initiatives show, however, that there are important differences between concepts in terms of sustainability. The research aims to develop a suitable and comprehensive definition for CL and identify which factors determine the sustainability potential of CL.	More <a href="#">info</a> and <a href="#">here</a>
23	Digital Customer Journey – made in Brandenburg	Germany	Digital guest folders provided in form of software free of charge to guests and service providers in the state of Brandenburg via smartphones, tablets, touchscreens or information points in summer 2018. The guest benefits from: personalized excursion recommendations, georeferenced bad weather tips, digital travel diary with stored sights on site, voice control via hotel tablet possible, questions to be answered at any time, push notifications directly on their mobile devices etc.	More <a href="#">info</a>

N.	Practice	Country	Brief description	Source
24	A well-chosen customer card system	Germany	<p>One interviewed shop owner recommended the customer card system which is not new but needs to fit the shops concrete needs. He chose a plastic card version combined with an App version. The cards' information was linked to his customer management system (software).</p> <p>The conditions for the customer card were:</p> <ul style="list-style-type: none"> <li>- only for core customers</li> <li>- only with this card customer can profit from discounts</li> <li>- customer profits from cashback world initiative = purchasing pool with cash back in 47 countries and more than 1060 online and offline shops in Germany: customer receives a certain amount back and shop earns i.e., 1% of each buying at these online shops</li> <li>- customer can collect shopping points</li> </ul> <p>The advantages for the shop owner:</p> <ul style="list-style-type: none"> <li>- ability to reach and inform customers, i.e. with newsletter, customer targeted information, birthday discount etc.</li> <li>- collect customer data i.e. name, address, e-mail, what they bought when -&gt; evaluation of customer data and conclusions on buying behaviour</li> <li>- shop receives measurable data -&gt; evaluation of effectiveness of the newsletters, events etc.</li> </ul>	
25	Staff sensitization – our way to become a digital company	Germany	<p>One best practice example was presented by staff of a city councils' tourism office: workers profit from a central information system on digital strategy and own digital development. When they open up their internet browser each morning, they are directed to a landing page with the headline "Our way to a digital city council". This way they are being sensitized, directly involved and supported in their digitalisation process.</p> <p>This landing page is structured by the following menu structure:</p> <ol style="list-style-type: none"> <li>1) timeline of process of digitalisation (where are we)</li> <li>2) social wall with postings in social media around the city</li> <li>3) project description</li> <li>4) ideas on digitization of city council suggested by different departments where change agents have been appointed</li> <li>4) notice board</li> <li>5) FAQs</li> <li>6) contact</li> </ol>	

N.	Practice	Country	Brief description	Source
26	ALL-ECOM - Sector Skills Alliance to set European standards for qualifications and skills in the e-commerce sector	Portugal	<p>This European project gathers three typologies of partners – organisation representative from the trade sector, VET provider from the trade sector and regulatory body for the National Qualification Framework – from three countries – Portugal, Spain and Austria and has as main results:</p> <ol style="list-style-type: none"> <li>1. National and comparative reports regarding skills need related to e-commerce;</li> <li>2. National and comparative reports presenting an analysis of training offer and innovative learning methods identified in each partner country;</li> <li>3. New learning outcomes regarding e-commerce to integrate into the commerce sector qualifications;</li> <li>4. Common map of qualifications in e-commerce;</li> <li>5. Training curricula and training contents structured based on the learning outcomes structured in the project;</li> <li>6. On-line tool for the self-assessment of competencies on e-commerce;</li> <li>7. Open educational resources (MOOC).</li> </ol> <p>The most relevant results for the DC4Work project are the:</p> <ul style="list-style-type: none"> <li>• <a href="#">Training curricula and training contents</a></li> <li>• <a href="#">On-line tool for the self-assessment of competencies on e-commerce</a></li> <li>• <a href="#">Open educational resources (MOOC)</a></li> </ul> <p>One important aspect of this project is related to the fact of the Portuguese regulatory body for the NQF being part of the consortium (<a href="#">ANQEP, I.P.</a>), allowing the integration of the curricula in the National Catalogue of Qualifications.</p>	More <a href="#">info</a>
27	Professional in Digital Tourism	Portugal	<p>Integrated in the Portugal INCoDe.2030 it was created a specific qualification profile and related curricula fostering the development of adults' digital skills for the sector of tourism. This qualification aims at endowing adults of knowledge and skills allowing them to develop and implement a digital marketing plan in the tourism sector, namely by selecting and managing digital platforms necessary for the implementation of the digital marketing actions in the communication and dissemination of touristic products and services, in line with the needs of the consumers. The training has three components:</p> <ul style="list-style-type: none"> <li>• Entrepreneurship (50h): Leadership, Leader as a manager, Interpersonal communication;</li> <li>• VET Qualification (500h): Introduction to the Tourism (25h), Marketing strategy and planning (50h), Production of digital contents (50h), Geography and touristic resources (25h), Social Media Marketing (25h), Technics of creative writing (25h), Marketing of the product (25h), Behaviour of the online consumer (25h), Digital communication in tourism (50h), Video marketing for touristic destinations (50h), Business in tourism (25h), English (50h), Distribution channels and touristic booking (25h) and Project digital tourism (50h).</li> <li>• Practical Training in Real Context of Work (400h).</li> </ul>	

N.	Practice	Country	Brief description	Source
28	Tourism Centre of Innovation - Centro de Inovação do Turismo (NEST)	Portugal	<p>Integrated in the programme Tourism 4.0 of the Portuguese Government, the Tourism Centre of Innovation aims at:</p> <ul style="list-style-type: none"> <li>Promoting the entrepreneurship, innovation and research in tourism;</li> <li>Supporting companies in the development of a creative and innovative vision;</li> <li>Creating training laboratories in cooperation with Universities, Schools of Tourism, Incubators and Knowledge Centres;</li> <li>Producing and transferring knowledge to companies.</li> </ul> <p>Among all the initiatives, NEST will launch the Digital Tourism Academy in partnership with the network of tourism schools that will:</p> <ul style="list-style-type: none"> <li>Develop projects of capacity building in digital area;</li> <li>Launch the innovation challenges;</li> <li>Promote partnerships with clusters for the design of bi-annual action plans in specific fields.</li> </ul> <p>At the same time, the academy will also focus on:</p> <ul style="list-style-type: none"> <li>Development of R&amp;D international project in tourism;</li> <li>International promotion of the innovation in tourism;</li> <li>Identification of international trends of innovation and management of networks to support incubation spaces to start-ups and new companies, in cooperation with incubators.</li> </ul>	More <a href="#">info</a>
29	Digital Commerce - Comércio Digital	Portugal	<p>Part of the Digital Commerce programme of the Portuguese Government, the Digital Commerce aims at mobilizing entrepreneurs for the digitalisation of their business, namely by:</p> <ul style="list-style-type: none"> <li>Raise the awareness of the entrepreneurs to have a Digital Presence;</li> <li>Promoting the incorporation of the technology in entrepreneurs' business' models;</li> <li>Dematerialization of the process of the relationship with customers and providers, by using the technologies of information and communication.</li> </ul> <p>One of the initiatives integrated in the programme is the Digital Academy that consists in the availability of training contents for the capacitation for the digital economy, addressed to professionals of micro-companies and SMEs of commerce and services. The contents of the training will be available in an E-learning platform to support the Digital Academy.</p>	More <a href="#">info</a>

N.	Practice	Country	Brief description	Source
30	Training and capacity building of Human resources	Portugal	<p>Integrated in the Portuguese National Strategy for the Industry 4.0 (this is one of the six axes of the programme), this axe aims to adequate the training contents of the National system of education to the new technologies and promote measures of requalification and training of professionals at four levels:</p> <ul style="list-style-type: none"> <li>• Low secondary, upper-secondary and vocational education - Raise the interest of new generations to the ICT, digitalisation and automotive, raising their awareness of the actual key-factors for the global economy.</li> <li>• High Education and Polytechnic - Adapt the High Education and Polytechnics, reinforcing the relevance of themes associated to ICT and innovation in the contents and activities, preparing students to the actual challenges of the labour market.</li> <li>• Requalification of active population - Promote initiatives, transversal to all generations, of democratization and reconversion of competencies in the ICT areas to all active population.</li> <li>• Attractiveness to the Industry - Elevate the attractiveness of the national industrial sector to the new generations, investing in the raise the awareness of entrepreneurs and decision-makers of the national entrepreneurial sector for the innovation in the context of Industry 4.0.</li> </ul>	More <a href="#">info</a>

Figure 5 – Identification and brief characterisation of the good practices identified at National level related to the promotion of digital competencies (education), examples for new digital (technical) developments at company level and example to raise the awareness and involve staff in the course of the companies' digital development.

### 2.3. Recommendations and guidelines for the companies

Business models with the inclusion of ICT and digital technologies require extended or alternative competencies of the employees.

New interdisciplinary skills are gaining importance due to the digitalisation of our world. Employees should have access to these new fields of knowledge that is mostly not connected to their specialisation.

The increasing degree of networking also requires professional competencies such as system- and process knowledge, self-organisation and communicative skills. Due to dynamic markets and the rapid change of new technologies, the importance of lifelong learning and innovative capacity seems to be growing.

Considering all these aspects and the need of the companies and employees benefit from support to successfully define, implement and monitor a digital strategy focused in the assessment, acquisition and development of workers' digital competencies, some suggestions to be included in the following intellectual outputs of the project were made.

These suggestions are organised in four main groups:

- Prerequisites of companies
- Guidelines for Digital Competencies promoter
- Competencies to be integrated in the training
- Online Toolbox 4.0

The main inputs for each of these tasks/groups are introduced in the Figure 6:

Tasks/groups	Inputs
Prerequisites of companies	<p>There is an increased need for action! Educational institutions and companies are required! It is important to bring the SMEs from “Management 1.0” to „Digital Empowering Leadership“ and to promote an active development of digital skills and competencies of employees at their workplaces.</p> <p>First, it is important to prepare the companies and employees at different levels, which includes:</p> <ul style="list-style-type: none"> <li>• The design of the interfaces (human-machine, human-human and human-object);</li> <li>• The development of implementation scenarios considering the changed boundary conditions of the use of technology (especially of the younger generations) as well as demographic differences;</li> <li>• Strategies to increase user acceptance and legal handling of personal data;</li> <li>• Targeted competence development and qualification;</li> <li>• Dealing with effects on employment (particularly in the low-skilled sector).</li> </ul> <p>Once having the necessary devices and supports, is important to raise the awareness of employees of the company as a privileged context of learning, essential for them to see companies as a learning organisation, willing and prepared to:</p> <ul style="list-style-type: none"> <li>• create digital competencies assessments of your employees;</li> <li>• design tailor-made further digital education activities;</li> <li>• create learning-friendly working conditions for workplace learning (“digital workplaces”); networked learning; learning on the job, experienced-based learning and to offer more specific time to learn!</li> <li>• set up a “Digital Culture”, because effective digitization begins in the mind of the employees.</li> </ul>
DC4Work Guidelines for “Digital Competencies promoter” in SMEs (IO2)	<p>The target group of these guidelines should be workers with managerial/employees’ responsibility with a certain openness to the topic and the motivation to a digitally supported further development of the company and to build up a digital in-house competence.</p> <p>Is important to integrate the first part, allowing companies to think and reflect about requirements and needs of SMEs, concerning the assessment and development of digital competencies of their workers. Some key questions are important for this:</p> <ol style="list-style-type: none"> <li>1. What do you understand within digital competence in the company context?</li> <li>2. Do you have a strategy to develop and evaluate digital skills of your employees?</li> <li>3. Is there any need for further training for your employees relating their digital skills and competencies?</li> <li>4. Do you have the willingness to invest in digital competencies training of your employees?</li> <li>5. What contents/topics do you think are most important for the training?</li> <li>6. How can digital skills be trained most efficiently?</li> </ol>

Tasks/groups	Inputs
	<p>Additionally, the guidelines should also integrate and provide:</p> <ul style="list-style-type: none"> <li>• Guidelines and practical examples piloting of innovative and cost-efficient training solutions for developing digital competencies at work.</li> <li>• Networking strategies for SMEs and vocational training professionals for joint initiatives.</li> <li>• Sharing awareness of the importance of digital competencies in digital disruption of the working life and sharing knowledge about best practices in on-demand competence development.</li> <li>• Companies strategy to the evaluation and development of workers digital skills needs to be integrated into the Human Resources Policy of the company.</li> <li>• Is not mandatory to have a promoter responsible for structuring, implementation and monitoring of the strategy for the development of the workers digital skills, but in case the companies consider it important some aspects need to be considered: <ul style="list-style-type: none"> <li>○ All company needs to be aware of the existence of the promoter and is important to give a catchy name to this function. A suggestion made was the designation of "Chief Digital Officer".</li> <li>○ The promoter needs to be a person with which managers and workers identify with. It is important to guarantee the proximity of the promoter with the manager or the executive commission of the company and, whenever possible, the promoter can be part of the management and executive commission of the company.</li> </ul> </li> <li>• Is important to integrate in the guidelines or toolbox different strategies and supporting materials fostering the development of the awareness and knowledge from manager and workers related to the relevance of the workers digital skills to the company, including: <ul style="list-style-type: none"> <li>○ Formal, informal or non-formal activities focused on the raise of awareness of companies and workers.</li> <li>○ Tools and strategies to successfully access workers digital skills.</li> <li>○ Strategies and materials to support the acquisition and development of workers digital skills at the workplace.</li> </ul> </li> <li>• Is also important to have activities and materials to support the companies in the definition, implementation and monitoring of the digital strategy fostering the strengthen of workers digital skills.</li> </ul>
<p>Competencies to be integrated in the training (IO2)</p>	<p>Besides the competencies identified in the DigComp, experts also identified as being critical and useful to integrate in the training programme the following digital competencies:</p> <ul style="list-style-type: none"> <li>• "Cognitive Agility": the willingness to engage with new developments and to adapt one's behaviour to the circumstances.</li> <li>• Demarcation to the machine world! We are humans and not computers! Creative work, flexible working, categorical thinking, concept thinking, lateral thinking / critical reflection distinguishes us as humans. Standard processes and details can be arranged better by specific software.</li> </ul>

Tasks/groups	Inputs
	<ul style="list-style-type: none"> <li>• How can I use technology effectively to work more efficiently?</li> <li>• How to work = IS Digital (digital work organisation / time management)</li> <li>• ATTENTION: “digital stress”, train deep work: do not irritate / distract / concentrated work!</li> <li>• Digital Fluency - Digital Dexterity / Sovereign Handling (explicit &amp; implicit digital knowledge).</li> <li>• Digital self-efficacy: the inner conviction that you have the necessary digital skills!</li> </ul> <p>Some of the competencies mentioned are more related to the retail sector:</p> <ul style="list-style-type: none"> <li>• Digital Spirit: manager and employee level, how to motivate and involve staff to be digitally active, an explanation why changes are necessary</li> <li>• The Digital Business card: landing page, online entry</li> <li>• Customer communication: communication channels, complaints, salespersons as problem solvers, data protection, customer specific</li> <li>• Online-Marketing: knowledge of customers and their digital habits/devices used, customer loyalty, social media, content, advertising, research what others do</li> <li>• Managing customer data: collect and evaluate customer data, know the customer (customer insight): environment/ habits/ needs; data protection, what to do with customer data?</li> <li>• Digital networking: coordinate local digital activities with other retailers (tools?), communicate and inform themselves in relevant retail networks, build up networks including further services</li> <li>• Mobile Devices at the workplace: Which? How to include those for which purposes?</li> <li>• Overview of offline training market: private training providers, coaches, consultants</li> <li>• Overview of online training market: tutorials, explaining videos, handbooks, OER in general</li> </ul>
Online Toolbox 4.0 (IO3)	<p>There were several suggestions collected for the set-up of IO3 - Online Toolbox 4.0 in order to address and attract the target group of digital competencies promoters in companies properly:</p> <ul style="list-style-type: none"> <li>• Address target group directly (e.g. You would like to...? Then you need to...!)</li> <li>• Find the right language to attract their attention (e.g. headlines, less text etc.)</li> <li>• Communicate the benefits of platform offers/products</li> <li>• Only provide small bits of information</li> <li>• Rather be concrete and offer something for a concrete problem, than too wide</li> <li>• Reduce time spent online - structure content in learning nuggets</li> <li>• Combination of offline and online training offer (human exchange is preferred over self-study only)</li> <li>• Put efforts in luring target group on the online platform</li> <li>• Use social media to attract target group and use posts that are a) entertaining or b) of great value</li> </ul>

Figure 6 – Recommendations and guidelines to consider in the development of the resources to companies.

### 3. Annexes

- Annex I – Table for the identification and collection of documents
- Annex II – Results on desk research (structure)
- Annex III – Survey template
- Annex IV – Focus Group: Moderation Plan
- Annex V – Focus Group: Questions
- Annex VI - Focus Group: Registration of the main inputs of participants
- Annex VII - Focus Group/Interviews record: Consent form
- Annex VIII - Interviews: Guidelines and report
- Annex IX - Protocol of the interviews
- Annex X - Registration of interviews: Identification of interviewees
- Annex XI – National report – Austria (available [here](#))
- Annex XII – National report – Germany (available [here](#))
- Annex XIII – National report – Finland (available [here](#))
- Annex XIV – National report – Portugal (available [here](#))

## Annex I – Table for the identification and collection of documents

Focus	Country	Region (if applicable)	Level	Type of Document	Title	Year (in the case of projects, please identify the years of it)	Authors (in the case of projects, please identify partners)	Weblink (if not available, please provide the document)	Description	Observations

Legend:

**Focus can be: Policy level; Business level; VET or Other**

**Country: Germany, Finland, Austria, Portugal and Belgium**

Level: Policy, Business, VET or Other

Type of document: Training curricula, Studies/diagnosis, Programmes/strategies/agendas or Other

## Annex II – Results on desk research (structure)

### Introduction

### National report

1. Relevance in Portugal - to what extent is the topic “digital competencies in SMEs” recognised as being relevant
2. Strategies and programmes at policy level, fostering the promotion of digital competencies in SMEs
3. How SMEs from touristic and commercial sector recognise the promotion of digital competencies in companies as being strategic
4. Qualification, curriculum or unit in the NQF of Germany focused on digital competencies acquisition
5. Summary

### References

### Annex III – Survey template

To what extent are Small and Medium Enterprises (SMEs) of the sectors of Tourism and Retail aware and have the knowledge to successfully incorporate or promote digital competencies at the workplace? Are SMEs of Tourism and Retail assessing their needs in what concerns digital competencies? Which are needs of the SME of Tourism and Retail related to digital competencies?

These questions are the basis of **DC4WORK – Work-based learning in a digital age – promoting competencies for better employability and innovation**, a European project aiming at achieving high quality skills and competencies, supporting individuals in acquiring and developing key competencies, especially digital skills, in order to foster long-term employability and professional development.

We invite you to contribute to this study by answering the following questions. It will require no more than 10 minutes of your time.

The survey is organised in four sections: the first two sections to collect statistical information about the participants and companies answering to the survey and the last two sections focused on the collection of data related to the training policy, needs and trends of your company in short, mid and long-term.

Your answers will be treated confidentially, and they will be used by the internal project team only.

**Thank you very much for your contribution!**

## Section 1- Personal Information

In this section we requested some personal information of the person answering to the survey, data that will be used for statistical purposes only. Please note that your answers will be treated confidentially, and they will be used by the internal project.

### 1.1 Country of residence

- |                                    |   |                                   |  |
|------------------------------------|---|-----------------------------------|--|
| <input type="checkbox"/> Austria   | <input type="checkbox"/> Belgium        | <input type="checkbox"/> Bulgaria | <input type="checkbox"/> Croatia         |
| <input type="checkbox"/> Cyprus    | <input type="checkbox"/> Czech Republic | <input type="checkbox"/> Denmark  | <input type="checkbox"/> Estonia         |
| <input type="checkbox"/> Finland   | <input type="checkbox"/> France         | <input type="checkbox"/> Germany  | <input type="checkbox"/> Greece          |
| <input type="checkbox"/> Hungary   | <input type="checkbox"/> Ireland        | <input type="checkbox"/> Italy    | <input type="checkbox"/> Latvia          |
| <input type="checkbox"/> Lithuania | <input type="checkbox"/> Luxembourg     | <input type="checkbox"/> Malta    | <input type="checkbox"/> The Netherlands |
| <input type="checkbox"/> Poland    | <input type="checkbox"/> Portugal       | <input type="checkbox"/> Romania  | <input type="checkbox"/> Slovakia        |
| <input type="checkbox"/> Slovenia  | <input type="checkbox"/> Spain          | <input type="checkbox"/> Sweden   | <input type="checkbox"/> UK              |

### 1.2 Age

- 20-30     
  30-40     
  40-50     
  50-60     
  >60

### 1.3 Gender

- Female                     
  Male

### 1.4 Qualification

- |  |  |
|--|--|
| <input type="checkbox"/> Lower Secondary Vocational Education and Training | <input type="checkbox"/> Upper-Secondary Vocational Education and Training |
| <input type="checkbox"/> Higher Vocational Education and Training          | <input type="checkbox"/> Other   |
|  | Please specify: _____  |

## Section 2 – Characterisation of your organisation

In this section we ask you to provide some information of characterisation of the organisation you represent, data that will be used for statistical purposes only. Please note that your answers will be treated confidentially, and they will be used by the internal project.

### 2.1 Name of the organisation (abbreviation)

### 2.2 Type of organisation

- Small and Medium Enterprise (SME)
- Large company
- Business Association or Chamber of Commerce
- Vocational Education and Training provider (VET)
- Other                      Please specify: \_\_\_\_\_

### 2.3 Sector

- Tourism (e.g. museums, touristic information posts, restaurants, hotels, among others)
- Retail (e.g. stores, grocery stores & supermarkets, convenience retailer and mobile retailer)
- Other                      Please specify: \_\_\_\_\_

### 2.4 Your function

- Manager
- Human Resources Manager
- Training Manager
- In-company trainer or tutor
- Worker
- Expert/consultant
- ICT manager/Technician
- Other                      Please specify: \_\_\_\_\_

### Section 3a – Digital devices at the workplace or Vocational training

In this section we invite you to identify the devices existent, available and used by the workers/trainees in the organisation you represent. This will be essential to understand the presence and relevance of the digital in your organisation.

	YES	NO	PLANNED	NO INFORMATION
Desktop PC				
Notebook with Web Access				
Tablet				
Smartphone				
3d-printer				
wearable computer with a head-mounted display				
Orderman				
Wearables				
Data glasses				
Smartwatches				
Internet of things (IoT), RFID, Smart home; sensors; tracker...				
Alexa				
Other				

### Section 3b – Digital media at the workplace or Vocational training

This section is related to the type of use of digital media in the organisation you represent and here we ask you to identify the type of programmes, uses and tools that workers/trainees of the organisation need to use in a regular basis.

	YES	NO	PLANNED	NO INFORMATION
Office software (Outlook, Word, Excel)				
Process software (logistics, booking software, SAP,)				
Information and digital content (browsing, searching, filtering data)				
Intranet				
Cloud services				
Communication and collaboration (skype, video conference)				
Social network/media				
Blogs / Wikis				
Safety/Virus Protecting software				

## Section 4 – Awareness and policy on digital competencies

This section is composed of statements related to the awareness, knowledge and policy of the company you represent, on digital competencies assessment and promotion. For the following set of statements please select the most appropriate answer that applies to YOUR company, selecting just one answer per statement:

	fully applies	rather applies	unsure	rather does not apply	does not apply at all
4.1 The company has a clear strategy focused on promotion and assessment of digital competencies of its workers.					
4.2 The company promotes a set of activities/initiatives fostering the promotion and of digital competencies of its workers (e.g. raise the awareness, assessment of digital competencies, identification of training needs in digital competencies of its workers, continuous training of workers).					
4.3 The workers of the company have the necessary competencies (knowledge, skills and attitudes) to use and benefit from the ICT devices and tools available for their work/tasks.					

4.1 Does your company has a strategy or set of activities, fostering the assessment and development of digital competencies of its workers?

Yes  No

In case of yes, please describe the practice/set of activities that are being implemented in the last 2 years.

## Section 5 – Identification of needs and trends

In this section we ask you to characterise your company in terms of practices, training needs and trends related to the measure and development of digital competencies of its workers.

5.1 In your opinion the SME that you represent should prepare and provide training to its workers, fostering the acquisition and development of these competencies?

Yes  No

In case of yes, please identify the level of importance of promoting training per each digital competence:

Digital Competencies		Irrelevant	Relevant	Crucial	Don't know /No answer
<b>Information and data literacy</b>	Browsing, searching, filtering data, information and digital content				
	Evaluation data, information and digital content				
	Managing data, information and digital content				
<b>Communication and collaboration</b>	Interacting through digital technologies				
	Sharing through digital technologies				
	Engaging in citizenship through digital technologies				
	Collaborating through digital technologies				
	Netiquette				

	Managing digital identity				
<b>Digital content creation</b>	Developing digital content				
	Integrating and re-elaborating digital content				
	Copyright and licences				
	Programming				
<b>Safety</b>	Protecting devices				
	Protecting personal data and privacy				
	Protecting health and well-being				
	Protecting the environment				
<b>Problem solving</b>	Solving technical problems				
	Identifying needs and technological responses				
	Creatively using digital technologies				
	Identifying digital competencies gaps				

6. Are you aware about any good practice concerning the measure and development of digital competencies in European SMEs?

Yes

No

In case of yes, please identify the good practice and describe it, providing the source of information.

The DC4WORK partnership invites you to follow and keep updated about projects' activities and products. In case you are interested in receiving news on the project, please provide us your name (first and last), identify your company and your e-mail.

First and last name:

Company (not mandatory):

E-mail of contact:

**Thank you very much for your contribution!**

## Annex IV – Focus Group: Moderation Plan

Steps	Duration	Topics/Observations
<b>A. Welcome</b>	10 minutes	Introduce yourself and the institution you represent;
		Present the project, clearly defining: <ul style="list-style-type: none"> <li>- The problem;</li> <li>- The DC4Work aims and objectives responding to the problem;</li> <li>- The DC4Work products/results to be developed;</li> <li>- Distribute the flyer of the project.</li> </ul>
<b>B. Explain the session and roles</b>	5 minutes	Your role, as the moderator: <ul style="list-style-type: none"> <li>- The role of the moderator entails that there is no intervention, only if participants of the Focus Group start deviating from the topic. The idea is that participants speak freely, and the moderator occasionally introduces another question. Remember, there are no right or wrong answers, and the idea is that all participants feel encouraged to express their views and opinions).</li> <li>- The moderator must consider the following: (i) create a pleasant atmosphere for debate; (ii) keep participants engaged in the discussion and to the point; (iii) clarify any issues only if necessary; (iv) you are passive, while participants must be active (v) motivate participants to continue with their thoughts/ideas.</li> </ul>
		The importance of their contribution for the project. In case you decide to record the session/interview you do must inform participants of it and highlight that their names won't be mentioned in any document.
<b>C. Ask participants to introduce themselves</b>	10 minutes	Some suggestions: <ul style="list-style-type: none"> <li>- Name</li> <li>- Company and job</li> <li>- Specific field of work and experience on it</li> <li>- Expectations related to the session</li> </ul>
<b>D. Discussion and exchange of opinions</b>	45-60 minutes	Mandatory questions are introduced in Annex D.
<b>E. Closing and Final Remarks</b>	5 minutes	Thank participants for their participation and inform them that they will receive a copy of the report to be produced.
		At the end of the session, participants are challenged to filling in post-its identifying: positive aspects of the sessions: aspects to be improved; expectations about the project. Is important to use three different colours of post-its.
		Kindly remember to ask participants to sign the participation sheet.

## Annex V – Focus Group: Questions

1. How do you see and describe Digital Competencies in actual economic setting?
2. To what extent are digital competencies 4.0 relevant for the touristic and/or trade sectors, nowadays and in the future? Please explain.
3. Based in your experience/knowledge, do companies have a strategy to evaluate and develop the digital competencies of their employees?
4. Which digital devices need to be used in the future for an innovative tourism / retail trade or have already proven themselves in use for innovative additional offers?
5. Do employees of the companies of these sectors make efficient use of the digital applications made available to? Is it possible to improve it? How?
6. In your perspective, are the companies of these sectors willing to invest in training offers to adult workers fostering the acquisition, development and consolidation of their digital competencies? In which fields or set of competencies?
7. In your perspective, how can these digital competencies could be trained and developed at work / on the job?
8. From the following set of digital skill, grade them from 1 to 5, considering 1 the most important and 5 the less important for your sector/company:
  - a. Information processing (Search and process information)
  - b. Communication (Communicate and collaborate)
  - c. Content creation (Produce digital content)
  - d. Safety (protect and act safely)
  - e. Problem solving (problem solving and action)

## Annex VI - Focus Group: Registration of the main inputs of participants

Questions	Registration
1. How do you see and describe Digital Competencies in actual economic setting?	
2. To what extent are digital competencies 4.0 relevant for the touristic and/or trade sectors, nowadays and in the future? Please explain.	
3. Based in your experience/knowledge, do companies have a strategy to evaluate and develop the digital competencies of their employees?	-
5. Do employees of the companies of these sectors make efficient use of the digital applications made available to? Is it possible to improve it? How?	
6. In your perspective, are the companies of these sectors willing to invest in training offers to adult workers fostering the acquisition, development and consolidation of their digital competencies? In which fields or set of competencies?	
7. In your perspective, how can these digital competencies could be trained and developed at work / on the job?	
8. From the following set of digital skill, grade them from 1 to 5, considering 1 the most important and 5 the less important for your sector/company:	

Annex VII - Focus Group/Interviews record: Consent form

**Focus Group/Interviews record: Consent form**

**Partner:**

**Country:**

**Moderator/Interviewer:**

**Participant/Interviewee:**

I agree to take part in the focus group/interview that will be recorded and eventually transcribed in writing.

Furthermore, I agree that my statements may be quoted in sections and in anonymous form, but my name is not used.

I have been informed that personal information (telephone number, address) will not be passed on to external persons.

Local, Date

Signature of participant,

---

## Annex VIII - Interviews: Guidelines and report

Steps	Topics/Observations
<b>A. Welcome</b>	Introduce yourself and the institution you represent; Present the project, clearly defining: <ul style="list-style-type: none"> <li>- The problem;</li> <li>- The DC4Work aims and objectives responding to the problem;</li> <li>- The DC4Work products/results to be developed;</li> <li>- Distribute the flyer of the project.</li> </ul>
<b>B. Introduction</b>	Briefly introduce the interview in terms of: <ul style="list-style-type: none"> <li>- Objectives</li> <li>- Expected outcomes</li> <li>- Questions</li> <li>- Methodology: semi-structured interview</li> </ul>
<b>C. Implementation of the interview</b>	Explain the importance of their contribution for the project. The questions to ask to key-stakeholders are identified in Annex D. The protocol to support partners in interviews is available in Annex G.
<b>D. Closing and Final Remarks</b>	Thank participants for their participation and inform them that they will receive a copy of the report to be produced.

## Annex IX - Protocol of the interviews

<b>1. Identification of the interviewee</b>	
1.1 Country of residence	Portugal <input type="checkbox"/> Germany <input type="checkbox"/> Austria <input type="checkbox"/> Finland <input type="checkbox"/>
1.2 Organisation you represent	
1.3 Sector of activity	Tourism <input type="checkbox"/> Trade <input type="checkbox"/> Other <input type="checkbox"/> Please specify:
1.4 Brief description of the organisation	
1.5 Localization of the organisation	
1.6. Name and job/function of interview	
1.7. Main contacts	E-mail: Telephone: Website: Other sources
1.8 Number of employees of the organisation	< 10 employees <input type="checkbox"/> 10- 49 employees <input type="checkbox"/> 50-249 employees <input type="checkbox"/> > 250 employees <input type="checkbox"/>
<b>2. Questions of the interview<sup>4</sup></b>	
2.1. How do you see and describe Digital Competencies in actual economic setting?	
2.2. To what extent are digital competencies 4.0 relevant for the touristic and/or trade sectors, nowadays and in the future? Please explain.	
2.3. Based in your experience/knowledge, do companies have a strategy to evaluate and develop the digital competencies of their employees?	
2.4 Which digital devices need to be used in the future for an innovative tourism / retail trade or have already proven themselves in use for innovative additional offers?	
2.5 Do employees of the companies of these sectors make efficient use of the digital applications made available to? Is it possible to improve it? How?	
2.6. In your perspective, are the companies of these sectors willing to invest in training offers to adult workers fostering the acquisition, development and consolidation of their digital competencies? In which fields or set of competencies?	
2.7. In your perspective, how can these digital competencies could be trained and developed at work / on the job?	
2.8 From the following set of digital skill, grade them from 1 to 5, considering 1 the most important and 5 the less important for your sector/company: a. Information processing (Search and process information) b. Communication (Communicate and collaborate) c. Content creation (Produce digital content) d. Safety (protect and act safely) e. Problem solving (problem solving and action)	
<b>3. Final comments/suggestions</b>	

<sup>4</sup> Please consider the comments and suggestions identified in Annex D.

Annex X - Registration of interviews: Identification of interviewees

**Registration of interviews: Identification of interviewees<sup>5</sup>**

**PARTNER:**

**COUNTRY:**

Name of participant	Organisation/Function <sup>6</sup>	Date of the interview	Interviewer	Interviewee	Evidences <sup>7</sup>

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Project manager from partner: \_\_\_\_\_

<sup>5</sup> The collection of personal data is of the responsibility of DC4Work consortium, which guarantees its total protection and it arises from the need of reporting the activities performed in the context of the European Project duly identified in the sheet. The provision of personal data to third parties will only take place for the purpose of verifying the veracity of the information and audits by the European Commission.

<sup>6</sup> Short name of the company and function of the interviewee.

<sup>7</sup> Registration of the interview, video and/or audio record, protocols, among other.

## 4. Sources

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