DIGITAL COMPETENCES DEVELOPMENT SYSTEM

CONTEXT ANALYSIS

REPORT

Project name	Digital Competences Development System (DCDS)
Project number	590141-EPP-1-2017-1-BE-EPPKA3-PI-FORWARD
Document number	4
Document title	Context Analysis Report
Version	2.0
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Document review history

Version	Name	Date	Summary of changes
V1	AV	13/06/2018	Submission of Version 1
V2	AV	11/11/2018	Integration of more details about the project and the DCDS framework
			Inclusion of partner national reports as annexes
			Revision of graphs and tables

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Glossary

This chapter aims at clarifying main concepts and terms used within the report as well as supporting a common understanding of these concepts and terms.

Digital competence	Digital competence involves the confident, critical and responsible use of, and engagement with, digital technologies for learning, at work, and for participation in society. It includes **information and data literacy**, **communication** and **collaboration**, **digital content creation** (including programming), **safety** (including digital well-being and competences related to cybersecurity), and **problem solving**. Annex to the Proposal for a Council Recommendation on Key Competences for Lifelong Learning {SWD (2018) 14 final}.

Definition of "competence" in the European Qualification Framework (EQF): "competence means the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development." They are described in terms of responsibility and autonomy. Annex I (Definitions) to the Council Recommendation (2017/C 189/03) on the European Qualifications Framework for lifelong learning. |
| **Transversal competence** | Transversal knowledge, skills and competences are relevant to a broad range of occupations and sectors. They are often referred to as core skills, basic skills or soft skills, the cornerstone for the personal development of a person. Transversal knowledge, skills and competences are the building blocks for the development of the "hard" skills and competences required to succeed on the labour market. (ESCO Classification). |
| **Learning outcomes** | "Learning outcomes means statements regarding what a learner knows, understands and is able to do on completion of a learning process, which are defined in terms of knowledge, skills and responsibility and autonomy". Annex I (Definitions) to the Council Recommendation (2017/C 189/03) on the European Qualifications Framework for lifelong learning. |
| **People with low digital skills** | People who do not have enough digital skills to access the rights and benefits normally available to members of society, such as employment, adequate housing, health care, education and training.

With reference to the framework used by DCDS (DigComp 2.1), these people need to be trained at Foundation level to get basic digital skills and be socially included. (See below – pag. 4 – for more information) |

Introduction

DCDS project aims to **establish a framework** that will provide the digitally low-skilled adult European population with the **basic digital and transversal competences** needed for employment, personal development, social inclusion and active citizenship.

To achieve this aim, the project will develop an **open, innovative multilingual Digital Competences Development System (DCDS)** and use it to provide non-formal training to digitally low-skilled adults in different European countries.

DCDS' specific objectives are:

▪ Improve the basic digital and transversal competences of 25+ years old citizens through an integrated system that combines an online environment and face-to-face training support;

▪ Support non-formal training providers in planning and delivering flexible and modular training offers, aimed at improving basic digital competences of adults, which are mapped to DigComp 2.1;

▪ Empower policy-makers and key stakeholders from different fields in formulating integrated policies for developing and recognising adult citizens' basic digital competences; and

▪ Collect and analyse evidence to substantiate innovative policies and practices through a field test of the DCDS in five European countries.

DCDS is co-funded by the **Erasmus+ Programme** of the European Union under the Action KA3 Support for Policy Reform, Forward Looking Cooperation Projects (FLCPs). It started on the 1st of January 2018 and will last 2 years. By the end of the project:

Adult citizens will get	Stakeholders will get
• Online self-assessment tool to assess your digital skills • Flexible, personalized learning pathways on up to 21 digital competences at basic level • Online learning environment with gamification features • Face-to-face learning support in digital competence centres • Validation of acquired basic digital skills though open badges • Training opportunity in national languages in Greece, Italy, Latvia, Romania and Spain	• Context Analysis Report on good practices and e-inclusion policies for enhancing basic digital skills and for analysing the training needs of adults with low digital skills • Methodology for assessing, developing and validating digital skills in non-formal education, fully aligned with the Digital Competence Framework (DigComp) • Multilingual online assessment and learning environment with gamification features • Online and offline modular training content • Policy recommendations on developing and certifying basic digital skills of adults

DigComp as a reference framework for DCDS[1]

The European Digital Competence Framework for Citizens, also known as DigComp, offers a tool to improve citizens' digital competence. DigComp was developed by the JRC as a scientific project and with intensive consultation of stakeholders, initially on behalf of DG EAC and, more recently, on behalf of DG EMPL.

First published in 2013, DigComp has become a reference for the development and strategic planning of digital competence initiatives both at European and Member State level. In June 2016 JRC published DigComp 2.0, updating the terminology and conceptual model, as well as showcasing examples of its implementation at the European, national and regional level.

The current version is labelled DigComp 2.1 and it focuses on expanding the initial three proficiency levels to a more fine-grained eight level description as well as providing examples of use for these eight levels. Its aim is to support stakeholders with the further implementation of DigComp.

The DigComp Framework has 5 dimensions:

■ **Dimension 1:** Competence areas identified to be part of digital competence
   - o *Competence area 1: information and data literacy*
   - o *Competence area 2: communication and collaboration*
   - o *Competence area 3: digital content creation*
   - o *Competence area 4: safety*
   - o *Competence area 5: problem solving*

■ **Dimension 2:** Competence descriptors and titles that are pertinent to each area

   The so called 'Learning Outcomes' (21 in total in DigComp 2.1), which will be all taken into consideration for the design of our Digital Competence Development System

■ **Dimension 3:** Proficiency levels for each competence

   Eight proficiency levels for each competence have been defined through learning outcomes (using action verbs, following Bloom's taxonomy) and inspired by the structure and vocabulary of the European Qualification Framework (EQF). Moreover, each level description contains knowledge, skills and attitudes, described in one single descriptor for each level of each competence; this equals to 168 descriptors (8 x 21 learning outcomes). In the DCDS project we will refer to levels 1 and 2 of DigComp 2.1

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[1] The information provided under this section have been extracted from: Carretero, S.; Vuorikari, R. and Punie, Y. (2017). DigComp 2.1: The Digital Competence Framework for Citizens with eight proficiency levels and examples of use, EUR 28558 EN, doi:10.2760/38842 https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/digcomp-21-digital-competence-framework-citizens-eight-proficiency-levels-and-examples-use

Levels in DigComp 1.0	Levels in DigComp 2.1	Complexity of tasks	Autonomy	Cognitive domain
Foundation	1	Simple tasks	With guidance	Remembering
	2	Simple tasks	Autonomy and with guidance where needed	Remembering

■ **Dimension 4:** Knowledge, skills and attitudes applicable to each competence (not included in the last version of DigComp)

■ **Dimension 5:** Examples of use, on the applicability of the competence to different purposes (reflected, where possible, in the real life scenarios used for the development of the core training material used in DCDS)

Methodological framework of the research

In order to set the basis for a more contextualized and effective development of such a framework, during the first six months of the project (January-June 2018), the project partners have carried out a desk and a field research under the methodological guidance of the **Associazione Centro Studi Città di Foligno (CSF)**.
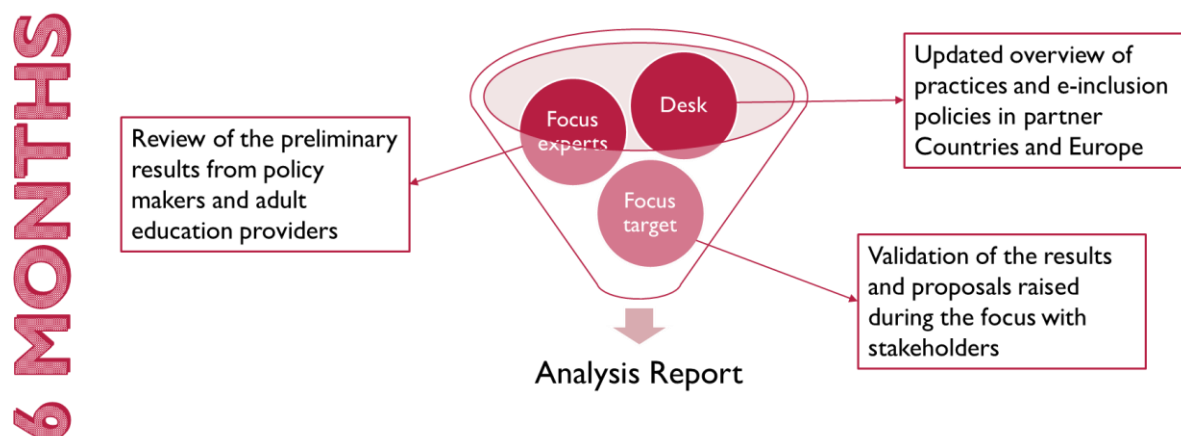
A **desk research** has been initially implemented at both national level (CSF and AECA in Italy, HOU in Greece, ESPLAI in Spain, LIKTA in Latvia, EOS in Romania) and international level (thanks to the networks represented by ALL DIGITAL and EAEA), with the main objective of:

1] investigating on the **adoption of DigComp Framework** in non-formal education for adults;

2] reviewing and analysing **existing e-Inclusion policies** based on their consistency with DigComp and other EU flagship initiatives in the field of adult education.

Preliminary results have been presented and discussed during 5 national focus groups with policy makers and adult learning providers, mostly focused on the collaborative prioritization of the basic digital skills to be acquired by EU +25yo citizens in the 21st century.

The findings of the first focus groups have been finally validated during a second session with selected digitally low-skilled adults, representing the main target group of the project, and summarized by the responsible partners with the production of National Reports in May 2018.

Therefore, in this report we are presenting the final results of a comparative analysis conducted by CSF on all collected data, by following the structure of the implemented research framework and providing a European overview, followed by a focus on project Countries and relevant conclusions and recommendations for the development of DCDS. In particular, we will focus on:

1] **Adult learning and e-Inclusion policies in Europe**, presenting an updated overview of the relevant initiatives and policies focused on actual and forward-looking strategies for the development of basic digital skills in non-formal adult education;

2] **Good practices in the adoption of DigComp in Europe**, starting from some selected examples included in the recently published "*DigComp into Action - Get inspired make it happen: a user guide to the European Digital Competence Framework*" and analysing how DigComp has been used in the Countries represented in the DCDS project;

3] **The adult education practice and policy context**, with a compared analysis of the stakeholders' point of view on profiling and motivating adult learners to improve their digital skills, as well as on the importance to identify and ensure adequate resources and certification scheme for the sustainability, transferability and scaling-up of the proposed system;

4] **Self-assessment and training needs of digitally low-skilled adults**, reporting on most common problems experienced by the target group for their full inclusion in the digital society, as well as their motivation and expectations for being involved in a training paths on basic digital skills.

1. Adult Learning and e-Inclusion policies in Europe

In today's society everyone needs to have a wide set of skills, knowledge and competences, including a sufficient level of digital competence, in order to play an active part in society, to access and progress in the labour market, and to engage in further education and training in a lifelong learning perspective.

Around a quarter of the European adult population struggles with reading and writing and has poor numeracy and digital skills. Adults who do not possess a sufficient level of such skills face a high risk of social exclusion. According to the results of the EU-wide Digital Economy and Society Index (DESI) indicator, in 2017[2], the Human Capital dimension shows that while internet usage is on rise, **44% of Europeans still lack basic digital skills**.

Boosting digital skills is one of the European Commission's priorities. The Commission adopted in January 2018 a **Digital Education Action Plan[3]** which includes 11 initiatives to support technology-use and digital competence development in education. Alongside the action plan, a **Staff Working Document[4]** was adopted which goes into more detail on the Commission's approach to digital education. The action plan has three priorities, setting out measures to help EU Member States meet the challenges and opportunities of education in the digital age:

▌   Priority 1: Making better use of digital technology for teaching and learning

▌   Priority 2: Developing digital competences and skills

▌   Priority 3: Improving education through better data analysis and foresight

A recommendation to update the 2006 framework on key competences[5] was adopted the same day as the Digital Education Action Plan. The definition of **digital competences** has been extended and updated to reflect the changing nature of digital technology in working life and society more broadly. The new definition also aligns with the Digital Competence Framework for Citizens (DigComp)[6].

2018 Definition: "Digital competence involves the confident, critical and responsible use of, and engagement with, digital technologies for learning, at work, and for participation in society. It includes information and data literacy, communication and collaboration, digital content

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[2] https://ec.europa.eu/digital-single-market/en/news/digital-economy-and-society-index-desi-2017

[3] https://ec.europa.eu/education/sites/education/files/digital-education-action-plan.pdf

[4] https://ec.europa.eu/education/sites/education/files/swd-digital-education-action-plan.pdf

[5] http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52018DC0024&rid=2

[6] https://ec.europa.eu/jrc/en/digcomp

creation (including programming), safety (including digital well-being and competences related to cybersecurity), and problem solving".[7]

The **New Skills Agenda for Europe**[8] is a key policy priority for the European Union, adopted on 10 June 2016. It includes 10 proposed actions to be taken in the next two years by Member States to raise the level of adult basic skills. In this framework, the **Upskilling Pathways**[9] initiative was adopted by the Council on 19 December 2016 to help adults acquire a minimum level of literacy, numeracy and digital skills and then progress towards an upper or lower secondary qualification. The recommendations for the Upskilling Pathways identify "skill assessment", "learning offer" and "validation and recognition" as the three key steps necessary for the implementation of the initiative, in order to boost access to, and take up of, quality learning opportunities by adults with low levels of skills in European Member States. In addition, access to lifelong learning opportunities by low-qualified adults should be widely encouraged and inclusive participation is key to the success of upskilling measures. Therefore, efforts to reach out to individuals who need special motivation, support and lifelong guidance, especially those furthest away from the labour market or education and training, are essential. In 2018 Member States have outlined the measures they will take to implement Upskilling Pathways. They should put in place flexible pathways for upskilling in cooperation with social partners, education and training providers, and local and regional authorities. Upskilling Pathways is also a key building block of the **European Pillar of Social Rights**[10], which promotes equal rights to quality and inclusive education, training and life-long learning in order to support fair and well-functioning labour markets and welfare systems.

The **Renewed European Agenda for Adult Learning (EAAL)**[11] defines the focus for European cooperation in adult education policies for the period to 2020. It was adopted by the Council in November 2011. In it, the Council recognises that there is a need for all adults regularly to enhance their personal and professional skills and competences, but that adult learning is the weakest link in national lifelong-learning systems. Adult participation in learning continues to be low. In order to achieve an effective adult learning sector, more needs to be done. Among the issues targeted for action in the Agenda are: increasing the possibilities for all adults to access flexible, high-quality learning at any time in their lives; developing new approaches to adult education focusing on learning outcomes; raising awareness that learning is a lifelong endeavour; developing effective lifelong guidance systems and systems for validating non-formal and informal learning. EAAL is part of the **ET2020 framework**[12] for European cooperation in education and training. The **ET2020 working group on adult learning 2016 - 2018**[13] undertakes peer learning on policies that can encourage more adults

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[7] http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52018DC0024&rid=2

[8] https://ec.europa.eu/transparency/regdoc/rep/1/2016/EN/1-2016-381-EN-F1-1.PDF

[9] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:JOC_2016_484_R_0001

[10] http://ec.europa.eu/social/main.jsp?langId=en&catId=1226

[11] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2011.372.01.0001.01.ENG

[12] http://ec.europa.eu/education/policy/strategic-framework_en

[13] https://ec.europa.eu/education/policy/strategic-framework/expert-groups/adult-learning_en

to learn in the workplace. The **ET2020 working group on Digital Skills and Competences[14]** looks at the development of digital skills and competences at all levels and stages of learning and the potential and challenges of digital technology use in education. The group shares experience, evidence, analysis and policy options.

The **Electronic Platform for Adult Learning (EPALE)[15]** is a multilingual open membership community for teachers, trainers, researchers, academics, policy makers, and anyone else with a professional role in **adult learning across Europe**. As well as a wealth of information about good practices, EPALE hosts "Communities of Practice", including the community of practice on Upskilling Pathways[16]: online groups where people with similar interests from the adult learning sector can get together to make a difference by building a common space for exchanging information, opinions, and good practices.

1.1 Analysis of e-Inclusion policy context in DCDS partner Countries

The desk research on e-inclusion policies has been in implemented in Italy, Greece, Spain, Latvia and Romania and aimed at **investigating in the widest possible way how digital skills of adult citizens are supposed to be assessed, trained and certified within the framework of national and local regulatory frameworks**.

The main objective of this part of the research was to achieve an up-to-date overview of the e-inclusion policy context in Countries represented by the partnership, particularly focusing on how national and local authorities are implementing EU flagship initiatives such as, for example, *Upskilling Pathways – New opportunities for adults* and the brand new *Digital Education Action Plan*.

This task has been performed by all responsible partners using the template developed within the framework of the Unite-IT platform[17], which has guided the research through the analysis of policy documents and recommendations, starting from those related to non-formal education of adult citizens, but also taking into consideration other specific economic and societal areas, thus identifying cross-sectoral dimensions and approaches with Healthcare, Education, Economic development, Labour market, Culture and Research.

In all the Countries investigated with the desk research, a National plan on e-inclusion (or including e-inclusion elements and priorities) is present and it generally coincides with the European programming period 2014-2020. Nevertheless, **only the Italian and the Latvian governments have institutionally updated their national plans**, respectively in 2016 and

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[14] https://ec.europa.eu/education/policy/strategic-framework/expert-groups/digital-skills-competences_en

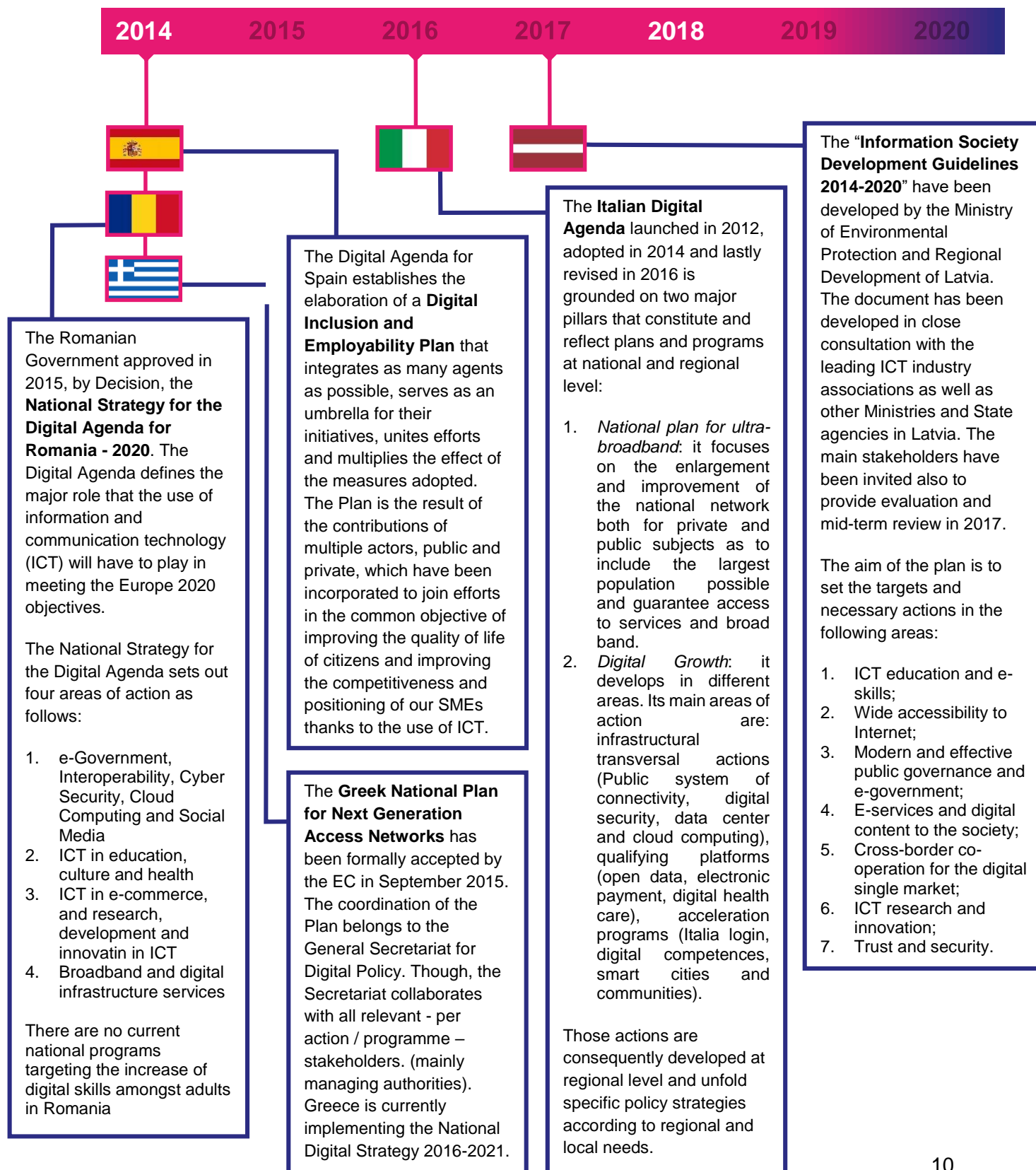[15] https://ec.europa.eu/epale/en

[16] https://ec.europa.eu/epale/node/27402

[17] Unite-IT is the first online network of professionals working in the field of e-inclusion. More information available here: http://www.unite-it.eu

2017, anyway missing the chance to formulate new updated priorities and action items inspired at the most recent initiatives of the European Commission in field of adult education.

Last update/revision of e-inclusion national policy plans

| **2014** | 2015 | 2016 | 2017 | **2018** | 2019 | 2020 |

The Romanian Government approved in 2015, by Decision, the **National Strategy for the Digital Agenda for Romania - 2020**. The Digital Agenda defines the major role that the use of information and communication technology (ICT) will have to play in meeting the Europe 2020 objectives.

The National Strategy for the Digital Agenda sets out four areas of action as follows:

1. e-Government, Interoperability, Cyber Security, Cloud Computing and Social Media
2. ICT in education, culture and health
3. ICT in e-commerce, and research, development and innovatin in ICT
4. Broadband and digital infrastructure services

There are no current national programs targeting the increase of digital skills amongst adults in Romania

The Digital Agenda for Spain establishes the elaboration of a **Digital Inclusion and Employability Plan** that integrates as many agents as possible, serves as an umbrella for their initiatives, unites efforts and multiplies the effect of the measures adopted. The Plan is the result of the contributions of multiple actors, public and private, which have been incorporated to join efforts in the common objective of improving the quality of life of citizens and improving the competitiveness and positioning of our SMEs thanks to the use of ICT.

The **Greek National Plan for Next Generation Access Networks** has been formally accepted by the EC in September 2015. The coordination of the Plan belongs to the General Secretariat for Digital Policy. Though, the Secretariat collaborates with all relevant - per action / programme – stakeholders. (mainly managing authorities). Greece is currently implementing the National Digital Strategy 2016-2021.

The **Italian Digital Agenda** launched in 2012, adopted in 2014 and lastly revised in 2016 is grounded on two major pillars that constitute and reflect plans and programs at national and regional level:

1. *National plan for ultra-broadband*: it focuses on the enlargement and improvement of the national network both for private and public subjects as to include the largest population possible and guarantee access to services and broad band.
2. *Digital Growth*: it develops in different areas. Its main areas of action are: infrastructural transversal actions (Public system of connectivity, digital security, data center and cloud computing), qualifying platforms (open data, electronic payment, digital health care), acceleration programs (Italia login, digital competences, smart cities and communities).

Those actions are consequently developed at regional level and unfold specific policy strategies according to regional and local needs.

The "**Information Society Development Guidelines 2014-2020**" have been developed by the Ministry of Environmental Protection and Regional Development of Latvia. The document has been developed in close consultation with the leading ICT industry associations as well as other Ministries and State agencies in Latvia. The main stakeholders have been invited also to provide evaluation and mid-term review in 2017.

The aim of the plan is to set the targets and necessary actions in the following areas:

1. ICT education and e-skills;
2. Wide accessibility to Internet;
3. Modern and effective public governance and e-government;
4. E-services and digital content to the society;
5. Cross-border co-operation for the digital single market;
6. ICT research and innovation;
7. Trust and security.

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Based on a compared analysis among the priorities of the five national plans, it emerges how **only in Latvia and in Romania there are concrete actions for the vocational education and training of the so-called *e-facilitators*** (social actors, intermediaries and trainers who facilitate the digital training/empowering process in digital competence centres), while in Romania a focus on the social inclusion of groups at risk of digital exclusion is completely missing.

Main focus and concrete actions implemented with the plans

ICT access for all	Social participation and civic engagement	Labour and economic participation	Social capital and social inclusion of groups at risks of exclusion
Awareness campaigns on Internet use and building end-users trust	Critical Internet use and media consumption		Low-skilled citizens
	Digital competencies to foster a strong civic engagement	Training on basic PC and Internet operation	People living in remote area
User-driven and user-friendly contents	eCitizenship, eHealth, eDemocracy, etc.	Digital skills for entrepreneurship and employability	Young people at risk of marginalization
Development of public digital access points		Digital learning for active workers	Seniors (60+)

On the other hand, as it is also shown from the table here above, in all the DCDS Countries, different types of actions have been planned and promoted with the final objectives of:

- ▪ Promoting and enhancing ICT access for all
- ▪ Foster social participation and civic engagement
- ▪ Foster labour and economic participation

Moreover, these actions have been particularly targeted to low-skilled citizens, people living in remote areas, young people at risk of marginalization and senior citizens (60+).

2. Good practices in the adoption of DigComp in Europe

In this chapter, we describe some inspiring good practices in the adoption of the European Digital Competence Framework for Citizens (DigComp) across different European countries. We selected those examples focused on raising the level of adult basic digital skills, mainly in the non-formal education sector.

The selected examples have been described in the "**DigComp into Action - Get inspired make it happen: a user guide to the European Digital Competence Framework[18]**" published in 2018 by the JRC of the EC.

	BELGIUM: *ADULT EDUCATION IN FLANDERS: THE NEW ICT PROGRAMMES*. The initiative has adopted DigComp to support the transition from traditional ICT training to competence-based training in the adult education sector.
	FRANCE: *PIX: ONLINE PLATFORM FOR DIGITAL SKILLS EVALUATION AND CERTIFICATION*. The French Ministry of Education used DigComp to produce the PIX online platform for digital skills evaluation and certification in the view to improve the digital skills in the society.
	HUNGARY: *BRIDGE THE DIGITAL GAP: BASIC DIGITAL TRAINING OF ADULT POPULATION IN HUNGARY*. A project that translated DigComp and uses it to develop training packages on basic digital skills for 260,000 people in Hungary by 2020.
	ITALY: *PANE E INTERNET - THE DIGITAL LITERACY AND INCLUSION PROJECT IN EMILIA ROMAGNA*. The Emilia Romagna Government used DigComp to design training courses and information initiatives for citizens in the digital competence action line of its Regional Digital Agenda.
	POLAND: *ECCC DIGITAL COMPETENCE FRAMEWORK*. ECCC Foundation in Poland provides training for certification purposes based on DigComp Framework. As part of its support activities ECCC has developed two handbooks for trainers in digital skills.
	PORTUGAL: *PORTUGAL INCODE.2030 - AN INITIATIVE TO ENHANCE DIGITAL COMPETENCE*. In April 2017, a working group was set up to produce an adapted DigComp for the Portuguese context (DigComp_PT), by making a few changes to DigComp, and submitting it for validation by different stakeholders.
	SPAIN: *EXTREMADURA DIGITAL LITERACY TRAINING PROGRAMME*. The programme, promoted by the regional Employment Service and managed by AUPEX, is implemented in over 80 NCCs (acronym in Spanish for New Knowledge Centres). DigComp is used to define the content of the roadmaps that e-facilitators use for training actions
	SPAIN: *IKANOS*. The project has adopted DigComp to map, develop and certify digital competence of the population in general and of specific jobs, including competences related to Industry 4.0.

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[18] https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/digcomp-action-get-inspired-make-it-happen-user-guide-european-digital-competence-framework

2.1 Analysis of good practices in DCDS partner Countries

In order to select the most relevant and adequate practices, as well as to ensure that their analysis will be beneficial to the following implementation activities of the DCDS project, the project partners were requested to respect the following criteria:

▌ the intervention includes elements/activities of adult education in non-formal settings

▌ the intervention is completed and/or running and it is possible to obtained information on registered impact and evaluation results

▌ the intervention clearly mentions the adoption of DigComp for the design of procedures, tools and/or materials related to, at least, one of these activities: skills assessment, educational and professional guidance, content development, evaluation of learning outcomes, certification and validation of competences.

Finally, the Italian and the Spanish partner selected and analysed two of the practices mentioned above, namely **Pane e Internet** in Italy and **Plan de Alfabetización Tecnológica de Extremadura** in Spain, while the other partners involved in this part of the research focused on other training and educational initiatives with relevance at national level:

	GREECE: _LINGUACUISINE_**.** An Erasmus+ project that romotes learning of digital literacy, languages, cuisines and cultures. DigComp has been used to develop the educational material of the blended course, as well as the certification system of the digital competences acquired by the participants.
	LATVIA: _DIGITAL SKILLS FOR FUTURE DIGITAL JOBS_. A project carried out by the Latvian Information and Communication Technology Association (www.likta.lv) in cooperation with Microsoft Latvia (https://www.microsoft.com/lv-lv), where participants were profiled and trained based on a programme built upon DigComp 2.0
	ROMANIA: _BIBLIONET – THE WORLD IN MY LIBRARY_. A a five-year, 27 million dollar development project implemented by the International Research & Exchange Board (IREX) with funding from the Bill & Melinda Gates Foundation, which used DigComp to design self-assessment tools, learning profiling and training material.

The compared analysis of good practices selected in **Italy, Spain, Romania, Greece and Latvia**, showcases a well represented variety of approaches and possible settings for the design and implementation of an intervention aimed at **developing basic digital competencies for adult learners**.

A very important issue is represented by the **definition of the target group**. Indeed, focusing on low digital skilled adults includes a set of variables that have to be considered while designing a dedicated training intervention. One can start from the needs analysis of a specific group of learners, like in _Pane e Internet_, the good practice of Emilia Romagna Region for digital literacy of senior citizens. On the other hand, it is possible to select real life scenarios where the basic digital skills are needed to ensure the full inclusion of all citizens in the society, as in the _Plan de Alfabetización Tecnológica de Extremadura_. Anyway, as it is also suggested

by the *Upskilling Pathways*[19] initiative, a very effective practice, which considerably increase the success probability of similar initiatives, is to ensure the direct involvement of the target group in the designing, planning, running and decision-making. This can be done either at an early stage by **organizing focus-groups** aimed at influencing the design of the training material and assuring the relevance and usability of the approach (*Linguacuisine*), or **developing a monitoring and evaluation framework** targeted to the beneficiaries' constant contribution for the improvement of course's flow and methodology (*Digital Skills for Future Digital Jobs*).

Moreover, although it is still under a development and specialization phase, the analysis of the good practices proposed by the project partners demonstrates how the **Digital Competence Framework for Citizens** can be used by educational and policy stakeholders as a reference for the design of different elements and tools which characterize a learner-centred educational approach, such as:

1] self-assessment tools and procedures

- providing trustable, meaningful and shared elements to verify the level of digital competence towards standards set at EU level.

2] learning profiling and/or career guidance

- listing all the digital competences needed to achieve a specific qualification or professional level;
- facilitating the instructional design in the updating or development of training paths.

3] development of educational materials and tools

- mapping previously developed training material and identifying matching and overlooked aspects of digital competence;
- designing and describing specific learning outcomes and contents;
- designing and categorising new learning resources for different target groups or learning scenarios.

4] evaluation, certification and/or validation of learning outcomes

- facilitating the recognition of a certain acquired level of digital competence from public authorities and private third parties;
- providing a framework for the recognition of non-formal and informal individual learning pathways.

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[19] Ref. note 8

3. The adult education practice and policy context

During the first phase of the **DCDS field research on the digital training needs of adult citizens**, 50 experts and representatives from public authorities and educational organizations have met in their respective countries in occasion of **5 local focus groups**[20] with the aim to share opinions and reach an agreement on four key issues:

1] **TARGET GROUP** / what is the profile of those with a lower level of digital competences?

2] **MOTIVATION** / what are the key motivation drivers that could encourage them to engage in DCDS or similar upskilling pathways?

3] **RESOURCES** / what is the best strategy to ensure the local operability of DCDS and to favour its upscaling at national and European level?

4] **CERTIFICATION** / how important and for what purposes is it meaningful to certify and validate basic digital competences?
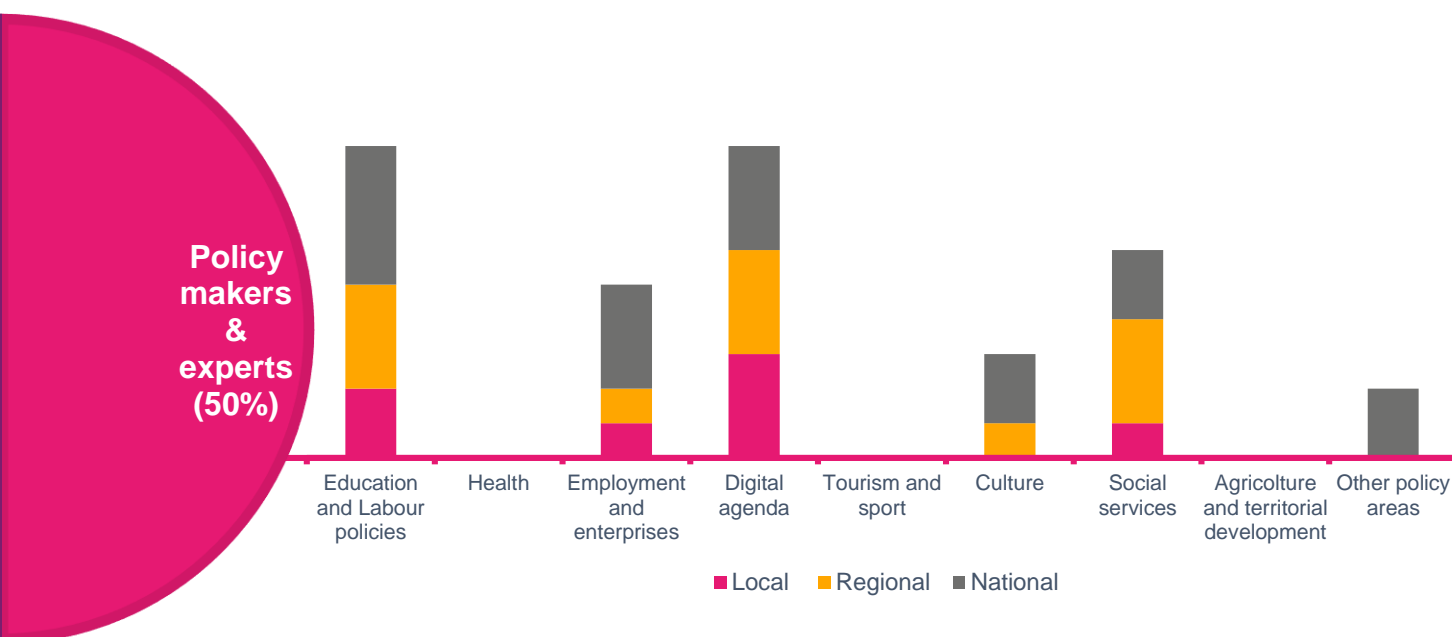
3.1 Composition of the focus groups with policy and education stakeholders
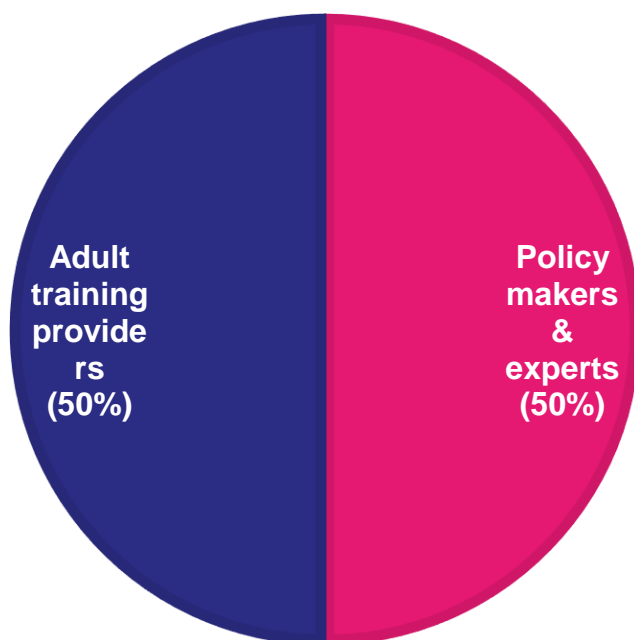
In compliance with the instructions provided with the methodological framework for the field research, the DCDS partners have ensured a very well balanced representation of policy and educational stakeholders.
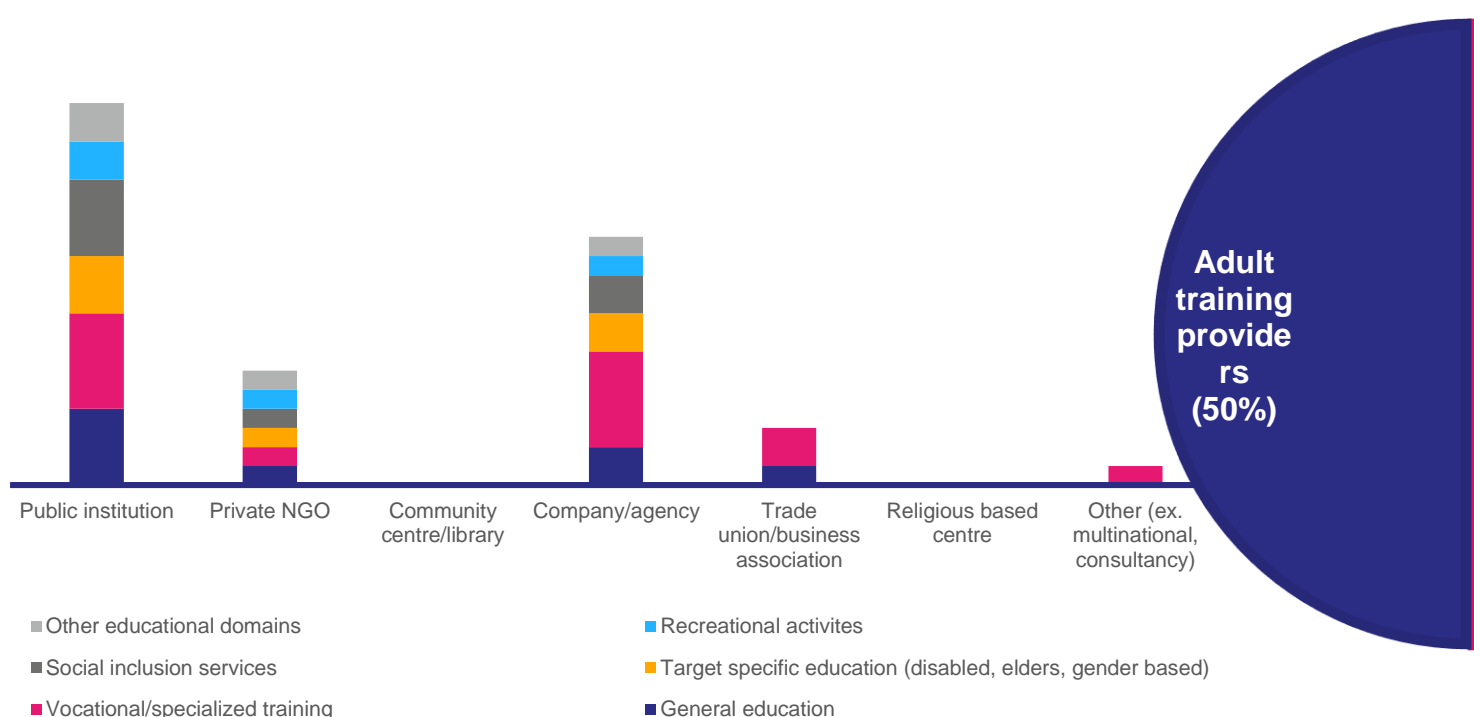
In fact, with an average of 10 participants for each local focus group, the minimum number of policy makers and experts was 3 (in Romania and Spain), while the minimum number of adult education providers was 2 (in Greece), thus ensuring the comparison of different points of view, not only at institutional level but also within the same category of stakeholders.

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[20] National reports, with more detailed information on the single partner countries, are provided as annexes at the end of the main report.

Policy makers & experts (50%)

Education and Labour policies | Health | Employment and enterprises | Digital agenda | Tourism and sport | Culture | Social services | Agricolture and territorial development | Other policy areas

■ Local　■ Regional　■ National

With regards to the expertise of policy makers and experts who participated at the focus groups, the infographic above shows two important results to be taken into consideration also for the subsequent development and promotion of the main project outputs:

1] the interest of policy actors who can **inform and influence the national level**, especially in the fields of **Education, Labour policies and Digital Agenda;**

2] the **lack of representatives from other relevant sectors**, which will be more and more affected by the digital transformation of the society, such as Healthcare, Tourism and sport, Agriculture and territorial development.

Adult training providers (50%)

Public institution | Private NGO | Community centre/library | Company/agency | Trade union/business association | Religious based centre | Other (ex. multinational, consultancy)

■ Other educational domains　■ Recreational activites
■ Social inclusion services　■ Target specific education (disabled, elders, gender based)
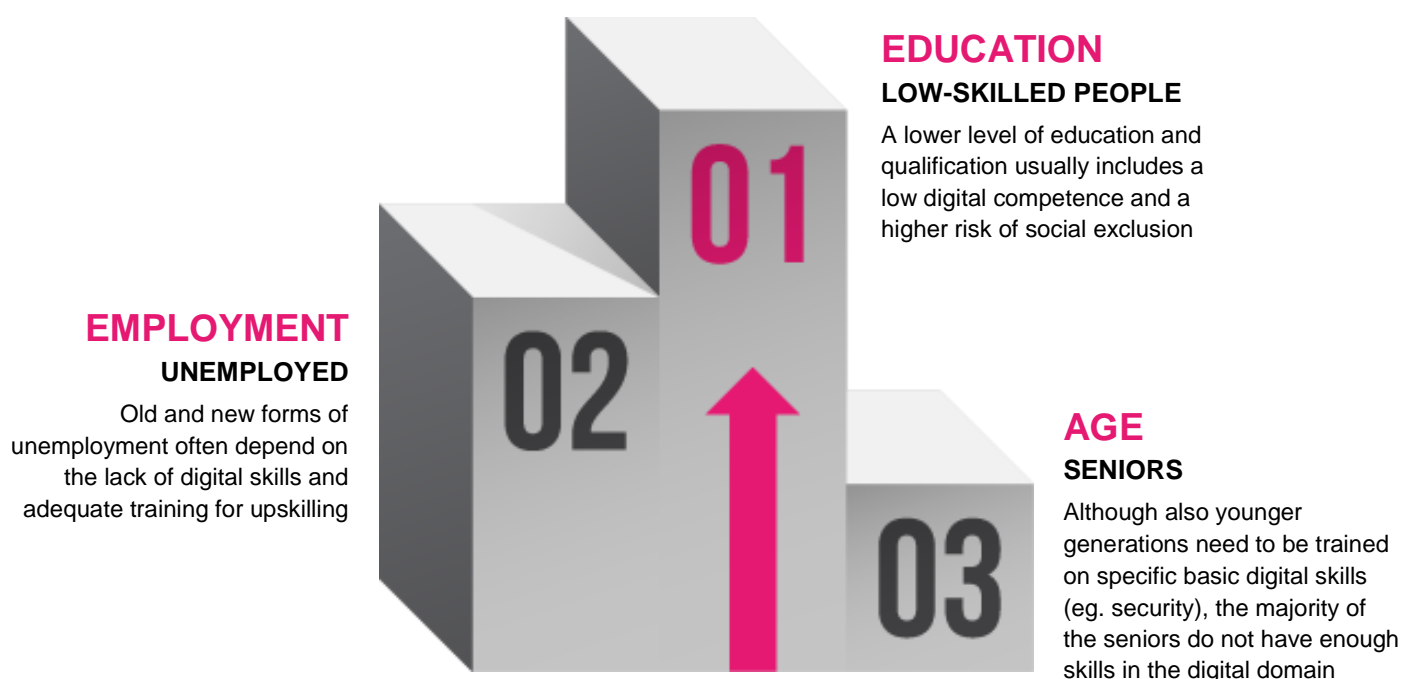■ Vocational/specialized training　■ General education

From the side of **adult training providers** (ref. infographic at page 15), all educational domains were represented, with a slight predominance of organisations providing *General education* and *Vocational/specialized training*, mostly coming from the public sector.

In this case, it is worth mentioning that the education providers invited at the local focus groups represent some of the most important agencies/institutions that are providing training at national and regional level for all type of adult learners. They have access to digitally low skilled adults, the target group of DCDS, and in some case (Italy and Spain) they represent the already established good practices that have been analysed during the desk research and will be considered for the development of the course methodology and piloting scheme.

Based on the relationship created during the DCDS focus group, these training providers will support the project partners at local and national level, in terms of reaching the target group and contributing to the sustainability and transferability of the project results.

3.2 Analysis of the target group

When asked to reflect on their perception of the **low digital competence issue for adult citizens**, the participants at the focus groups considered and discussed several aspects for the possible selection of specific target groups that would better benefit from DCDS. The compared analysis of the results obtained in the five partner countries shows that the three most important ones are: **Education**, **Employment** and **Age**.

EDUCATION
LOW-SKILLED PEOPLE

A lower level of education and qualification usually includes a low digital competence and a higher risk of social exclusion

EMPLOYMENT
UNEMPLOYED

Old and new forms of unemployment often depend on the lack of digital skills and adequate training for upskilling

AGE
SENIORS

Although also younger generations need to be trained on specific basic digital skills (eg. security), the majority of the seniors do not have enough skills in the digital domain

Moreover, it is worth emphasizing how, regardless the personal and professional profile of possible DCDS users, almost all experts agreed on the importance to **increase the awareness** of all those citizens who, due to the lack of *soft digital competencies*, may risk to be socially excluded.

Indeed, this is where the added value of DCDS lays, building the educational experience of each user on **his or her individual motivation to fill the perceived digital gap** and acquire those necessary tools to cope with the transformation of the society.

Anyway, besides these general conclusions on the overall criteria to respect when defining the specific target group of DCDS, the discussion on the topic was very intense in all Countries and it has produced other interesting insights:

▌ in Italy, for example, more than one participant at the focus group pointed out that, thanks to the great flexibility of the DigComp framework, the DCDS partners should already think at developing a training path and content that, although it is targeted to digitally low skilled adults, could be easily adapted and exploited for other specific needs (eg. **support teachers and parents in becoming effective mentors of digital citizenship for their children**);

▌ in Spain there is a great concern for what we know as "technological natives", young people up to 20 years old, assumed to be knowledgeable and competent in using new technologies, but very **often lacking of those minimum requirements to develop a critical understanding of the information received through the Internet** or to implement a more advanced use of the tools and technologies available to them;

▌ in Romania, the participants at the focus group have directed the discussion on the target group **taking into account the National Qualification framework**, thus identifying those citizens at level I or II as the most suitable to benefit from the digital competence development system proposed by the project.

3.3 Critical factors for the implementation of DCDS

Starting from sharing opinions on the different reasons and purposes that might increase the motivation of an adult citizen to enrol in a course for improving his or her digital profile, the local focus groups have considered many possible opportunities and obstacles that can arise in the planning and implementation of DCDS.

In the next page, we present some of the most relevant issues related to what experts think are the main areas for motivation of the target group:

DIGITAL
COMPETENCES
DEVELOPMENT
SYSTEM

MOTIVATION DRIVERS		MAJOR OBSTACLES
Users are motivated if they relate the engagement in DCDS to an increase of their career and working opportunities	**EMPLOYABILITY**	Basic digital competences do not meet the expectations and the needs of employers
Standardizing the certification of basic digital competence on the DigComp framework can improve recognition and e-inclusion policies	**CERTIFICATION**	It could be a problem to integrate the DCDS certification with other existing validation systems and practices
The overall training is more effective and facilitates the transfer from the educational environment to the real life challenges	**BLENDED LEARNING**	Digitally low-skilled learners are not willing to follow self-paced online courses and can easily dropout
It allows to achieve better results and to considerably impact on the personal and professional development of the learner	**LEARNER CENTERED APPROACH**	High demanding in terms of human and economic resources, including frequent updates to remain consistent with new needs and scenarios

Among all the other relevant factors, the capacity of DCDS in **providing a certification of the acquired competences**, which is validated by public authorities (also in an integrated way with the already existing systems and practices) and recognized by the private sector as valuable as the most famous ones, it seems to be equally considered as the most important issue for the wider acceptance of the system and, especially, for its sustainability.

Finally, the current situation shows that, in all partner Countries, **large segments of the population are at risk of social exclusion** due to the lack of digital competences. Within this framework, the sustainability of DCDS can be guaranteed by **finding a balance between priorities** (scenarios: job context, daily activities, etc.), **actual material resources**, **adults' motivation**, and the **services/products** (self-assessment, blended course, certification) provided by the project.

4. Training needs of digitally low-skilled adults

A second focus group has been organized in each of the five DCDS piloting Countries just after the analysis of the results obtained with the previous session, this time inviting selected representatives from the main target group of the project and respecting a specific set of criteria for the selection of the final list of participants:

- **AGE** / 50% between 18 and 29 years old – 50% 30 years old or over;
- **GENDER** / 50% male – 50% female;
- **EMPLOYMENT** / 50% employed or self-employed – 50% unemployed or NEET;
- **EDUCATION** / 50% primary education or no education – 50% diploma or higher;
- **DISADVANTAGE** / 50% from vulnerable groups (eg. migrants, disabled, etc.).

The focus groups, which have seen **the participation of 42 target group representatives in total**, mainly focused on validating the results achieved with the previous research activities and integrating them with more customized and user-centred information, also including questions on personal preferences and wishes related to a possible digital training opportunity in a blended setting, so to feed the next steps of project implementation with important information for the subsequent development of the DCDM and DCDE.

4.1 Composition of the focus groups with digitally low-skilled adults
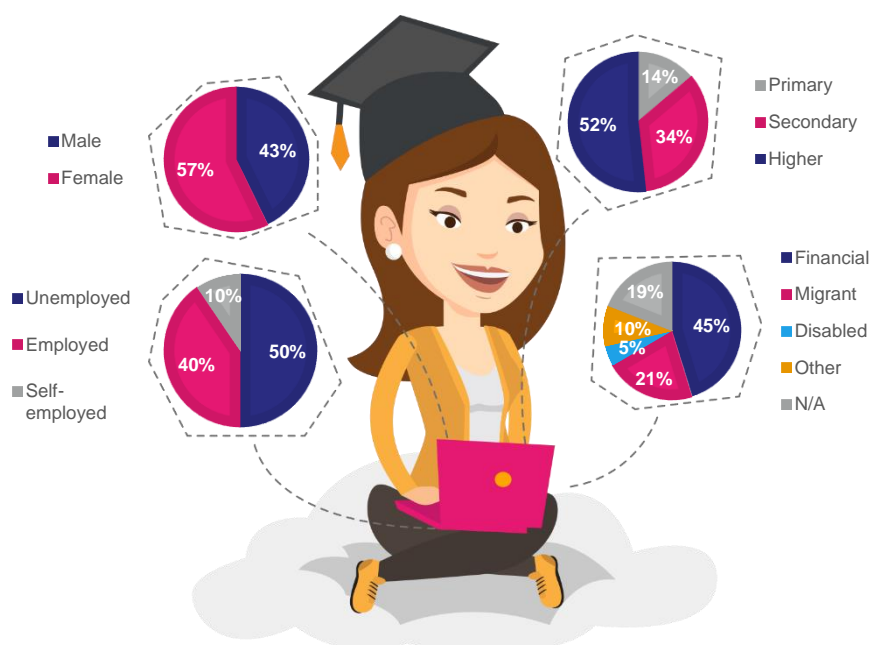
With an average age of 39,65 years old, the sample invited to the local focus groups shows a balanced and heterogeneous representation of the European civil society, with a slight majority of women (57%), a high rate of unemployment (50%), despite a quite high level of education (86% with a diploma, out of which 52% has achieved also a higher education title).

Therefore, considering that all the participants fall into the category of digitally low-skilled adults, it is immediately clear how, in the Countries involved in the field research, the actual educational systems do not satisfy the requirements of the labour market in terms of digital skills, thus contributing also from this side to high rates of unemployment and, consecutively, a widespread socio-economic disadvantage for those who are digitally left behind.

Disaffection, obligation, distrust, fear, were some of the most common feedback from the participants to the question "*What is your perception about the increasingly digital transformation of the society?*", and even when someone proposes a positive side of the digital or technological progress (eg. the speed and the wide of information, the improvement of the communication / transportation / learning means, and decrease of products production cost) there is always someone else highlighting the downside (eg. the lack of accuracy in information, the loss of traditional workplaces, the risks of an overgrowing society, etc.).

Indeed, when faced with the request to self-evaluate their level of confidence in coping with such a disrupting societal change, the majority of the participants concluded that they do not feel secure and prepared, but they "**have to**" (and not want to) **do something to change their actual condition**, especially if related to their *professional situation* or *personal interests*.

*Answers to the question: "What motivates you to improve your digital competences?"*
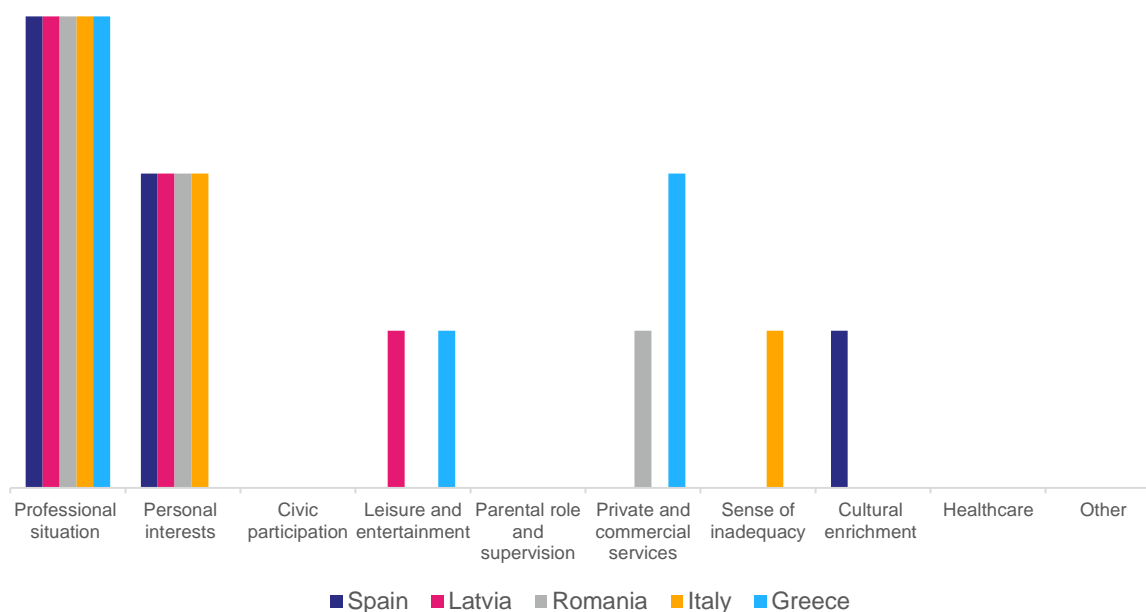
Finally, looking at the chart above, it is clear that *improving own professional situation*, whether this means to get a job or to improve your current position, represent the most important motivation factor for improving own digital competences, immediately followed by *Personal interest*s and the use of *online services* for private purposes.

What is really interesting (and alarming in a way), is the fact that **none of the motivations more strictly related to the e-citizenship (Civic participation and Healthcare) domain has been elected by the local focus groups** among the three most important motivational factors to invest time and resources in improving own digital competences… definitely a call to action for the DCDS project and partnership!

4.2   How DCDS should look like for future beneficiaries?

If it is true that there is always a well-structured market research behind a successful business idea, then the DCDS partners wanted to exploit the opportunity of meeting with the future beneficiaries of the innovative project's methodology and learning environment, asking their opinion and verifying their expectations in terms of blended and mobile learning.

Answers to the question: "What are the most important characteristics that an online learning platform should have to attract your interest?"
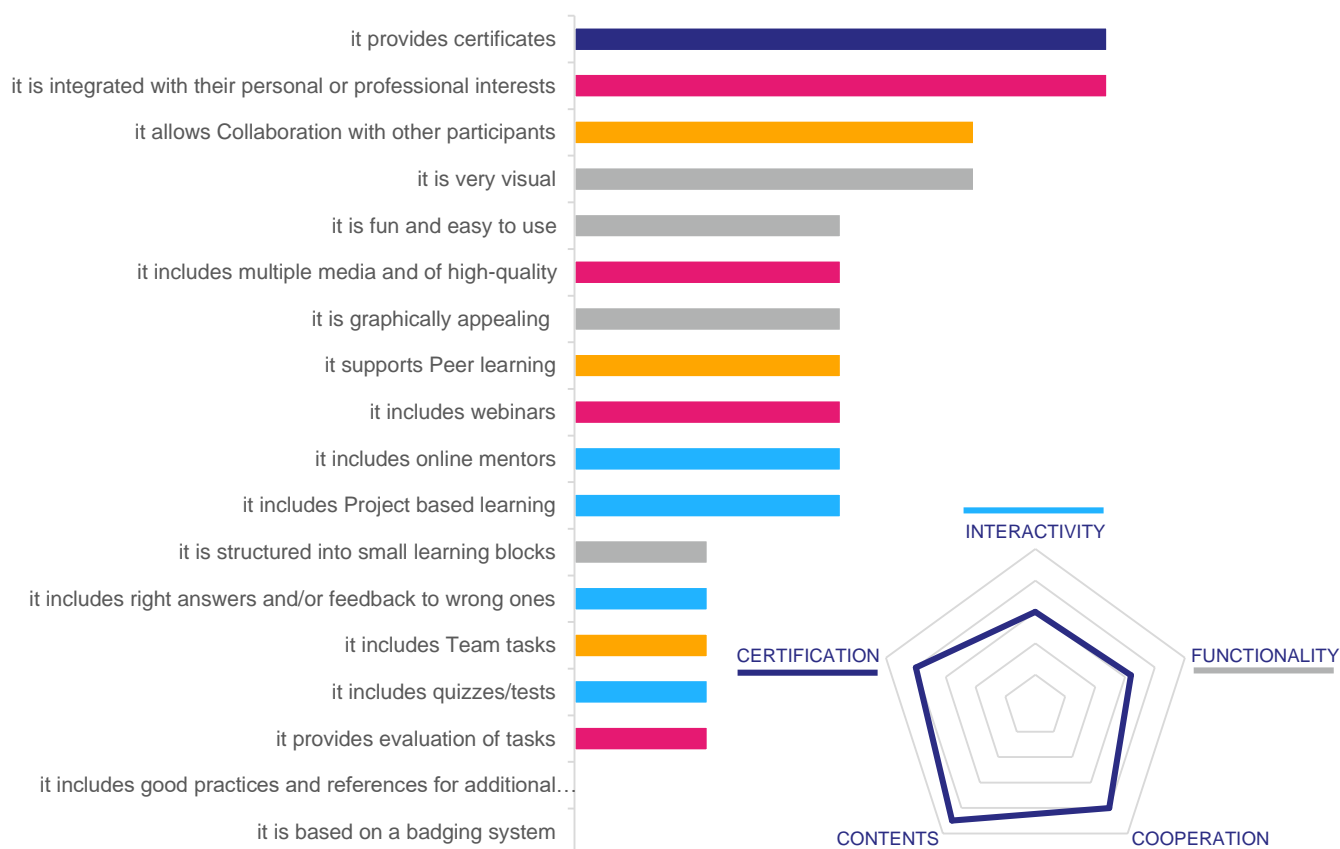
As expected, although the proposal of an internal badging system has not been recognized as an added value for participation, **certification represents one of the most critical factors to motivate adult learners**. Of course, being a very sensitive topic, as well as affected by different variables at both geographical and professional level, it is very important to guarantee

a clear and focused certification process, which sets its standards and objectives in a meaningful way for all those involved: starting from the learners themselves, but thinking also at the final validating body, this representing either the public sector (public authorities, formal education, etc.) or the private one (companies, accreditation bodies, etc.).

On the other hand, if we look at the technical components of the learning environment (radar chart), we can notice how the **quality and variety of contents proposed** has the highest weight in terms of expectations from the target group, immediately followed by the **opportunities for cooperation with other users** and, again, the possibility to receive a certification at the end of the path.

Last, but not least, participants at the focus groups have underlined the importance to operate in a learning environment carefully translated in local language and to start using it independently only after a first period of face to face sessions, which should be followed by other in-presence activities during the training period.

Conclusions

With four out of five partner Countries below the European average score in the DESI[21] 2018 ranking, the DCDS project represents not only an important opportunity for the organisations and the stakeholders who will be finally involved in the local pilots, but also an interesting experimentation for all those active in the promotion and implementation of e-inclusion of all Europe.

Digital Economy and Society Index (DESI) 2018 ranking
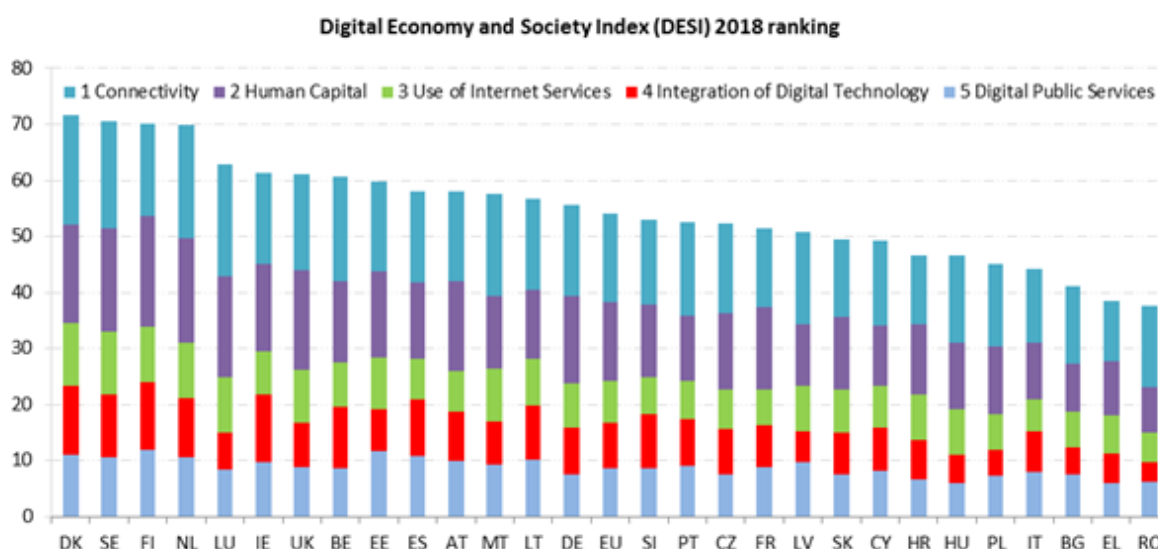
In fact, although we are still waiting for the first formal anticipations on the EU future priorities on Digital Public Services, the actual scenario, as well as the results of our research, highlight the urgency on designing and implementing new effective strategies for improving situation at both institutional and educational level.

Therefore, within the framework of such a challenging and epochal change for an effective and sustainable digital transformation of our society, DCDS aims at proposing its methodology and learning environment as a **one-stop-shop solution for the skill assessment, training and certification addressed (for now) to digitally low-skilled adults**.

To better achieve this result, during the first five month of the project, 6 partner organisations from Italy, Spain, Romania, Greece and Latvia, together with two European associations, respectively in the field of Adult education (EAEA) and digital competence development (ALL DIGITAL), have conducted an intense research, starting from the analysis of the local contexts and involving all the potentially interested parties.

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[21] The Digital Economy and Society Index: https://ec.europa.eu/digital-single-market/en/desi

In this report, we have presented the most relevant findings of our investigations, which we are finally summarizing here below in the form of a recommendations list to be taken into consideration for the following implementation activities of the project:

- **Most of e-inclusion plans in partner Countries are outdate** > DCDS should promote its objectives and results to ensure that digital literacy of low-skilled adults will represent one of the top priorities in the new plans for e-inclusion in involved Countries.

- **National stakeholders have demonstrated their interest in the project** > partners should keep informing and, even better, involving their national stakeholders in the piloting phase to ensure the sustainability of the project results.

- **No policy makers or experts from Healthcare, Tourism and Agriculture have participated at the local focus groups** > DCDS consortium should insist in making efforts for improving the transectorial cooperation in the field of digital adult education, also making partnerships with other relevant bodies: local health agencies, business associations, networks and forums. All the different sector of the civil society, and therefore their public representatives, should be interested in the effects that the digital transformation is causing in terms of access to services and processes management.

- **The competences of DigComp are flexible and transversal** > the educational material offered by DCDS should be designed and structured in a way that facilitate its future adaptation to a multitude of different contexts and needs.

- **Digital transformation is perceived as a problematic and imperative change from those who don't have the skills and the tools to adapt timely** > DCDS should be promoted as a user-friendly, fun and appealing solution to improve your digital skills, possibly localizing the contents for the valorisation of the digital public services that can be used by the learners, thus increasing their digital participation in the society.

Annexes

We provide here the national reports submitted by each partner involved in the DCDS research for a better understanding of the specific findings at local/national level and the final results of the two focus groups carried respectively with "Policy and education stakeholders" and "Digitally low-skilled adults".

The national reports will be presented in the following order:

- **Italy**
- **Latvia**
- **Spain**
- **Romania**
- **Greece**

Italian National report

First focus group with policy and education stakeholders

The focus group has been organized in collaboration between the two Italian partners and it took place the 11 April 2018 in Bologna, at the headquarters of AECA. The total number of participants was 16, out of which 5 were policy makers/experts and 9 adult training providers.

The five policy makers/experts invited were representatives of the Regione Emilia Romagna, the Municipality of Reggio Emilia and ANPAL (Labour Policies National Agency). The reason they were invited is that they could share their point of views considering that Emilia Romagna is one of the biggest and most developed region in Italy with relevant experiences to make treasure of. Their work at regional level reflects the strategies implemented in Emilia Romagna concerning digital competencies and digital inclusion. All the participants showed their interest in the methodology of the project and they are willing to contribute and to be updated on the progress of the implementation.

The training providers invited have a long and fruitful experience in the implementation of digital inclusion projects and within their organization, they offer courses focused on digital competences. They represented two Italian Regions: Umbria and Emilia Romagna. Two of

them, work respectively in the ITS center of Regione Umbria and the ITS center of Regione Emilia Romagna. Other 5 experts have worked for the Pane & Internet project and are now involved in digital inclusion training. The president of Associazione Centro Studi di Foligno with a long experience in the training and educational field. Demetra Formazione, a private agency that provides training for companies and individuals. The participants represented public and private organizations and networks involved in the provision of adult training ranging from specialized training (ITS) to training courses for digitally low-skilled users (Pane & Internet).

Analysis of the target group

The focus group led to diverse responses when considering digital competence issues for adult citizens and specific target groups. Starting from the target groups we can say that two main segments of the population where identified:

1] adults aged 50-60 years old, still at work in low qualified jobs, who are facing digital-related changes/transformation in their work environment and need re-training and upskilling, and often have very basic/no digital skills.

2] unemployed adults aged 30-40/45 years' old who are also asked today to have some digital skills to get a job or need them to set up and run some kind of personal business.

Other focus group participants, suggested not to look at population segments based on age or work position, but rather identify those public policies and their beneficiaries where the absence of basic digital skills creates a serious risk or almost certainly leads to social exclusion. And vice-versa, where developing basic digital competence can significantly contribute to limit/fight social exclusion.

Yet other participants, challenged the idea of identifying priority target groups for DCDS, given that DigComp's competences are transversal, soft digital competencies which are relevant for all citizens: besides the groups above, also parents with young children who are lost in their digital parenting role and often lack basic digital skills, senior citizens, adult immigrants, children 11-14 y.o. who lack basic digital safety and citizenship notions etc.

From the focus group discussion, it emerged that after having attempted to identify target groups and priorities, in order to guarantee sustainability and success of the DCDS methodology it should be elaborate a strategy to motivate adult citizens to improve their digital competences. Three main factors have been proposed:

1] the necessity of upgrading and upskilling their competences in order to improve their current job positions or their employability;

2] the necessity of gaining basic digital skills for daily activities thus reducing the chance of social exclusion;

3] the certification of the acquired competencies.

Critical factors for the implementation of DCDS

According to participants' opinions, concerning the two regions involved Umbria and Emilia Romagna, the operability of DCDS can be ensured only after having clearly defined target groups, priorities and contents to be delivered to digitally low-skilled adult learners. Having that in mind, both the representatives from the policy-making world and training providers endorsed the project approach and methodology.

Considering the segments of the population that could benefit from the DCDS development and the fact that already existing practices (Pane & Internet) and policies clearly address to digitally low skilled people, the operability of DCDS seems not only ensured but also necessary. The current situation shows that large segments of the population are at risk of social exclusion because of the lack of digital competences and in this perspective, DCDS could support e-inclusion policies being implemented at this stage at regional and national level (Digital Agenda). Within this framework, the development perspective of DCDS can be guaranteed by finding a balance between priorities (sector of intervention: job context, daily activities, etc.) actual material resources, adults' motivation, services/products (blended course, certification) provided by the project.

Most probable success factors of DCDS	Main obstacles to its implementation and sustainability
• Promotion of the system as an opportunity for employment • Concrete and impactful enhacment of social and digital inclusion • Release of a recongized certification	• Identification of target groups and priorities • Reaching out and motivate adults • Blended course (online activities)

The notion of recognizing learning achievements stemming from the use of DCDS was somewhat acknowledged as useful - as a way to motivate learners and help them frame their efforts in digital competence development. In the presence of so many self-learning opportunities on the web, some participants underlined the importance of providing low skilled learners with pathways, direction and guidance in moving around and understanding where they stand (by providing a broad, comprehensive framework, DigComp is useful in this respect).

On the other hand, most participants sounded (very) sceptical about the usefulness of "certification" of DigComp-like, transversal competencies at foundation level. Most companies, they said, look for and would rather appreciate the certification of more advanced digital proficiency and/or "vertical" digital competences.

Second focus group digitally low-skilled adults

The focus group has been organized by the Association Centro Studi Città di Foligno and it took place the 18 May 2018 in Foligno. The group was composed of six people, 4 women and 2 men with an average age of 37,3 years old, whose interest in the participation was very heterogeneous. The distinctive characteristic of the group was between employed and unemployed participants. For the unemployed participants, the interest in the focus group was mainly given by the necessity of getting a job. The participants already having a job joined the focus group because they feel they need to improve their digital skills for their current job and for daily activities. It is worth specifying that two of youngest participants were respectively an asylum-seeker (25 y.o.) and a disabled person (28 y.o.)

Self-evaluation of the own level of digital competences

The entire group agreed upon the fact that digital competencies have become absolutely necessary in daily life. From daily activities such as purchasing a train ticket online to professional-related competencies, they reckon that digital transformation has reached a level that does not longer allow users to avoid being digitally fluent. The barrier they have to face

on a daily basis due to the lack of digital competencies push them to find solutions that often turn out to be completely inadequate.

Most of them do not feel confident or at least they feel that the poor knowledge they have must be integrated somehow for both professional reasons and for a more aware use of digital tools. Some of them feel they can sometimes overcome their difficulties but they would like to acquire needed skills. Others are digitally illiterate and feel excluded in many activities. In the case of the migrant participant, he also underlined the further problem of the language.

They sometimes are unable to perform basic actions or when they are able they do not feel safe performing online actions. Internet security is one of the big issues that emerged from the discussion. Participants often prefer to perform daily actions "offline" for example going directly to the bank branch instead of using the home banking services.

Reasons for improving the digital profile with DCDS

Therefore, based on the majority of the answers provided during the focus group, it is more likely that the three most important motivation factors for improving their digital competencies are:

1] Professional situation

2] Personal interests

3] Sens of inadequacy

The majority of the group usually prefer to attend courses in a classroom context. They feel that a course given entirely online could have low-quality results as they need tutoring in the online and digital activities. They reckon that a mixed approach could be effective but provided that their first receive an adequate face to face class session.

Some of them already had some experiences with online courses but although they enjoyed the activities, they felt that they were not really effective. Moreover, for all the participants the certificate at the end of the learning path is a very important element. They reckon it crucial to receive a certificate for both professional and personal purposes.

Most probable success factors of DCDS	Main obstacles to its implementation and sustainability
•Mixed course (face to face and online) •It has well-structured modules for each topic •It provides certificatates	•Exclusively online •Too theoetical •Too complex

Latvian National report

First focus group with policy and education stakeholders

The focus group took place the 16 April 2018 in Riga, at the headquarters of the Latvian partner LIKTA. The total number of participants was 9, out of which 5 were policy makers/experts and 4 adult training providers.
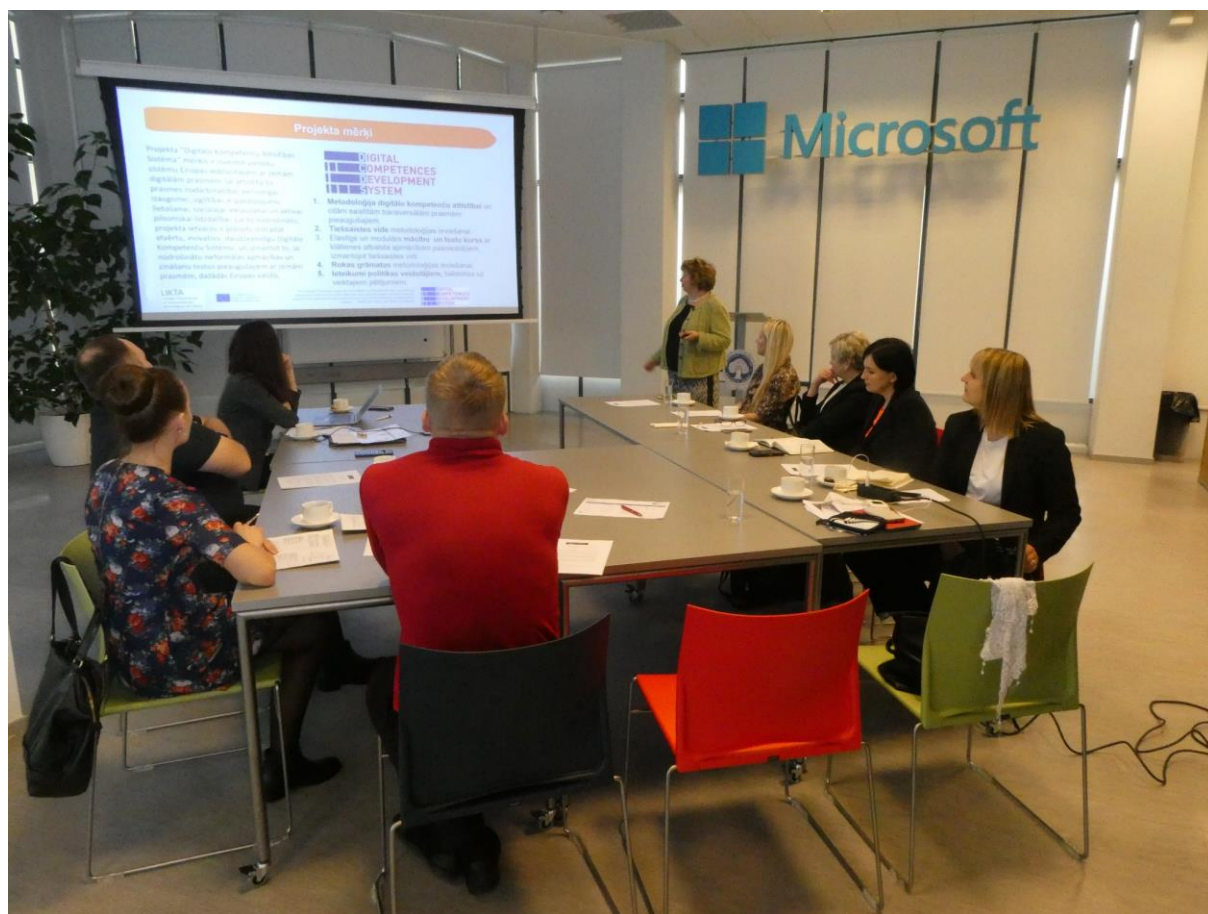
Focus group participants were selected based on their competencies and experience in the field. LIKTA selected the organizations that are deeply involved in policy making process for adults with low digital skills. Among the policy makers there were representatives from ministries – Ministry of Environmental Protection and Regional Development – which is also responsible for governmental e-service development and e-policy development, Ministry of Education – agency responsible for life-long learning initiatives, National Employment Agency – responsible for employability trainings, Culture Information Systems Centre – responsible for library network and their training.

On the other hand, all involved training providers are well respected, competent and with suitable experience gained while working with variety of different target groups. Their experience provides a valued and proven opinion. LIKTA invited participants form regional

Universities, Regional Competence centres, Local public administration institutions, who are providing trainings to citizens of all age, and training providers from Riga with wide experience of trainings in also other regions.

Analysis of the target group

As a result of the discussion on what specific target groups are considered to be more digitally illiterate, the participants at the focus groups agree on the following classification:

1] Low-skilled people

2] Unemployed

3] Seniors

4] People living in remote areas

Moreover, the group identified some other characteristics that seem to increase the probability of being at a lower level of digital inclusion, namely: facing another type of social exclusion, experiencing a longer situation of unemployment, especially if in combination with an older age.

One of the main motivators towards enhancing own level of digital competencies it is definitely a direct requirement from the workplace. If an employer is asking the person to take courses and these are covered by the workplace, people will most probably take them.

Secondly, it is important for one to understand the value of the competencies they are gaining (is the competence valued by employers in Latvia or internationally? is the certification acknowledged and trusted?). Official certification is mostly valued amongst public sector employees. Most often people with lower skills have lower motivation to improve their competencies.

Generally speaking, citizens are motivated to improve their digital competences if they don't have any other choice (eg. CVs' are only accepted electronically via e-mail), when the alternative costs more (eg. utility payments, if one has to pay offline, he/she is charged extra), or if one sees the economic value (eg. using electronic signature or spend time and money visiting a public institution). Also citizens who have started to improve their digital competences are motivated by safe learning environment, skilful trainers who encourage and support students.

Critical factors for the implementation of DCDS

It is important to evaluate the need for DCDS from the public and private sector employer's perspective. There should be an informative campaign to inform citizens about the value of common evaluation system. Some of the participants pointed out that currently there is a lack

of financial resources to adapt a new system. Employment agency data shows that there is a tendency that citizens often choose to take courses with no certification after finishing courses (it was explained as "fear" from exams).

DigComp was mentioned in the context of successful analogies with other fields, as example language learning and evaluation. During the discussions participants agreed that that a common framework would be needed, but they also mentioned that it would be hard to adapt the framework for the wide variety of specific fields and aspects of ICT trainings.

Most probable success factors of DCDS	Main obstacles to its implementation and sustainability
• A coomon frameowrk seems to represent a benefit for all relevant institutions and organizations. • Ensuring the involvement of skillful trainers would make it easier to adapt the new system to the training practice of different organisations. • DCDS could be a valuable tool for employers to evaluate their potential employees' digital competence level.	• DCDS would be more valued in the public sector than in the private one, which could not recignize it if compae to other existing ICT patents. • Most commonly, citizens with low education level have low digital competence level and low motivation to learn. • Low digitally skilled students often haev fear of online learning environment.

Moreover, if citizens will see that DCDS provides an official certification valued by the potential employers, they will be motivated to be involved. In order to reach them, it also very important to consider that information about digital education most often is published via digital channels, and does not reach the relevant target audience.

Second focus group digitally low-skilled adults

The focus group has been organized by LIKTA the 11 May 2018 in Ventspils, a city of about 42.000 inhabitants 200km far from Riga. All of the 10 participants (average age of 37,4 years old) were coming from rural areas and 50% of them are facing financial problems, mostly due to their unemployment.

Self-evaluation of the own level of digital competences

The general perception of the group is that the digital transformation of the society is inevitable. Participants did mention the negative side of seniors being in risk of digital exclusion and the citizens being controlled and monitored by their online activities (e-security risk). On the positive side they agreed that it is not easier to find people with common interests, find information faster, make your life and work easier because of technologies, besides the fact that citizens with disabilities have the chance to be more included in the society.

The majority of participants evaluated their digital competences as low and some as average. Participants who have mainly worked as blue collar employees evaluated their skills lower than the others. Participants mentioned that some of them have certificates of computer knowledge, but as they don't practice these skills daily, they have forgotten how to work with a specific program and that the certificates they have received five years ago does not mean anything today. The participants who have worked as white collar employees admitted that their knowledge is not encountering any longer the needs of the job market.

When asked if interested to improve their digital skill the participants answered that they would do it if needed for their work (in separate cases the same thing was said about hobbies), but

in general, participants mentioned that they are too busy/occupied with other activities and digital training is not their priority. If someone wants to learn something new for their hobby, they usually have enough skills to find information in forums and YouTube.

Several participants mentioned that they are not motivated to learn something new, as they are not planning to change their work and they have spent a lot of time to learn needed skills for the existing position, they feel comfortable and safe in their workplace (not feeling threatened of losing the job or being competitive in the job market).

Last, but not least, several problems were mentioned about using digital and online services:

- Difficult "official" language makes it hard to understand the content and find the needed options. Often online services don't have user friendly interface and it is hard to navigate (especially in e-government services).
- No single-sign-on options – too many places to register and sometimes the registration is too hard that a lot of services people just don't use it.
- Advertisements and pop-on interferes with content.

Reasons for improving the digital profile with DCDS

Therefore, based on the majority of the answers provided during the focus group, it is more likely that the three most important motivation factors for improving their digital competencies are:

1] Professional situation
2] Personal interests
3] Leisure and entertainment

Participants unanimously showed a negative attitude towards online/mobile learning. Previous negative experience, lack of motivation and the need of personal interaction with facilitators were mentioned as the main factors. In online courses it is hard to ask questions, sometimes there is a need to show something and explain yourself and some things disappear in nonverbal communication. All participants mentioned that they like face-to face trainings as it gives personal touch, opportunities to receive better consultations, and motivation to learn (being in classroom cuts one off from their daily tasks and obligations, and give the opportunity to focus all attention to learning content).

In online courses one needs to have a high motivation or strict rules avoid dropping out. Online learning is often boring as the teacher is not in the same pace as all the students – too fast or too slow, too complicated/ too simple, too diverse learning group.

Respondents mentioned that they have tried to use Moodle platform but did not like it as it was not interactive and there is no direct contact with the facilitator.

Most probable success factors of DCDS	Main obstacles to its implementation and sustainability
• Good, professional and charismatic facilitators. • Understandable system language and content wise, with always available support • Certification must be internationally acknowledged and recognized by employers	• Language barrier (digital education often includes a lot of English terms) • Low trust in certificates. Too many certificates are given for everything – the value of certification (if it's not international and well known) has dropped dramatically • Low trust in online learning

It is important that the certification process is clear and linked to a specific goal (eg. employment, university, scholarships etc.). Moreover, 'basic digital competence' is a wide topic and not in every job all of them are required. It depends on the job profile. The majority of respondents noted that there should be a lot of informative activities to raise the interest of the potential target group in this type of initiatives.

Spanish National report

First focus group with policy and education stakeholders

The focus group has been organized into two different sessions by Foundation ESPLAI the 16 April 2018 in Barcelona. The total number of participants was 8, out of which 3 were policy makers/experts and 5 adult training providers.

In addition to working in digital skills development programs, all policy makers invited are specialized in the employment and social policies of different target groups.

With regards to the adult educators' profile, ESPLAI invited representatives from both public and private sector, including coordinators of company vocational plans. All the participants are experienced in the field of new technologies, having a special interest in the promotion of social e-inclusion.

Analysis of the target group

Although the most critical factors related to a low level of digital skills seem to be education, unemployment and age, there is a great concern for the so called "technological natives". In particular, the participants referred to all those young people aged 20 years old and above, who usually think to have high knowledge and capability in the use of new technologies, but that really do not exceed the minimum requirements to develop a critical vision of digital information or a more advanced use of the tools and technologies available to them.

When asked about motivation drivers for adult learners, it was agreed that the most important is the presence of a standardized certification, which facilitates the recognition and assumption of having certain skills and technological abilities/capacities. In fact, Spain is one of the most advanced EU countries in this field, already having two well-recognized public certification standards such as ACTIC (standardized certification model for digital competences at the regional level) and IKANOS (Promoter of the Information and Knowledge Society in Basque society).

Critical factors for the implementation of DCDS

It is therefore clear that the success of DCDS in Spain is linked to ensuring a certification that can validate digital competences in a generalized manner throughout the country/European Union, taking into consideration all already existing tools in the territory about guidance, training, certification/validation and monitoring.

Most probable success factors of DCDS	Main obstacles to its implementation and sustainability
• Standardized Certification • Free access • Being able to assess all levels of digital skills	• Get a unifed and centralized certification • Difficulty in developing/using a digital platform for people with low digital skills • Coexitence with other programs for the validation/certification of digital competencies

Besides the centrality of the certification issue, in order to ensure the sustainability of DCDS in Spain, the main focus should be putted in how and why this system can improve the employability conditions of the learners who want to access it. Moreover, three other important considerations should be done:

1] Adult citizens with low digital skills have very different profiles, which makes it difficult to clearly detect the specific target groups of DCDS. In the whole Country it is considered very necessary to develop the critical analysis in the use of digital tools for younger generations.

2] There is already a large number of digital competence programs developed in different areas, which already offer a framework of action and a methodology to be followed. DCDS project must be carried out and promoted taking into consideration these already running programs and policies.

3] It is difficult to prioritize the digital competences to be taught at basic level, since our team of experts considered that they would offer all of them without distinction and that the learners themselves should choose the ones they want to develop / enhance, due to the fact that all type of digital competencies are necessary in the optimal development and use of new technologies.

Second focus group digitally low-skilled adults

The focus group has been organized by ESPLAIN and it took place the 10 May 2018 in Barcelona. Four people from the six members of the focus group were migrants, who had limited Spanish proficiency. In addition, three participants had a level between null and low digital skills. It must be said that all of them, with accompaniment, would be able to use and benefit from the platform that we are trying to create through the DCDS project.

It should also be noted that these types of profiles are fully representative of the local population, where social entities should support to implement and accompany users in the use of the DCDS platform with the final aim of improving the e-inclusion of all citizens.

Self-evaluation of the own level of digital competences

The general perception of the focus group was that there is not a way-back from the digital transformation of the society, and if they do not put an interest in adapting and learning, they will be excluded from the society. They consider that the younger population benefits better from these digital tools. Some older people have difficulties adapting to technological changes and are not clear on the need to use these tools, due to their lack of knowledge.

Some participants feel the need to continue learning to use digital tools in a more efficient way, while, on the other hand, there are people who perceive great difficulties when using them due to lack of self-confidence and fear in using such tools.

Being people with low digital skills, they often do not understand the way in which the programs/applications/pages are presented and, due to this, they do not know how to use these tools. In these cases, they usually seek for external help or ignore the problem and do something else. They have also commented on aspects related to the lack of control on public contents about religion or other sensitive topics, being worried of not being able to supervise minors in make a good use of social networks.

In short, all participants would be guided to learn new technologies and digital skills, although some of them do not know in what sense/direction/form.

Reasons for improving the digital profile with DCDS

Therefore, based on the majority of the answers provided during the focus group, it is more likely that the three most important motivation factors for improving their digital competencies are:

1] Professional situation

2] Personal interests

3] Cultural enrichment

This should be done through accompaniment, in sessions held in a group and with a trainer who guides them and proposes the agenda to work. In addition, they would like to have video support with graphic images and tutorials, so that they could easily understand how to use the platform and thus benefit from the proposed online training.

It has also to be mentioned that most of the participants at the focus group are used to mobile technology rather than computers. All participants were familiar with the use of YouTube, looking for tutorials for various purposes of interest. For the rest, they did not have more complex learning experiences or degrees in digital or related competences.

Most probable success factors of DCDS	Main obstacles to its implementation and sustainability
• The platform is visual and simple to use • There is a final certification • It is translated into different languages, so that you can decide at any time if you want to use one or the other.	• Using the online platform autonomously • Lack of translation • The plaform is not adaptable to different devices

There is a large number of people who could benefit from the DCDS, although the accompaniment by professionals in the social-technological field should be ensured. It should be noted that all the people in the focus group have shown a high degree of interest in being part of a growing and inclusive technological community, in which they can optimally develop and exploit the uses and virtues of our project and of the possibility of improving their digital skills.

In the first instance they have highlighted the most personal factor about being able to obtain a certification as a personal objective, as an improvement of one's own digital competences. A consideration that has been followed by the will to opt for a job (or a better one), demonstrating to have achieved a minimum level of digital skills through a certificate that accredits them.

Romanian National report

First focus group with policy and education stakeholders

The focus group has been organized by the Romanian partner EOS the 18 April 2018 in Bucharest, with a total number of 7 participants, out of which 3 were policy makers/experts and 4 adult training providers.

Policy makers and experts who were invited to DCDS focus group are representatives of the most important institutions and organizations from Romania, involved in supporting the ICT policies at national level. EOS targeted these policy makers and experts, in order to better understand the national context of ICT policies at national level, but also to support the development of DCDS in Romania using their knowledge and contacts. During the focus group, and even after, they expressed their interest to support EOS in developing and implementing the DCDS system at local, regional and national level.

The education providers invited at focus group, are representing the most important agencies/institutions providing training at national level for all type of adult group categories. They have access to the target group of DCDS project and a lot of experience in working with adults belonging to qualification levels one and two, which will be mainly targeted by our project. Based on the relationship created during the DCDS focus group, these training providers will support EOS at local and national level, in terms of reaching the the target group and dissemination of information among the adults targeted by the project. They will offer

access to their data base in order to identify the target group that will participate in the piloting process, but also, they will help to develop a network among training and education providers at local and national level. The role of the network will be to support the development and implementation of DCDS system among adults, at local and national level.

Analysis of the target group

In Romania there are 8 qualification levels (depending on the qualification certificate obtained at the end of the studies):

- Level I - Primary school graduates
- Level II - Secondary school graduates (8 years), gymnasium
- Level III - Vocational school graduates
- Level IV - High School graduates
- Level V - Post secondary school graduates
- Levels VI, VII and VIII are graduates of tertiary studies

The participants at the focus groups agreed that adult employees who are working in jobs requiring low skill qualification (such as security agencies) represents a priority group for the DCDS initiative.

In fact, if we consider that the classification of occupations in Romania, among other things, depends on the level of the educational qualification achieved, it is interesting to underline how the COR (Classification of Occupations in Romania) refers to Level I workers as unqualified/unskilled workers (in the sense that they don't have professional training, even if they have a good level of education.

Therefore, DCDS should target employees occupying positions from Level I and Level II of the COR classification. The majority of people belonging to these qualification levels in Romania, are employed as security guards at various companies and they usually have a very low level of digital competencies.

On the other hand, from the training offer point of view, one of the main priorities regarding content development for improving digital competences is the adults' need to access the ICT: the need to access different services, the need for information, the need to acquire digital competences for finding a job. Depending on these needs, learning must be prioritized. In particular, the participants at the focus groups listed these key motivation drivers for adult citizens to improve their digital competences:

1] content related on how to access the information and access to online services
2] content related to basic skills needed to acquire a job (create a CV, letter of intent, accessing job sites).

It is necessary to establish the initial level of a person's competences and, depending on this aspect, to establish what needs to be introduced in terms of digital competences, given the fact that groups are not homogeneous and the users' profile may be very different.

Finally, it was noted that another national priority for technology consumption and use of ICT services should be the digitization of the public systems in Romania. If public systems were digitized, the population would have to access the technology, and would therefore easier and faster acquire digital competences.

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Critical factors for the implementation of DCDS

The National Qualifications Framework based on Government Decision 918/2013 establishes professional qualification levels at national level and it can ensure the operability of DCDS system. Practices and resources that already exist, will establish the basis of DCDS project together with the support offered by institutions/organization that are providing this type of training and services for adult learners.

Basic digital skills are certainly important for the social inclusion of adults. In this respect, the target group should be defined more in detail, given the fact that one of the project objectives is to access modular courses according to the established methodology. Therefore, the courses should be suited to a particular category of adults and this target group should be well defined.

At national level there are a lot of training materials and resources available that can be used and adapted, a frame comprising the qualification levels, the project just need to define very well the target group categories and the qualification levels needed for each target group.

Most probable success factors of DCDS	Main obstacles to its implementation and sustainability
• Blended learning approach intended to be use • The fact that project methodolog is based on Dig Comp framework • Online tools available and a really well designed methodology	• Lack of interest for this type of programs from the targeted people • Difficulties in disseminating the information about the existence of the program • The low technology consumption at national level

Second focus group digitally low-skilled adults

The focus group has been organized at the headquarters of the EOS Foundation in Timisoara last 16 May 2018. The group was composed of seven people, 3 women and 4 men with an average age of 40,2 years old, representing the oldest sample of this target group among all DCDS partner countries.

All participants have a high level of education (at least high-school diploma) and, although they are all employed, they are financially disadvantaged, as they are working in unqualified jobs, with low remuneration. In fact, Timisoara is a very industrialized city, where a lot of international companies are operating, thus levelling the unemployment rate under 1% of the active population.

Self-evaluation of the own level of digital competences

The general perception of the group about the increasingly digital transformation of the society is that the development of technology brings a lot of benefits, because it provides a quick access to all kind of information which are most important nowadays.

On the other hand, this development is far too fast compared to how adults manage to keep the pace with technology. Participants think that adult citizens aged over 30 don't have always enough time to invest in learning about new software, programs and equipment continuously developed by ICT providers. They have families, responsibilities that limit their free time, compared to young people aged under 25.

According to the participants, young people were born in the age of technology and they are mentally more prepared to face the digital transformation. They have more time to spend in learning about new ICT applications, programs and devices and they are more attracted about all that is related to new technologies.

Participants believe that they have a minimum level of competences, which are not enough to meet the increasingly high requirements of the existing and upcoming technology. They want to improve their digital competences and their main motivation is to get a better job or a qualification in a field that will make them advance from a professional point of view. Some of them have been in the situation of losing the chance to obtain a better job, due to the lack of digital competences on some basic ICT programs - the Microsoft Office suite.

The most common problem that they face with digital and online services is related to personal data protection, security and privacy. In terms of using online digital services, most of the participants don't feel confident, especially mobile banking applications and platforms for online payments. In their opinion, these platforms are not well secured and they are afraid that their data will be used for fraud purposes. They agree that the use of this services is beneficial in the everyday life, because a lot of time can be saved, but they are anyway reluctant in using them due to the security aspects.

Also, another issue that makes them reluctant sometimes in the use of digital services, is the aggressive advertising made by the different companies and vendors. After going to a certain platform, searching for a product, it is very probable that you will be receiving a lot of spam ads or suggestions about similar products. Adult citizens think that, sometimes, the privacy of the user is not respected on the Internet. In this sense, they would like to learn about topics like privacy, personal data, security and how to protect themselves from theft of personal data and aggressive advertising.

Reasons for improving the digital profile with DCDS

Therefore, based on the majority of the answers provided during the focus group, it is more likely that the three most important motivation factors for improving their digital competencies are:

1] Professional situation

2] Personal interests

3] Leisure and entertainment

Their favourite way of learning seems to be the classical one based on face to face training sessions with an instructor, in a classroom, because everything happens on the spot and you find answers to your questions immediately.

Anyway, they also don't exclude the option to learn by using a blended learning approach. The use of a blended learning approach is beneficial from their point of view, because after you learn a range of things in the classroom, you have the opportunity to fix the information that were delivered to you by self-study at home using a learning platform.

Only two participants experienced until now a learning platform. The other ones said that they didn't had the chance to use a platform for learning purposes but they are tempted to try this experience if they will be given this opportunity. Participants consider that learning platforms can be really useful from several reasons: the student can learn whenever he has free time following a self-taught approach and be challenged to study more in order to resolve the evaluation tests and quizzes.

| Most probable success factors of DCDS	Main obstacles to its implementation and sustainability
• Adult citizens are interested to develop and to improve their digital competences for better jobs. • They are open to try new learning approaches as learning platforms and blended learning. • Target group recognizes the importance of digital competences in all life's aspects.	• Lack of time to invest in self study and to participate to courses due to jobs and family responsibilities. • Possible loss of motivation during the training period due to the fact that they had other expectation related to the course. • Lack of self confidence and lack of trust in their own forces.

Last, but not least, the participants consider that certification and validation of digital competences is useful and important, only for recognition of the competences which are strictly related to a certain qualification. Only if you want to work in a certain domain where certification is a MUST, then you need the certification of the acquired competences: i.e. web design.

Otherwise, participants consider that certification of competences is not necessary because most of the employers don't require certification, testing the knowledge and competences of their future employees directly and using personal methods and tools.

Greek National report

First focus group with policy and education stakeholders

The focus group has been organized by HOU in Athens the 3 May 2018, involving a total of 10 participants, out of which 8 were policy makers/experts and 2 adult training providers.
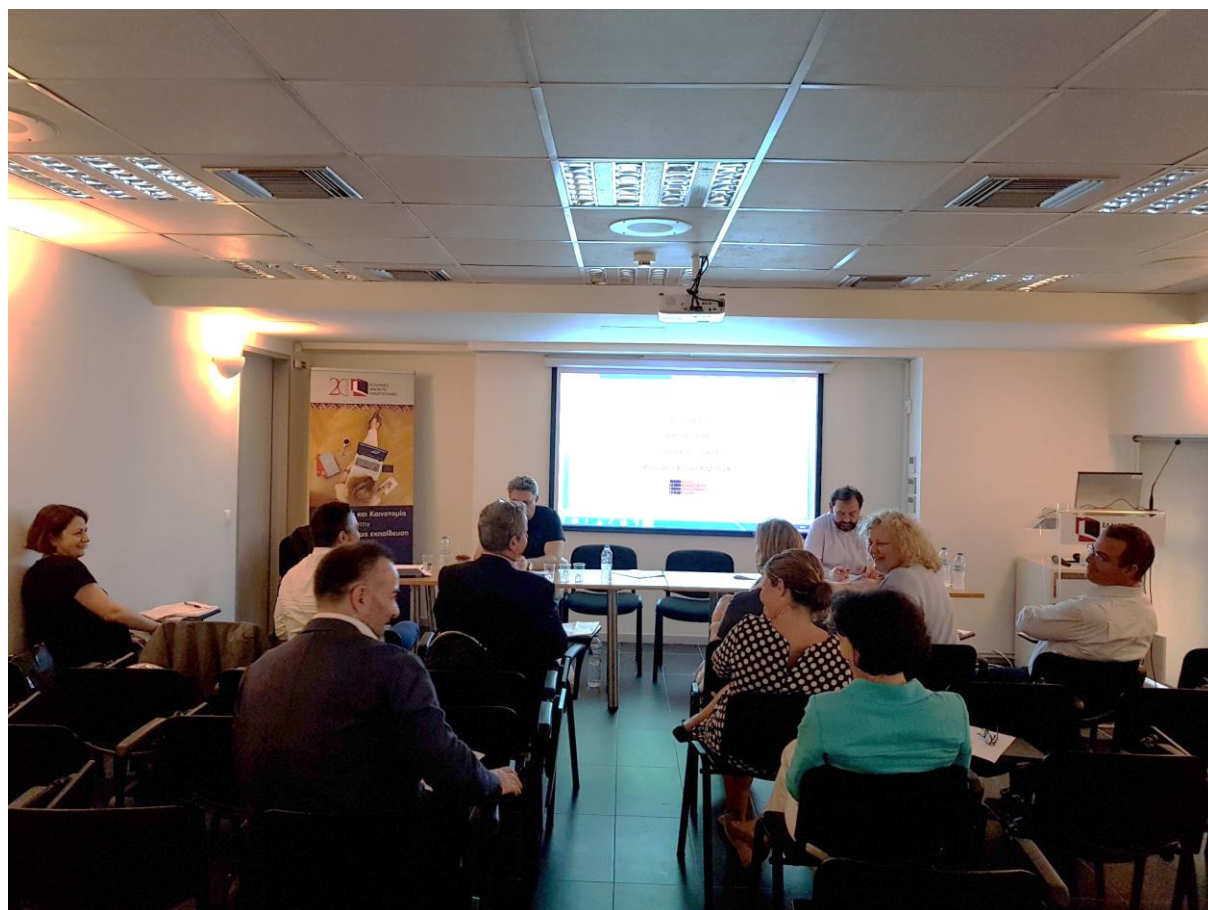
Most of the participants have an interest and participate to a policy level group orienting to the digital competences. They work in ministries, related operational structures and organisations of public interest, influencing with their work the formulation of policies. The participants agreed to continue providing feedback to the work of DCDS, asking to continue this focus group activity (or in a similar form, e.g. working group), improving seriously the sustainability of the project at national level.

Some adult training experts and providers also joined - although much more were invited but did not manage to participate - providing valuable feedback to the DCDS project design. The policy recommendations and plans identified will be used in together with the dissemination of DCDS purposes, plans and outcomes, to all relevant stakeholders, including adult education providers (in general). Apart from that, all participants of the focus group will be used for the networking and sectoral impact of DCDS at the local and national levels.

Analysis of the target group

The analysis of the present situation in Greece highlights that the vast majority of the population has basic digital competences. Low digital competences characterize mainly those became unemployed the recent years of the financial crisis (new unemployed), vulnerable groups, and people over 45 years old. Additional target groups include immigrants and migrants, Roma, women, single-parent families, people with chronic diseases, people with disabilities, senior citizens, upper level employees (e.g. CEOs), recognizable people (e.g. known artists, famous journalists, etc), etc.

Having in mind this generalized lack of digital skills, the participants at the focus group agreed that there are a number of key motivation drivers for adult citizens to improve their digital skills:

- Basic digital skills, digital skills required for employment (for unemployed),
- Social media in local languages,
- Improvement of digital competences for private use of women (e.g. smart home)
- Digital leadership for managers,
- Basic digital skills for e-citizenship

Critical factors for the implementation of DCDS

According to participants' opinions, DCDS should address the needs of unemployed, senior citizens and vulnerable groups, offering an interface in local language is critical and including a "loose" type of recognition of skills acquired, e.g. badges, or even exploiting block-chain technologies.

Most probable success factors of DCDS	Main obstacles to its implementation and sustainability
• Addresing the digital skill needs of unemployed, seniors and vulnerable groups • Ease of use self-assessment tools • Focus to the social inclusion and citizens inclusion	• General mindest of adult population (no interest) • Difficulty in achieving a human centered technology design • Lack of continuous updating

Moreover, although achieving a horizontal certification at European level is difficult to be established, this type of certification would be useful. It must be combined with a simple self-assessment tool, that will be used for the validation of basic digital competences.

It is also true that, in general, the market does not require such type of certification, as it uses its own validation tests. Therefore, soft certification schemes (e.g. badges) appear to be more appropriate, decreasing also costs (both financial and political).

The proper use of information systems should be taught also. Skills should be combined with knowledge, and both should be updated periodically. "Train the trainers" programs in digital skills are also required. Additionally, a collaboration is required with Chambers, Professional organizations and the market, so as to re-skill and up-skill employed people.

Second focus group digitally low-skilled adults

The focus group has been organized by the Hellenic Open University and it took place the 6 June 2018 in Patras. Thirteen people participated to that, with four of them being unemployed, four employed, three emigrants, one older - retired, and one student. Among them, there was also a person representing a rehabilitation and integration social enterprise. Eight of them were women.

Self-evaluation of the own level of digital competences

The entire group agreed upon the fact that technologies help us to supervene problems. People are usually hesitant, but after some time, they accept them.

As a society, we lack behind in various domains, one of which is the digital transformation of the society, especially as far as it concerns the elder people. This also happens to younger people in some cases, especially concerning the proper use, and the capability to use technology effectively (years 20-25). The age group 30-50 follows the digital transformation depending on its educational level, and if it is in a good level. Typically, this capability increases in accordance to the increase of the educational level (e.g. online orders / meetings / payments, etc).

Technology continuously progresses and so must do people. On the contrary, other participants believe that this is irrelevant with the educational level, but depend only to technology competences each person has or acquires. For example, elder refuse to learn or get trained in technologies. Participants also stressed the importance of using technology for their daily lives and their work, even if they do not understand them well.

All age groups had to learn to use some particular digital services lately. For example, the application of capital controls in the summer of 2015 in Greece led people from all age groups to learn how to use the ATM bank machines / web banking.

One of the identifiers of the digital transformation of the society is the voice recognition and the voice service, e.g in the infodesks. Unfortunately, this is not still adopted widely. People tend to consider that with distrust. Among the positive things of digital transformation, are the speed and the wide of information, the improvement of the communication / transportation / learning means, and decrease of products production cost. A negative issue revealed is that, the surplus is not exploited by the society overall. In general, the digital transformation occurring, has helped a lot (daily life progress, simplicity) people that are familiarized with the technology, but has created also serious problems to people that are not. The society in Greece does not seem to be ready for the digital transformation.

Reasons for improving the digital profile with DCDS

Participants declared that they understand technologies (e.g. online services), and they use them. Digital and online competences are essential for acquiring knowledge, having fun and serve daily needs. People are interested to improve their digital competences for their daily lives and for work purposes (even to work in low-skilled jobs). They could also help them to understand better the social, political and cultural emerging changes.

Typically, low-skilled adults need to improve their basic skills, whereas middle and high-skilled adults should focus on specialization.

Therefore, based on the majority of the answers provided during the focus group, it is more likely that the three most important motivation factors for improving their digital competencies are:

1] Professional situation

2] Private and commercial services

3] Leisure and entertainment

Some of the participants expressed the fear of being used from technology, instead of using it on their own. There is an incompatibility between the use of a platform (remotely) and the need for a daily presence. The legal framework of using digital and online services is also another inhibiting factor, as well as the vagueness in online communications (especially with the public). Overall, participants believe that these services are not credible, and for that reason, they use online platforms because they have to do so.

Some of them would like to learn in the traditional classroom, whereas others like the freedom online learning provides (e.g. working from home), but with the support of a tutor. Those having daily obligations (e.g. mothers, employees), prefer more the digital learning, as they manage better their time (autonomy), save time, and do it without neglecting other priorities. The educational level also seems to be related with the preference to online learning. A negative aspect is the (potential) lack of a mentor. In general, it would be useful if it contributes to save time.

Before engaging to online learning, they should be assessed to identify whether they have the basic required skills, and whether this learning modality suits to their character. For example, students prefer online learning because they consider the traditional classroom learning as boring. In general, the project works (assignments) facilitate the engagement (increases motivation) to online learning.

Additionally, there is a resistance in using online learning – as in the case of digital services – from elder people. This target group (50+) denies mostly due to its adherence to other ways of learning.

Most probable success factors of DCDS	Main obstacles to its implementation and sustainability
• Use of videos and mentors • Provision of certifications • Ease of use	• Used by, instead of using technology • Legal framework of using digital services • Protection of personal data

Digital competences development is significant, but we need to know and understand the digital trace of the data people provide when they use digital means. Protection of personal data is crucial. Additionally, we would like to use technology, and not being used by the technology. And last, knowledge should not be replaced by the information.