



DigComp into Action

GET INSPIRED
MAKE IT HAPPEN

A user guide to the
European Digital
Competence Framework

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DigComp into Action - Get inspired, make it happen

This Guide supports stakeholders in the implementation of the European Digital Competence Framework (DigComp) through sharing of 38 existing inspiring practices of DigComp implementations. These are illustrated by 50 content items consisting of Case studies and Tools.

The list of examples provided in the Guide's annex is not exhaustive and aims to illustrate the wide range of DigComp implementation practices.



Stefano Kluzer
Laia Pujol Priego

DigComp into Action

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European Digital
Competence Framework

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Welcome

The Commission is delighted to publish this user guide to support further use and awareness of the European Digital Competence Framework (DigComp). Digital technology is transforming our society and since 2014, DigComp has become a key tool and source of inspiration to help Europe respond to – and anticipate – the impact of all things digital.

This user guide demonstrates the inspiring level of use of DigComp to date across diverse sectors and highlights an important message: digital skills are relevant to every aspect of our lives. Digital competence means that people can use digital technology in a confident, critical and secure way.

DigComp is being used and adapted by users across Europe to enable people to acquire the digital skills they need for success in the workplace and to play an active role as confident citizens.

I would like to extend thanks to the Joint Research Centre (JRC) of the Commission and all the contributors who together have produced such a comprehensive and engaging guide. Along with the recently published user guide for the European Entrepreneurship Competence Framework (EntreComp), these guides represent the community, innovation and co-operation that is possible in the EU.

Alison Crabb

Head of Unit E2 Skills and Qualifications
DG Employment, Social Affairs and Inclusion
European Commission

Editors' Foreword

Digital technology is not simply influencing how we go about our lives – it is transforming traditional structures, methods and assumptions about how we communicate, learn, work and live.

In the face of such transformation, the reality is that 44% of Europeans still do not have basic digital skills while 79% of Europeans go online regularly (at least once per week) and all projections are that a majority of forms of work will require digital skills in the near future.

How we respond and prepare is complex – there are risks and opportunity in equal part but a focus on digital skills development is inherent to the success, employability, creativity and prosperity of every individual. The question of digital skills must be embraced consistently across sectors, and actors, involved in education, training, support, employment and development.

The European Commission has prioritised and supported digital skills development through a range of policies and actions, working with Member States in supporting learners, employees, job-seekers and innovators in every setting. DigComp – the European Digital Competence Framework represents a milestone in this journey.

DigComp is a reference framework that describes what it means to be digitally competent. It can be used across sectors, disciplines and systems to enable people to develop digital competence. DigComp sets out the 21 competences necessary to be digitally competent and maps these across 8 proficiency levels, from the most basic to advanced levels. Being digitally competent is more than being able to use the latest device or software. Digital competence is a key transversal competence that means being able to use digital technologies in a critical, collaborative and creative way. DigComp supports this comprehensive understanding of digital competence, including issues such as information storage, digital identity, developing digital content and behaviour online, in everyday life such as working, shopping and participating in society.

This user guide is intended for anyone – whether individual or organisation – working to promote digital skills in formal education and training, non-formal or informal learning initiatives or offering training and professional development in the workplace. The Guide includes a broad range of examples from those who use DigComp that will inspire new and further adaptation of the framework.

Introducing the Guide

Purpose

The purpose of this Guide is to support stakeholders with the sharing of experiences of existing inspiring DigComp implementations. Since the publication of the first DigComp Framework in 2013 two new versions have been released, the latest one in spring 2017. The open consultation process underlying these developments and the publication of accompanying documents beyond the official DigComp reports have been largely appreciated. However, the evolution of the framework has made apparent a need for further guidance. Therefore this Guide also intends to provide up-to-date information on the DigComp framework. Questions on translations, other frameworks and DigComp versions are addressed in Section 3.

Sharing existing practices

The variety of DigComp practices across Europe demonstrates the many opportunities it offers for different aims in digital competence initiatives, including goal-setting and strategy design, the development of education and training programmes, competence assessment and recognition; in various domains including formal education and training, life-long learning and employment; for a wide range of stakeholders addressing different target groups, e.g. students, workers, job seekers.

This Guide offers inspiration for using DigComp by providing a comprehensive overview of examples

describing their aims and achievements, as well as the benefits and challenges of using the reference framework. Several summarising overviews are offered to find the examples that may be of interest to the reader. The Guide also sets out recommended steps for implementation and use based on analysis of these examples to act as a further source of inspiration and guidance.

Challenges of DigComp implementation

DigComp was designed to be a reference framework for digital competence. This means that the framework is descriptive rather than prescriptive, highlighting the importance of all competences. Further elaboration of the content and the level of the competences can be done by the users, should they wish to do so. This makes the framework flexible and adaptable. Some effort may be required however to adapt DigComp content to local goals and specific circumstances.

The Guide aims to facilitate the process of implementing DigComp through inspiring examples of using the framework, describing the process and decisions taken by stakeholders in a range of different situations. Finally, whereas DigComp helps to define “what” (which competences) to address, the examples show that stakeholders face challenges about “how” (which method) to perform effective digital competence development. Many of the examples shown can be inspiring for these “how to” aspects of digital competence development.

Methodological note

This Guide is based on practical examples of adoption of the European Digital Competence Framework (DigComp).

Much of the Guide’s content has been developed through desk research, survey and iterative interaction with a wide range of stakeholders. The survey was carried out over June-October 2017 through a questionnaire distributed in the EU and beyond. To complement to the survey, a study on related projects and services, including additional mail or phone interviews was carried out. 38 of the collected examples are illustrated in the Annex.

Many of these stakeholders attended a dedicated workshop in Brussels in May 2017, which launched the production of this Guide. These stakeholders also contributed with information and feedback in subsequent interactions.

The results reflect the current status of implementations based on DigComp by the end of 2017.

Target group

This user guide is intended for anyone – whether individual or organisation – working to promote digital skills in formal education and training, non-formal or informal learning initiatives or offering training and professional development in the workplace. Stakeholders include education and training policy makers at all levels (e.g. regional and national), educational and training experts and organisations, research and support agencies, employers and recruiters, economic development, public administration, professional associations, and private firms. Digital competence initiatives by students, citizens, workers, small entrepreneurs, teachers and educators in general may also benefit from this work.

Origin of DigComp

DigComp was developed by the Joint Research Centre (JRC) of the European Commission as a scientific project, initially on behalf of the Directorate General for Education and Culture (DG EAC) and, more recently, on behalf of the Directorate General for Employment, Social Affairs and Inclusion (DG EMPL). In order to produce the framework, an extensive literature review, case study research and stakeholder consultation process were carried out. More than 200 experts and a variety of stakeholders from EU Member States have been involved in developing DigComp.

DigComp can be used, reused and modified providing the original source is acknowledged. It is free of charge available at: [EC.EUROPA.EU/JRC/EN/DIGCOMP](https://ec.europa.eu/jrc/en/digcomp).

More information is also available on the DG Employment website: [EC.EUROPA.EU/SOCIAL](https://ec.europa.eu/social).

Guide content and how to access it

1. Introducing DigComp

Section 1 sets out information to explain what DigComp is about and how it works.

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2. Using DigComp: getting started

Section 2 provides answers to some specific questions about the implementation of DigComp, often raised by stakeholders. It presents 38 inspiring examples of DigComp use through case studies and tools. All examples can be accessed in 3 different ways: through implementation steps (2.3); through domain of digital competence development (2.4) and through category of stakeholders (2.5).

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3. DigComp resources

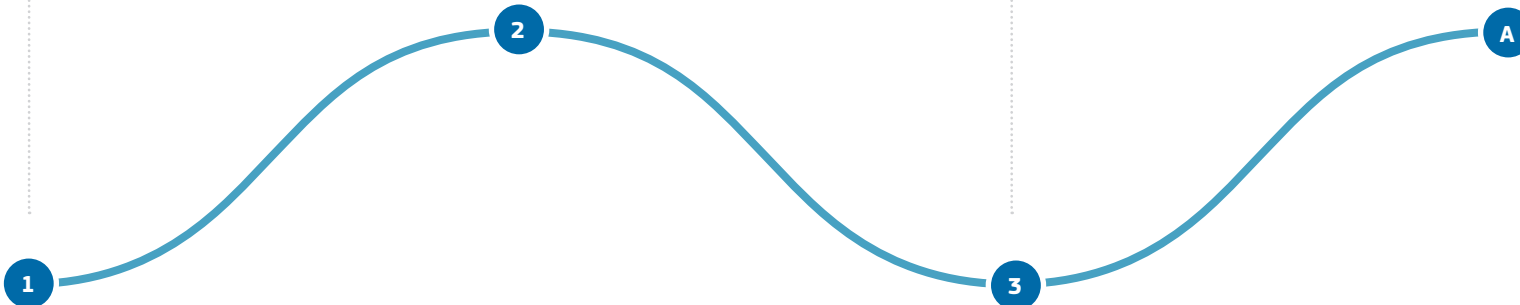
Section 3 presents important reference material such as existing translations, how DigComp relates to other frameworks (e.g. Unesco, ESCO), the evolution of DigComp and a glossary.

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Annex. Inspiring DigComp examples: case studies and tools

The Annex offers the detailed description, contact information and useful links of all 51 case studies and tools used to illustrate the 38 DigComp uses.

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1. **Introducing DigComp**

1.1 What is DigComp, its structure and content

DigComp was first published in 2013, as a reference framework to support the development of digital competence of individuals in Europe. DigComp describes which competences are needed today to use digital technologies in a confident, critical, collaborative and creative way to achieve goals related to work, learning, leisure, inclusion and participation in our digital society.

T.1 DigComp competence areas and competences

COMPETENCE AREAS	COMPETENCES
1. Information and data literacy	1.1 Browsing, searching and filtering data, information and digital content 1.2 Evaluating data, information and digital content 1.3 Managing data, information and digital content
2. Communication and collaboration	2.1 Interacting through digital technologies 2.2 Sharing through digital technologies 2.3 Engaging in citizenship through digital technologies 2.4 Collaborating through digital technologies 2.5 Netiquette 2.6 Managing digital identity
3. Digital content creation	3.1 Developing digital content 3.2 Integrating and re-elaborating digital content 3.3 Copyright and licences 3.4 Programming
4. Safety	4.1 Protecting devices 4.2 Protecting personal data and privacy 4.3 Protecting health and well-being 4.4 Protecting the environment
5. Problem solving	5.1 Solving technical problems 5.2 Identifying needs and technological responses 5.3 Creatively using digital technologies 5.4 Identifying digital competence gaps

1.2 DigComp dimensions

The Digital Competence Framework is structured in dimensions. Dimensions outline the underlying data model and organise all the elements showing how they relate to one another.

Each dimension has its specificities allowing for a flexible use of the framework so that it can be adapted to the needs and requirements that emerge from the context. For example, someone may only use dimensions 1 and 2 without the use of proficiency levels. The use of dimensions also allows for better interoperability and comparability between various frameworks.

Dimension 1 outlines the competence areas of which the digital competence is composed. Dimension 2 details the titles of each competence and their descriptors. Dimension 3 is used to describe the proficiency levels of each competence (see 1.5 more details).

Dimension 4 and 5 describe various examples related to Dimension 2. They are provided to add value and context and thus, they are not intended to be exhaustive.

In the case of Dimension 4, these would include examples of knowledge, skills and attitudes related to each competence, whereas Dimension 5 provides examples of the framework's application to specific purposes. In the case of DigComp, two contexts are provided, that of learning and employment.

T.2 DigComp dimensions

1. **COMPETENCE AREAS (5 AREAS)**
2. **COMPETENCES DESCRIPTIONS AND THEIR TITLES (21)**
3. **PROFICIENCY LEVELS FOR EACH COMPETENCE**
4. **KNOWLEDGE, SKILLS AND ATTITUDES EXAMPLES FOR EACH COMPETENCE**
5. **APPLICATION TO SPECIFIC PURPOSES: LEARNING AND EMPLOYMENT**



1.3 DigComp competence areas

In DigComp, there are 5 competence areas which outline the key components of the digital competence. They are the following: Information and data literacy; Communication and collaboration; Digital content creation; Safety; and Problem solving.

In DigComp, the **competence areas 1, 2 and 3** deal with competences that can be retraced in terms of specific activities and uses.

- 1. INFORMATION AND DATA LITERACY
- 2. COMMUNICATION AND COLLABORATION
- 3. DIGITAL CONTENT CREATION

Competence areas 4 and 5 are “transversal” as they apply to any type of activity carried out through digital means. Problem solving elements, in particular, are present in all competence areas, but a specific area was defined to highlight the importance of this aspect for the appropriation of technology and digital practices.

- 4. SAFETY
- 5. PROBLEM SOLVING



Dimension 5 provides examples of use applied to **employment, and to education and training**.

1.4 DigComp competences

T.3 DigComp competences

1. INFORMATION AND DATA LITERACY	2. COMMUNICATION AND COLLABORATION	2.5 Netiquette
<p>1.1 Browsing, searching and filtering data, information and digital content To articulate information needs, to search for data, information and content in digital environments, to access them and to navigate between them. To create and update personal search strategies.</p>	<p>2.1 Interacting through digital technologies To interact through a variety of digital technologies and to understand appropriate digital communication means for a given context.</p>	<p>To be aware of behavioural norms and know-how while using digital technologies and interacting in digital environments. To adapt communication strategies to the specific audience and to be aware of cultural and generational diversity in digital environments.</p>
<p>1.2 Evaluating data, information and digital content To analyse, compare and critically evaluate the credibility and reliability of sources of data, information and digital content. To analyse, interpret and critically evaluate the data, information and digital content.</p>	<p>2.2 Sharing information and content through digital technologies To share data, information and digital content with others through appropriate digital technologies. To act as an intermediary, to know about referencing and attribution practices.</p>	<p>2.6 Managing digital identity To create and manage one or multiple digital identities, to be able to protect one's reputation, to deal with the data that one produces through several digital tools, environments and services.</p>
<p>1.3 Managing data, information and digital content To organise, store and retrieve data, information and content in digital environments. To organise and process them in a structured environment.</p>	<p>2.3 Engaging in citizenship through digital technologies To participate in society through the use of public and private digital services. To seek opportunities for self-empowerment and for participatory citizenship through appropriate digital technologies.</p>	
	<p>2.4 Collaborating through digital technologies To use digital tools and technologies for collaborative processes, and for co-construction and co-creation of resources and knowledge.</p>	

< T.3

3. DIGITAL CONTENT CREATION

- 3.1 **Developing digital content**
To create content in different formats (e.g. data, text, multimedia), to edit and improve existing content, to express oneself through digital means.

- 3.2 **Integrating and re-elaborating digital content**
To modify, refine and integrate new information and content into an existing body of knowledge and resources to create new, original and relevant content and knowledge.

- 3.3 **Copyright and licences**
To understand how copyright and licences apply to digital information and content.

- 3.4 **Programming**
To plan and develop a sequence of understandable instructions for a computing system to solve a given problem or to perform a specific task

4. SAFETY

- 4.1 **Protecting devices**
To protect devices and data, to understand risks and threats in digital environments, to know about safety and security measures and to have due regard to reliability and privacy.

- 4.2 **Protecting personal data and privacy**
To protect personal data and privacy in digital environments. To understand how to share personally identifiable information while protecting self and others from dangers (e.g. fraud). To understand that digital services use a "Privacy policy" to declare how personal data is used.

- 4.3 **Protecting health and well-being**
To avoid health-risks related with the use of digital technologies in terms of threats to physical and psychological well-being. To be able to protect self and others from possible dangers in digital environments (e.g. cyber bullying). To be aware of digital technologies for social well-being and inclusion.

- 4.4 **Protecting the environment**
To be aware of the environmental impact of digital technologies and their use.

5. PROBLEM SOLVING

- 5.1 **Solving technical problems**
To identify technical problems when operating devices and using digital environments, and to solve them (from trouble-shooting to solving more complex problems).

- 5.2 **Identifying needs and technological responses**
To assess needs and to identify, evaluate, select and use digital tools and possible technological responses to solve them. To adjust and customise digital environments to personal needs (e.g. accessibility).

- 5.3 **Creatively using digital technologies**
To use digital tools and technologies to create knowledge and to innovate processes and products. To engage individually and collectively in cognitive processing to understand and resolve conceptual problems and problem situations in digital environments.

- 5.4 **Identifying digital competence gaps**
To understand where one's own digital competence needs to be improved or updated. To be able to support others with their digital competence development. To seek opportunities for self-development and to keep up-to-date with the digital evolution.

1.5 DigComp proficiency levels

DigComp maps out 4 broad proficiency levels (foundation, intermediate, advanced, highly-specialised).

These 4 levels can also be further elaborated across 8 levels offering a more detailed description of progression criteria. The 8 levels provide the granularity needed to develop learning materials, assess and recognise learning progression, and to describe tasks and competences in detail.

Each of the 8 level descriptions represents a further step by the citizens in three domains:

- ▶ The acquisition of knowledge of the competence
- ▶ The complexity of the tasks they can handle
- ▶ Their autonomy in completing the task

Each description contains knowledge, skills and attitudes, described in one single descriptor for each level of each competence (8 x 21 learning outcomes).

The proficiency levels were inspired by the structure and vocabulary of the European Qualification Framework (EQF) and were written as a combination of learning outcomes, using one action verb per learning outcome.

Example

A person at proficiency level 2 is able to remember and carry out a simple task, with help from somebody with digital competence only when they need it. However, a

person at proficiency level 5 can apply knowledge, carry out different tasks and solve problems and help others to do so.

See the visual illustration of the proficiency levels at page 20.

T.4 Main keywords that feature the proficiency levels

4 OVERALL LEVELS	Foundation		Intermediate		Advanced		Highly specialised	
8 GRANULAR LEVELS	1	2	3	4	5	6	7	8
COMPLEXITY OF TASKS	Simple task	Simple task	Well-defined and routine tasks, and straightforward problems	Tasks, and well-defined and non-routine problems	Different tasks and problems	Most appropriate tasks	Resolve complex problems with limited solutions	Resolve complex problems with many interacting factors
AUTONOMY	With guidance	Autonomy and with guidance when needed	On my own	Independent and according to my needs	Guiding others	Able to adapt to others in a complex context	Integrate to contribute to the professional practice and to guide others	Propose new ideas and processes to the field
COGNITIVE DOMAIN	Remembering	Remembering	Understanding	Understanding	Applying	Evaluating	Creating	Creating

How to swim in the digital ocean (Source: DigComp 2.1 pp.13-14)

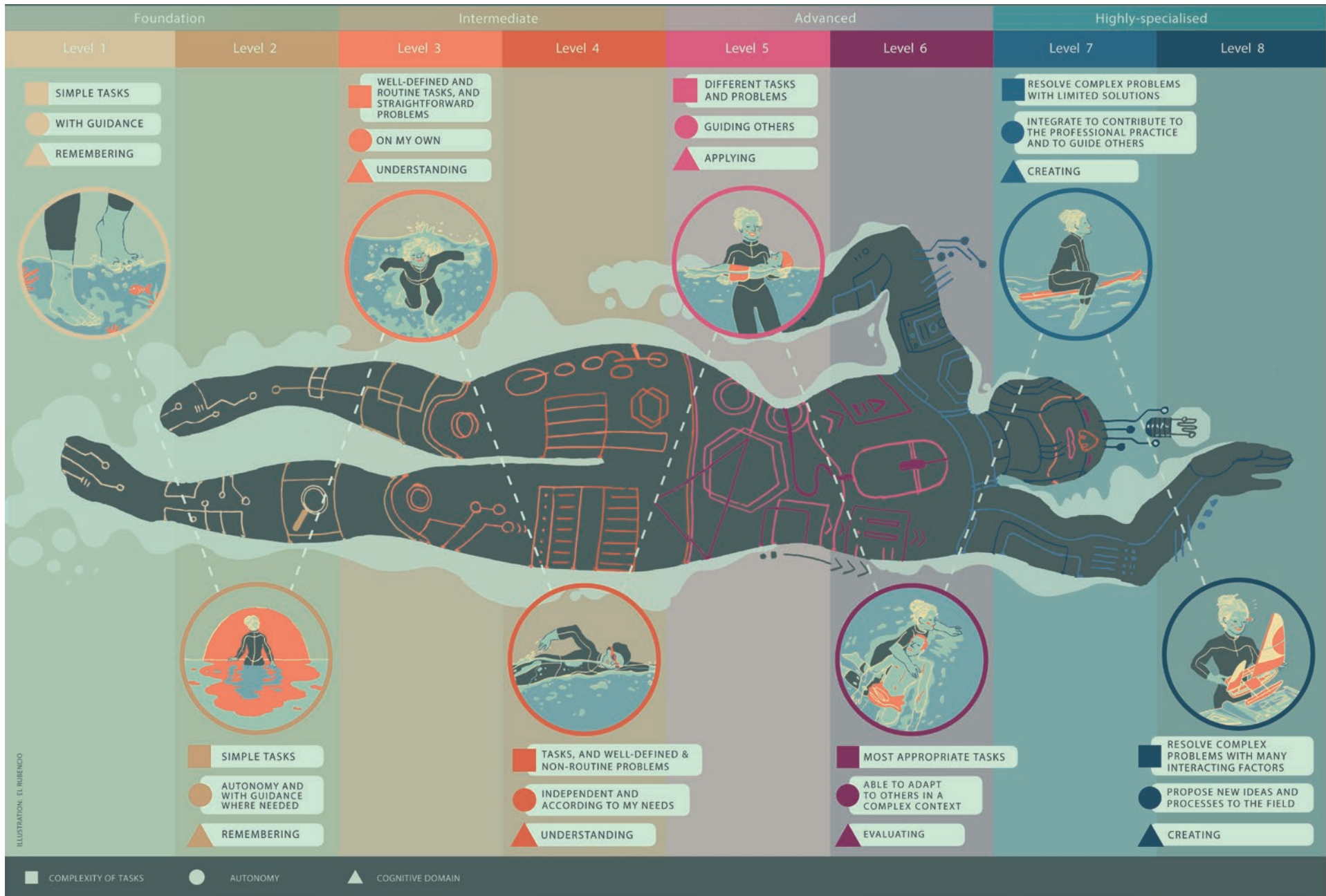


ILLUSTRATION: EL RUBENCO



2. **Using DigComp: getting started**

2.1 Value of using DigComp

Asked about the value of using the DigComp framework, stakeholders gave four main reasons:

- Its character as a European framework
- Its contribution to create a common language and understanding of digital competence
- The quality and flexibility of the framework
- Its guiding function for education and training actions.

The value of adopting a European framework

DigComp is known to have been developed with the contribution of a large number of experts and to be endorsed at European level.

The open participatory process underlying DigComp's production and its public documentation are broadly appreciated. These features legitimate the adoption of DigComp for new digital competence initiatives by organisations operating across Europe, and are important sources of trust for policy and decision makers, facing other digital competence framework options. They also contribute to increase the attention and perceived value of digital competence in the eyes of educators throughout Europe and ultimately of the very citizens themselves.

Reference to DigComp in EU policy documents, allows initiatives at national and local level to be framed within the broader European strategies in education and training, innovation, digital agenda and so on. For instance, the European Commission launched in June 2016 the "New Skills Agenda for Europe". In one of the Agenda's initiatives called the "Upskilling Pathways: New Opportunities for Adults", DigComp is acknowledged as the reference tool for common understanding of digital competence for citizens. At a more practical level, the expectation is that solutions based on DigComp -for training, assessment, etc.- can be shared and expanded more easily to other EU countries.

"DigComp is a steering document that has a critical role in systematising digital competence on an international level. ... As such it represents a natural starting point to develop national frameworks in harmony with international trends and expectations."

MARIJANA KELENTRIC • Norway

"DigComp helps those offering existing or new digital competence solutions, such as ECDL, by allowing them to map to a neutral official reference framework that has wide European recognition. This facilitates the communication of their features and benefits and helps identify gaps in solutions and priorities for programme development."

FRANK MOCKLER • ECDL Foundation

“In Pix initial design phase, the fact that DigComp was a European framework helped reaching an agreement amongst the experts who were considering alternative approaches to describe digital skills. DigComp was fitting also because of competence being the main entry (a requirement of the French life-long learning system), and because it targets everyone, as we wanted to be the case for Pix.”

NATHALIE DENOS • France (see [C12](#))

A common language to understand and talk about digital competence

Being a new and relatively complex notion, digital competence is understood and described in many different ways. Stakeholders underline that DigComp has provided a common language and terminology to talk about and design new projects on digital competence in all kinds of areas. They notice how DigComp established a general, some call it ‘soft’ or ‘transversal’, definition of digital competence, which is complementary and compatible with other more specific, sectorial, ‘harder’ definitions.

“DigComp clarifies what digital competence is, how the whole society can benefit from its development, and that it is not only a matter for ICT specialists, as many people often still think.”

MARGARIDA LUCAS • Portugal

A high quality, flexible and adaptable product

DigComp is acknowledged and adopted by many stakeholders as a “high quality product”, thanks again to the involvement of many recognised experts and the broad consensus obtained in its preparation.

“DigComp’s theoretical framework “is well described, well-documented and research-based.”

ANDERS SKOV • Denmark

Stakeholders consider the structure, outline and content of the framework to be simple and easy to understand, and appreciate that they come along with a range of support materials, information on project background, governance and implementation, which facilitate its use for various purposes. DigComp’s flexibility makes it easily transferable across different countries and fields.

“Teachers and other professionals, and in general anyone interested in enhancing employability opportunities across the board, can extend and adapt DigComp to their own needs and according to their own national context.”

MARIA JESÚS GARCÍA SAN MARTÍN • Spain

A helpful tool for education and training actions

The quotes below testify that DigComp provides essential guidance and support in the definition of education and training actions to develop digital competence.

In the wide field of digitalisation, DigComp helps those involved in education and training answer in an articulate, but also specific way to the question: what is important to learn in this field?

CAROLIN MÜLLER-BRETL • Germany

Framing the course curriculum (on coding and mobile learning for young people) within DigComp, contributes and gives coherence to the formative action and helps setting the learning offer in a broader and structured framework.

ESTHER SUBIAS • Spain

Teachers do not feel so 'lost' anymore regarding what they and their students should be able to do/ know in digital environments, because they now have a tool that helps and guides them.

MARGARIDA LUCAS • Portugal

DigComp allows you to set standards in a training offer on digital skills for citizens, while broadening the scope of training goals and outcomes. Being technology-neutral, it is compatible with the "bring your own device" approach, which facilitates setting up training in many circumstances. Besides helping in curriculum design, it also helps benchmark training projects and products aimed at digital inclusion of citizens.

GRAZIA GUERMANDI • Italy

DigComp as a reference framework

The DigComp framework defines the scope and the components of digital competence for citizens in a clear way. It provides an overall, complete and shared understanding of what digital competence is, and offers an updated vocabulary based on consensus building with multiple stakeholders. The DigComp framework provides competence descriptions in general terms. It intentionally leaves open, for instance, which specific digital devices or software applications should be used. This makes the framework technology-neutral and, given that digital technology constantly changes, it also prevents the rapid obsolescence of the framework. The glossary of preferred terms is available on p. 68-69 of this Guide.

DigComp's essential character as a reference framework entails that, when using it for practical purposes e.g. in the design of a training course or a competence assessment system, it cannot and should not be applied in a straightforward and rigid manner. DigComp was designed to be a source of inspiration and to be adapted depending on the goals, target groups, operational conditions, available resources, timeframe and other factors. As mentioned already in the very first DigComp report "It is therefore up to the users, institutions, intermediaries or initiative developers who are willing to use the proposal to adapt it to their needs" (DigComp 1.0 p. 9).

2.2 DigComp usage examples

In this Guide, we present 38 examples of DigComp use that reflect what can be done with the Framework. These examples are summarised in Table 5 (p. 27) which also illustrates how they can be accessed in three different ways: through implementation steps (2.3), through domain of digital competence development (2.4) and through category of stakeholders (2.5). The examples span over 20 countries in Europe and beyond (table 6 and 7).

The 38 examples are illustrated by 2 types of content item: case studies and tools. There are in total 50 content items.

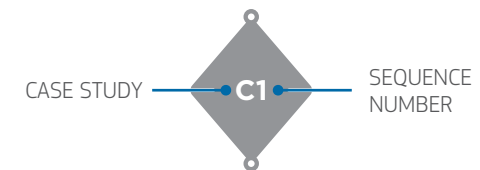
CASE STUDIES

Cases aim to tell a story of why and how DigComp was used. The stories highlight the key actors involved, the steps made, the products and, when possible, what comes next. There are 30 case studies in the Guide.

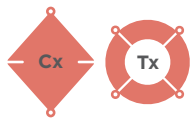
TOOLS

Tools are activities, methods and products developed using DigComp. There are 20 tools in the Guide.

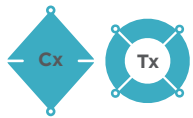
Content items are symbolised with an icon and a code.



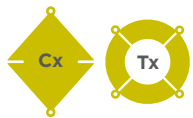
The icon's colour reflects the stakeholders involved.



POLICY MAKERS

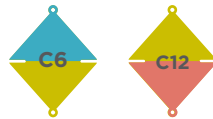


EDUCATION AND TRAINING



THIRD SECTOR AND ENTERPRISE

Some examples refer to more than one stakeholder.



The icons are interactive and lead to the relative full description's page in the Annex.

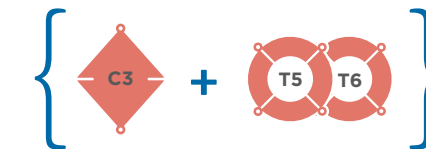


Examples can be made out of one or more content items.

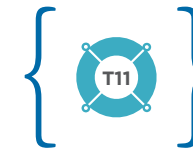
EXAMPLE A: 1 CASE STUDY







































EXAMPLE B: 1 CASE STUDY + 2 TOOLS



EXAMPLE C: 1 TOOL



T.5 Summary of cases and tools by implementation steps, domains and stakeholders

	 DOMAIN EDUCATION AND TRAINING	 DOMAIN LIFE LONG LEARNING AND INCLUSION	 DOMAIN EMPLOYMENT
 STEP COMPETENCE ASSESSMENT	 C1 C3 C4 C12 C26  T15	 C2 C5 C10 C12 C15 C24 C28  T17	 C2 C4 C6 C8 C10 C12 C17 C19 C24 C28  T3 T16
 STEP TRAINING TRAINERS	 C11 C12  T20	 C10 C12  T2 T4 T11 T12 T13 T14 T16	 C10 C12 C17 C18 C29  T2 T4 T16 T18
 STEP END-USER LEARNING	 C1 C4 C5 C9 C26  T1 T5 T15 T20	 C1 C2 C5 C7 C10 C15 C20  T7	 C2 C4 C7 C10 C29
 STEP ADAPTATION AND SPECIFICATION	 C5 C13  T1	 C10 C13 C14 C15 C16 C20 C21 C23 C24 C30  T10 T14	 C6 C8 C10 C16 C24 C27
 STEP RECOGNITION AND CERTIFICATION	 C4 C12 C13  T1 T6	 C2 C7 C10 C12 C13 C22  T4 T17	 C2 C4 C7 C10 C12 C16 C19 C22  T4 T17

T.6 List of case studies

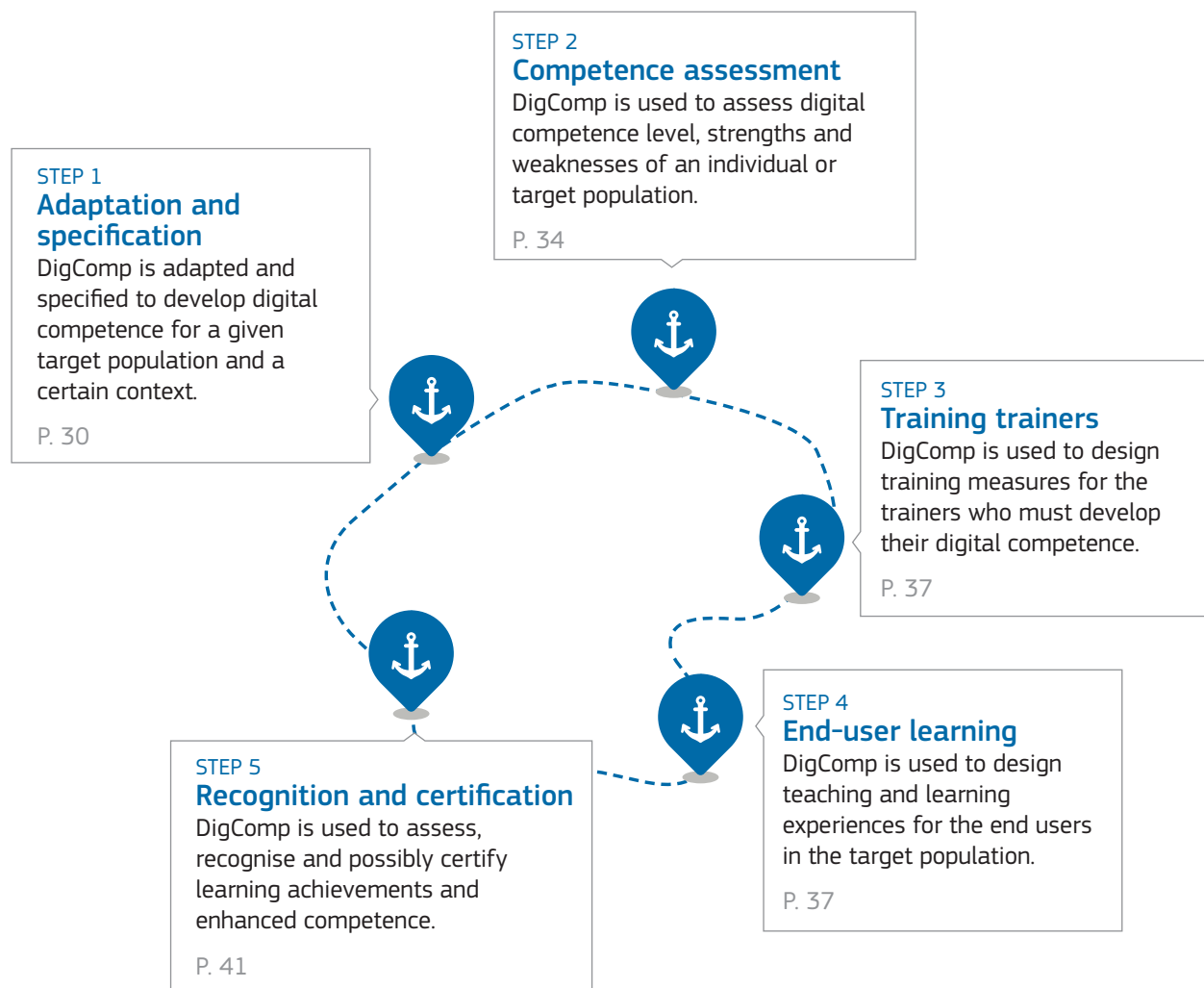
 UNITED KINGDOM ANGLIA RUSKIN UNI- VERSITY: IMPLEMENT- ING DIGITAL LITERACY	P. 78	 ITALY PRDIGEO: LEARNING PLATFORM FOR EMPLOYMENT SERVICES' STAFF	P. 92	 ITALY PANE E INTERNET: THE DIGITAL LITERACY AND INCLUSION PROJECT IN EMILIA ROMAGNA	P. 102	 POLAND ECDL PROFILE DIGCOMP CERTIFICATES IN POLAND	P. 114
 SPAIN IKANOS - NIRE GAITASUN DIGITALAK / MIS COMPETENCIAS DIGITALES	P. 80	 INTERNATIONAL HAPPY ONLIFE	P. 94	 BE • DE • ES • FI • FR • HE • IT • PL • UK ELENE4WORK: MAPPING SOFT DIGITAL SKILLS OF STUDENTS AND YOUNG WORKERS	P. 104	 SPAIN EXTREMADURA DIGITAL LITERACY TRAINING PROGRAMME	P. 116
 SPAIN TEACHERS IN SPAIN: THE NEW DIGITAL COMPETENCE COMMON FRAMEWORK	P. 82	 FR • IE • IT • RO COMPASS - YOUR JOURNEY TO DIGITAL, THE UP-SKILLING PLATFORM FOR YOUNG UNEMPLOYED PEOPLE	P. 96	 DENMARK THE DIGITAL COMPETENCE WHEEL	P. 106	 CZ • DE • ES DIGITAL SKILLS 4 YOU(TH): TRAINING PROFESSIONALS WORKING WITH YOUNG PEOPLE	P. 116
 CROATIA E-SCHOOLS: PILOT PROJECT TOWARDS DIGITAL SCHOOLS	P. 84	 ES • FR • INT • IT • TR TASK: AUTHENTIC TASK BASED COMPETENCE ASSESSMENT IN SECONDARY SCHOOLS	P. 98	 ITALY SMARTIVEMAP, A DIGITAL COMPETENCE MAPPING TOOL TO START DIGITAL TRANSFORMATION	P. 108	 INTERNATIONAL UNESCO-PEARSON INITIATIVE FOR LITERACY: IMPROVED LIVELIHOODS IN A DIGITAL WORLD	P. 117
 BELGIUM ADULT EDUCATION IN FLANDERS: THE NEW ICT PROGRAMMES	P. 86	 FRANCE PIX: ONLINE PLATFORM FOR DIGITAL SKILLS EVALUATION AND CERTIFICATION	P. 99	 EL • ES • IE • INT PATHWAYS FOR EMPLOY: DEFINING AND DEVELOPING DIGITAL PROFILES	P. 110	 GERMANY BILDUNG IN DER DIGITALEN WELT. EMBEDDING DIGITAL COMPETENCE IN THE SCHOOL CURRICULUM	P. 117
 EUROPE MU.SA: USING E-CF AND DIGCOMP FOR WORK DIGITAL TRANSFORMA- TION IN MUSEUMS	P. 88	 ESTONIA SAMSUNG DIGI PASS FOR VOCATIONAL SCHOOL STUDENTS IN ESTONIA	P. 100	 ES • DE • HR • HU • INT CODEMOB: CURRICULUM FOR E-FACILITATORS AND UNEMPLOYED YOUTH	P. 112	 SPAIN TRAINING CIVIL SERVANTS IN SPAIN WITH DIGCOMP BASED E-LEARNING COURSES	P. 118
 POLAND ECCC DIGITAL COMPETENCE FRAMEWORK	P. 90	 EL • IT • UK LINGUACUISINE: DEVELOPING DIGITAL SKILLS WITH DISADVANTAGED PEOPLE	P. 101	 HUNGARY BRIDGE THE DIGITAL GAP: BASIC DIGITAL TRAINING OF ADULT POPULATION	P. 113	 PORTUGAL PORTUGAL INCODE.2030: ENHANCING DIGITAL COMPETENCE	P. 118

< T.6		T.7 List of tools									
	BG • ES • IE • LT • NO • SI • UK DIGITAL INNOVATIONS FOR GROWTH ACADEMY: TRAINING ENTERPRISE TRAINERS AND EDUCATORS	P. 119		UNITED KINGDOM ANGLIA RUSKIN UNIVERSITY: FIVE DAYS OF DIGITAL LITERACY (SDODL)	P. 120		INTERNATIONAL HAPPY ONLIFE TOOLKIT	P. 130		SLOVENIA THE STUDENTS COMPETENCE FRAMEWORK BY THE SLOVENIAN EDUCATION INSTITUTE	P. 138
	INTERNATIONAL DEFINING DIGITAL COMPETENCE TRAINING NEEDS FOR YOUTH WORK	P. 119		SPAIN IKANOS - SELF ASSESSMENT TEST	P. 121		ES • FR • INT • IT • TR TASK TOOL: AN ONLINE SYSTEM FOR ASSESSING KEY COMPETENCES IN SECONDARY SCHOOL	P. 131		INTERNATIONAL SKILLAGE: ONLINE SELF-ASSESSMENT TOOL ON DIGITAL SKILLS FOR THE JOB MARKET	P. 138
				SPAIN IKANOS - PROFESSIONAL DIGITAL COMPETENCE PROFILES	P. 122		ITALY PANE E INTERNET CURRICULUM AND LEARNING RESOURCES FOR BASIC DIGITAL LITERACY	P. 132		SPAIN TUCERTICYL: THE NEW DIGITAL COMPETENCE CERTIFICATION SYSTEM IN CASTILLA LEON	P. 139
				SPAIN IKANOS - BAIT, THE NEW DIGITAL COMPETENCE CERTIFICATION SYSTEM	P. 124		BE • DE • ES • FI • FR • HE • IT • PL • UK ELENE4WORK ORIENTATION GUIDE FOR JOB SEEKERS	P. 134		GERMANY DIGITAL SKILLS SELF-ASSESSMENT TOOL FOR EMPLOYEES AND MANAGERS OF THE DACH REGION	P. 139
				SPAIN TEACHERS IN SPAIN: MOOCS, EDUPILLS AND OTHER TRAINING RESOURCES	P. 126		BE • DE • ES • FI • FR • HE • IT • PL • UK ELENE4WORK SELF-ASSESSMENT TOOL FOR DIGITAL SOFT SKILLS IDENTIFICATION	P. 136		ITALY SAFE ONLINE: A BOOK TO TRAIN THE NEW DIGITAL CITIZENS AT SCHOOL	P. 140
				SPAIN TEACHERS IN SPAIN: THE DIGITAL COMPETENCE PORTFOLIO	P. 128		SPAIN DIGITAL COMPETENCE SELF-DIAGNOSIS TOOL OF THE ANDALUSIA REGIONAL GOVERNMENT	P. 137		NORWAY NORWEGIAN PROFESSIONAL DIGITAL COMPETENCE FRAMEWORK FOR TEACHERS	P. 140
				BELGIUM WEBSITE OF THE ADULT EDUCATIONI IN FLANDERS: THE NEW ICT PROGRAMMES	P. 129		ITALY ABC DIGITALE: SELF-ASSESSMENT TEST AND DIGITAL LEARNING OPPORTUNITIES	P. 137			

2.3 Steps in DigComp implementation

The elements illustrated in the infographic represent the five main goals for which DigComp is typically used in the examples analysed for this Guide.

They are also the five steps of a suitable DigComp implementation process.



In reality, not all these steps may in fact be necessary, as they also depend on context conditions and maturity, as well as on the aims being pursued.

For instance, trained teachers may already be available; trainees may only want to learn something and do not care about having their learning achievements recognised or certified and so on. Lack of funding or a

strategic decision may also restrict the articulation of a digital competence experience. Even though we placed this activity at the beginning, for operational purposes, the Framework's high-level competence descriptions must be adapted and specified with respect to given goals, target groups and context, typically at more detailed levels, also in the subsequent steps.



STEP 1 Adaptation and specification

DigComp is adapted and often specified to set the relevant digital competence and proficiency levels for a given target population or policy and strategic use. This step is often based on a preliminary identification and analysis of the needs and/or opportunities to develop digital competence of that target population and a certain context.

DigComp provides high-level descriptions of digital competence and the related learning outcomes expected at different proficiency levels, along with illustrative examples in two application scenarios. These descriptions are provided on purpose with a general, often abstract character, leaving them open to interpretation and unrelated to any specific technological standard, solution or product.

These features enhance the Framework's resilience facing an extremely diverse and constantly changing technological world. They also make it possible to apply DigComp in all kinds of sectors, organisations and target groups, while maintaining reference to a common framework established at European level. For this to happen though, in most cases a process is needed which involves the following activities: the translation (if needed) and then the adaptation and/or specification of the Framework, as illustrated below.

These activities should reflect the competence development goals which are set following the assessment of a target group's needs and the identification of the specific competences that can help meet those needs. At this preliminary stage, DigComp contributes to inform and frame the reflection that typically takes place among different stakeholders, by creating a common understanding of digital competence among them and a language to talk about it. When the reflection and discussion about needs and digital competence requirements moves to a deeper and more operational level, the Framework adaptation and specification processes begin.

Translation

Once the decision is made to adopt DigComp for digital competence development, a preliminary activity (if a translation does not yet exist) is to translate the Framework or parts of it from English into the target language. Translations are usually done by national ministries and related agencies. As shown in Tables 2 and 3, the translation may concern only some of the Framework's dimensions - typically competence areas (dimension 1) and competence title and descriptors (dimension 2) - or all of them.

Translations are used to raise public awareness about digital competence and its relevance, to support discussions among stakeholders and launch consultations for competence development actions, and they become the basis for the subsequent activities.

“Adaptation”

“Adaptation” refers to changes made onto the DigComp conceptual reference model leading to a more or less similar framework inspired by it. Competence areas or specific competences may be added because they are deemed important for a target population whose required digital competence go beyond those expected from “all citizens”, such as teachers (**C3 INTEF, T20 NORWEGIAN FRAMEWORK FOR TEACHERS**), headmasters and administrative school staff (**C4 ESCHOOLS**), youth workers (**C30 TRAINING NEEDS FOR YOUTH WORK**), civil servants (**C28 INCODE2030**) or care workers (as in the Carer+ project [TINYURL.COM/Y8DEY6AJ](https://tinyurl.com/y8dey6aj)).

Adaptions may also occur by adding specific compe-

tences or renaming competence areas and/or partly changing or shifting specific competence descriptors (C1 ANGLIA RUSKIN UNIVERSITY, C12 PIX, C15 PANE E INTERNET, C17 DIGITAL COMPETENCE WHEEL, C26 BILDUNG IN DER DIGITALEN WELT). These usually reflect a different understanding and views of digital competence (e.g. how to “position” DigComp’s safety and problem-solving transversal competences, or the importance to highlight explicitly ICT proficiency and functional skills), or the need to integrate pre-existing frameworks (T16 SKILLAGE).

“Specification”

“Specification” of the framework typically occurs in view of further implementation steps, i.e. the design of digital competence education and training programmes for a given target population, or general assessment and certification purposes of specific competences and proficiency levels.

Specification consists of identifying and selecting the competences deemed relevant in that context and possibly discarding others, making choices about the proficiency levels to attain (e.g. T15 STUDENTS FRAMEWORK IN SLOVENIA defined proficiency levels based on the age/school level of students), and most of all, revising and/or enriching and/or detailing DigComp descriptors and examples, usually in Dimensions 3, 4 and 5 for operational purposes. C5 ADULTS EDUCATION IN FLANDERS reorganised 500 learning outcomes extracted from DigComp 1.0 into about 360 competences, to design new ICT courses for adults.

In one case (C2 + T3 IKANOS), very specific competences

for industry 4.0 jobs have been added as sub-competences to the DigComp framework.

Sometimes specification and adaptation occur together (e.g. C3 INTEF, C12 PIX). REBIUN, the Network of Spanish University Libraries developed a specification of DigComp 2.0 for graduate students ([TINYURL.COM/Y73L9LHP](https://tinyurl.com/y73l9lhp)), focusing on basic and intermediate proficiency levels.

The result of the above processes are DigComp-based adapted general frameworks or “digital profiles” for given target groups (e.g. low-educated adults), professions and work functions, which define the expected competences and proficiency levels to be assessed, developed etc. with them. Digital professional profiles based on DigComp have been developed for:






- ▶ teachers and schools staff (see above)
- ▶ specific industry 4.0 jobs (C2 + T3 IKANOS)
- ▶ employment services staff (C8 PRODIGE0)
- ▶ career paths in secretary/administrative, project management, marketing & advertising and teaching jobs (C10 COMPASS)
- ▶ new museum professionals (C6 MU.SA)
- ▶ virtual office workers and self-entrepreneurs (C19 PATHWAYS4EMPLOY)

▶ social workers working with youth (C24 DIGITAL SKILLS 4 YOU(TH))

▶ youth workers (C30 TRAINING NEEDS FOR YOUTH WORK).

These frameworks and profiles are the input to the following implementation steps.

T.6 Step 1 - Adaptation and specification / relevant content items

 C1	ANGLIA RUSKIN UNIVERSITY: IMPLEMENTING DIGITAL LITERACY	P. 78	 C12	PIX: ONLINE PLATFORM FOR DIGITAL SKILLS EVALUATION AND CERTIFICATION	P. 99	 T3	IKANOS - PROFESSIONAL DIGITAL COMPETENCE PROFILES	P. 122
 C2	IKANOS - NIRE GAITASUN DIGITALAK / MIS COMPETENCIAS DIGITALES	P. 80	 C15	PANE E INTERNET: THE DIGITAL LITERACY AND INCLUSION PROJECT IN EMILIA ROMAGNA	P. 102	 T15	THE STUDENTS COMPETENCE FRAMEWORK BY THE SLOVENIAN EDUCATION INSTITUTE	P. 126
 C3	TEACHERS IN SPAIN: THE NEW DIGITAL COMPETENCE COMMON FRAMEWORK	P. 82	 C17	THE DIGITAL COMPETENCE WHEEL	P. 106	 T16	SKILLAGE: ONLINE SELF- ASSESSMENT TOOL ON DIGITAL SKILLS FOR THE JOB MARKET	P. 139
 C4	E-SCHOOLS: PILOT PROJECT TOWARDS DIGITAL SCHOOLS	P. 84	 C19	PATHWAYS FOR EMPLOY: DEFINING AND DEVELOPING DIGITAL PROFILES	P. 110			
 C5	ADULT EDUCATION IN FLANDERS: THE NEW ICT PROGRAMMES	P. 86	 C24	DIGITAL SKILLS 4 YOU(TH): TRAINING PROFESSIONALS WORKING WITH YOUNG PEOPLE	P. 116			
 C6	MU.SA: USING E-CF AND DIGCOMP FOR WORK DIGITAL TRANSFORMATION IN MUSEUMS	P. 88	 C26	BILDUNG IN DER DIGITALEN WELT. EMBEDDING DIGITAL COMPETENCE IN THE SCHOOL CURRICULUM	P. 117			
 C8	PRODIGEO: LEARNING PLATFORM FOR EMPLOYMENT SERVICES' STAFF	P. 92	 C28	PORTUGAL INCODE.2030: ENHANCING DIGITAL COMPETENCE	P. 118			
 C10	COMPASS - YOUR JOURNEY TO DIG- ITAL, THE UP-SKILLING PLATFORM FOR YOUNG UNEMPLOYED PEOPLE	P. 96	 C30	DEFINING DIGITAL COMPETENCE TRAINING NEEDS FOR YOUTH WORK	P. 119			



STEP 2 Competence assessment

DigComp is used to assess digital competence levels, strengths and weaknesses of an individual or target population. This helps understand where to focus efforts and then to measure their success.

Competence assessment helps individuals understand where they stand and, if matched to personal goals or careers and professional profiles, to identify any further learning needs and directions.

- ▶ It helps teachers, trainers, advisors and consultants understand where to prioritise their efforts on individuals, groups and organisations.
- ▶ It helps organisations to find people they need with given minimum competence levels.
- ▶ At a higher aggregation level, it helps policy makers map the digital competence strengths and weaknesses of population segments, regions etc., decide about training, innovation policies and so on.

Repeated over time, competence assessment can measure progress and help evaluate the very effectiveness of training or any other action undertaken to develop digital competence.

Assessment goals

Among the examples in this Guide, digital competence assessment has been developed mostly in the employment perspective:

- ▶ To identify one's strengths and areas for improvement and set a learning agenda (T2 IKANOS, T12 ELENE4WORK);

- ▶ To benchmark one's digital competence profile with those of others in the labour market (C17 DIGITAL COMPETENCE WHEEL);

- ▶ To create a formative/learning experience
 - with challenges and performance-based tests (C12 PIX);
 - by providing feedback based on the answers received (T16 SKILLAGE)
 - by giving explanations for the interpretation of test results (e.g. meaning of a weak competence T2 IKANOS, C17 DIGITAL COMPETENCE WHEEL);

- ▶ To guide the user towards further learning opportunities based on test results. Learning resources may be integrated in the assessment platform itself (C10 COMPASS, C12 PIX), available elsewhere online (T11 ELENE4WORK) and/or from local training providers (T2 IKANOS); Each solution has different organisational and technical requirements for the effective linking of test and learning resources;

- ▶ To support teachers offering more individualised learning to their students (C11 TASK, C12PIX, T20 NORWEGIAN FRAMEWORK FOR TEACHERS) and consultants and trainers to customise services for their clients (C18 SMARTIVEMAP, C27 TRAINING CIVIL SERVANTS IN SPAIN, C29 DIGITAL INNOVATIONS FOR GROWTH ACADEMY, T18 SELF-ASSESSMENT IN DACH REGION).

Assessment approaches

With respect to assessment methodology, different approaches with different pros and cons can be adopted, depending on one's goals and target users (e.g. population at large, specific worker categories etc.), circumstances and resources:

- ▶ Self-assessment questions, where individuals are asked to evaluate how well they perform ICT related tasks and what they know about related issues (C1 ANGLIA RUSKIN UNIVERSITY, C17 DIGITAL COMPETENCE WHEEL, C29 DIGITAL INNOVATIONS FOR GROWTH ACADEMY, T2 IKANOS, T18 SELF-ASSESSMENT IN DACH REGION) or to agree/disagree through a declarative questionnaire with statements about one's behaviour in different digital situations (T12 ELENE4WORK). This approach is useful to raise awareness about digital competence and make users reflect on their perceived strengths and weaknesses;
- ▶ Knowledge-based tests (C18 SMARTIVEMAP, T13 ANDALUSIA SELF-DIAGNOSIS TOOL, T14 ABC DIGITALE, T16 SKILLAGE, T20 NORWEGIAN FRAMEWORK FOR TEACHERS), where individuals are presented with realistic problems in a variety of real-life situations and they have to indicate what they would do in a given situation, what would happen in reality etc. This approach measures factual knowledge (knowing that...) and procedural knowledge (knowing how to perform digital tasks) or both. It can thus produce a more accurate picture of a user's digital competence;

- ▶ Performance-based evaluation (T4 IKANOS, C11 TASK), where users are requested to actually solve digital challenges, reflecting real situations that they may face and entailing the use of tools such as browsers, word processors, spreadsheets etc. This approach generates the most accurate picture of one's competence seen as 'knowledge in action'. But it can be very demanding (also in terms of technical complexity and costs) for test providers and challenging for users. So it is usually adopted in view of issuing a certification;

- ▶ A mix of the above methods (C12 PIX).

















To offer a more complete assessment and resulting profile, a test can integrate other elements, beyond competences (e.g. T2 IKANOS, asks also about a user's connectivity, technological endowment and past IT training experiences).

Using DigComp in assessment

As in other implementation steps, using the DigComp framework firstly involves the selection of the relevant competences to be assessed, based on the target users and goals of the initiative. Assessment solutions can also be based on adapted DigComp frameworks (T6 TEACHERS IN SPAIN, C12 PIX). Then, DigComp components (competence descriptors, learning outcomes at different proficiency levels, examples of skills, knowledge and attitudes) can be used:

- ▶ To prepare self-assessment questions directly or with some variations (C17 SMARTIVEMAP, C29 DIGITAL INNOVATIONS FOR GROWTH ACADEMY, T18 SELF-ASSESSMENT IN DACH REGION and in the digital skills section of Europass CV [EUROPA.EU/IRRE69RD](https://europa.eu/irre69rd));
- ▶ As a reference to prepare more detailed and contextualised questions (referring to specific tools, application domains etc.), both in self-assessment or knowledge-based perspectives (most experiences);
- ▶ To inspire the preparation/description of authentic tasks and challenges for evaluation, both in knowledge-based and performance-based perspectives (C11 TASK, C12 PIX).

T.7 Step 2 - Competence assessment / relevant content items

 C10	COMPASS - YOUR JOURNEY TO DIGITAL, THE UP-SKILLING PLATFORM FOR YOUNG UNEMPLOYED PEOPLE	P. 96	 T4	IKANOS - BAIT, THE NEW DIGITAL COMPETENCE EVALUATION SYSTEM	P. 124	 T20	NORWEGIAN PROFESSIONAL DIGITAL COMPETENCE FRAMEWORK FOR TEACHERS	P. 140
 C11	TASK: A PROJECT FOR AUTHENTIC TASK BASED COMPETENCE ASSESSMENT IN SECONDARY SCHOOLS	P. 98	 T6	TEACHERS IN SPAIN: THE DIGITAL COMPETENCE PORTFOLIO	P. 128			
 C12	PIX: ONLINE PLATFORM FOR DIGITAL SKILLS EVALUATION AND CERTIFICATION	P. 99	 T11	ELENE4WORK ORIENTATION GUIDE FOR JOB SEEKERS	P. 134			
 C17	THE DIGITAL COMPETENCE WHEEL	P. 106	 T12	ELENE4WORK SELF-ASSESSMENT TOOL FOR DIGITAL SOFT SKILLS IDENTIFICATION	P. 136			
 C18	SMARTIVEMAP, A DIGITAL COMPETENCE MAPPING TOOL TO START DIGITAL TRANSFORMATION	P. 108	 T13	DIGITAL COMPETENCE SELF-DIAGNOSIS TOOL OF THE ANDALUSIA REGIONAL GOVERNMENT	P. 137			
 C27	TRAINING CIVIL SERVANTS IN SPAIN WITH DIGCOMP BASED E-LEARNING COURSES	P. 118	 T14	ABC DIGITALE: SELF-ASSESSMENT TEST AND DIGITAL LEARNING OPPORTUNITIES	P. 137			
 C29	DIGITAL INNOVATIONS FOR GROWTH ACADEMY: TRAINING ENTERPRISE TRAINERS AND EDUCATORS	P. 119	 T16	SKILLAGE: ONLINE SELF-ASSESSMENT TOOL ON DIGITAL SKILLS FOR THE JOB MARKET	P. 138			
 T2	IKANOS - SELF ASSESSMENT TEST	P. 121	 T18	DIGITAL SELF-ASSESSMENT TOOL FOR EMPLOYEES AND MANAGERS OF THE DACH REGION	P. 139			



STEP 3 + 4

Training trainers End-user learning

DigComp is used to design training measures for the trainers who must develop digital competence, as well as teaching and learning experiences for the end users in a target population.

The idea that people, even beyond IT occupations, should learn to use digital technologies has been around for a few decades. IT training opportunities to use specific equipment and software have thus been offered in most countries already for some time to school students, adults at work, unemployed people and others. The new notion of digital competence, however, challenges teachers, trainers and educators to adopt new approaches to develop this competence, and learners as well, i.e. all of us. As with competence assessment, DigComp contributes to identify what to teach/learn. However, how to deliver training and organise learning experiences is a creative task that corresponds to the teacher. In general, innovative pedagogical approaches (focused on collaborative, authentic, project-based learning and so on) appear as most suited to develop important components of digital competence, such as critical awareness and assessment capability of data, information and digital content, problem solving and creativity.

The publication by the JRC in November 2017 of the new European Framework for the Digital Competence of Educators (DigCompEdu) [EUROPA.EU/IGT63CH](https://europa.eu/igt63ch) aims to support educators dealing with the new pedagogical challenges and opportunities brought by digital technology. Within the DigCompEdu framework's six areas, Area 5 in particular acknowledges the potential of digital technologies for learner-centred teaching and learning strategies. Content-wise, Area 6 of the framework details is fully aligned with DigComp.

Training (and supporting) teachers

The wider use of digital technology in education and training and the emerging trend towards embedding digital competence in the disciplinary curriculum (**C1 ANGLIA RUSKIN UNIVERSITY**, **C26 BILDUNG IN DER DIGITAL-EN WELT**) are a new challenge to all teachers. Rather than only IT teachers as in the past, teachers from any discipline are increasingly expected to contribute to the development of their students' digital competence, throughout school life (P8 SI competence by age). Several upskilling and professional development programmes on digital competence for teachers based on DigComp have been developed and delivered in the formal education and training domain to help them meet these challenges. The first step is typically to design a curriculum (**C4 E-SCHOOLS**) that defines the learning outcomes (using DigComp) and the features of educational content to support them, the recommended teaching and evaluation methods. This is the basis on which usually training providers then develop educational and training content and deliver the training. Teacher training examples based on DigComp highlight three common features:

- ▶ **Innovative training delivery solutions.** Blogs (**T1 ANGLIA RUSKIN UNIVERSITY**), MOOCs (**T5 TEACHERS IN SPAIN**, **C4 E-SCHOOLS**), Nano Open Online Courses (NOOCs) and Self- Paced Online Open Courses (SPOOCs) as in **T5 TEACHERS IN SPAIN**, are particularly appropriate for learners with limited time to study and for large scale training initiatives;

-
- ▶ **Non-traditional pedagogical approaches.** Mentoring and peer-learning, flipped education, project-based learning, formative assessment (**T5 TEACHERS IN SPAIN**), gamification (**C9 HAPPY ONLIFE**) and other innovative approaches have been used. These approaches have a double, positive effect. They develop educators' digital competence (e.g. collaboration and communication, content creation, safety management and problem-solving capabilities) by engaging them in active and collaborative online learning experiences. They can also make educators understand better (and hopefully adopt more willingly) the new pedagogical approaches that they may later try with their students. For instance, teachers learn by doing and are requested to produce digital artefacts that can be saved in portfolios and learning diaries or simply shared, to showcase their learning progress. They thus experience first-hand the usefulness of new teaching and assessment methods that they may then decide to use with students. Informing and training teachers on competence-oriented education with traditional methods is of course also useful (**C5 ADULT EDUCATION IN FLANDERS**);

-
- ▶ **Sharing of learning materials and teaching aids.** Aids such as authentic tasks to be used in digital training activities are developed by teachers themselves as part of their own educational programme and/or during their teaching activity with students

(**T7 ADULT EDUCATION IN FLANDERS**, **T20 NORWEGIAN FRAMEWORK FOR TEACHERS**). Here, DigComp can help as a source of metadata to tag open educational resources according to the digital competence and proficiency levels that they can contribute to develop.

Training trainers in non-formal education and training

DigComp training experiences also address professionals and volunteers with an education and training role in non-formal learning contexts, supporting life-long learning and digital inclusion. These can be IT trainers (**C7 ECCC**), so-called digital facilitators (**C2 IKANOS**, **C15 PANE E INTERNET**, **C20 CODEMOB**, **C23 EXTREMADURA DIGITAL LITERACY TRAINING**), youth workers (**C30 TRAINING NEEDS FOR YOUTH WORK**), enterprise trainers and educators for SMEs (**T18 SELF-ASSESSMENT IN DACH REGION**) and others.

As with teachers, in these training experiences DigComp has been used to define the digital competence requirements of those professionals, for curricula development (**C20 CODEMOB**, **T18 SELF-ASSESSMENT IN DACH REGION**) and to help them deal with their “students” and customers, e.g. to assess a user's digital strengths and weaknesses and to recommend further action (**C15 PANE E INTERNET**, **C23 EXTREMADURA DIGITAL LITERACY TRAINING**, **T18 SELF-ASSESSMENT IN DACH REGION**). Innovative learning methods, such as gamification (**C9 HAPPY ONLIFE**) and problem and project-based learning (**C20 CODEMOB**), have been used to train non-formal educators, also to facilitate the further adoption of these

methods especially with the younger learners.

Training end-users

DigComp has been used to create digital competence training and learning opportunities for “end-users” in different segments of the population:

-
- ▶ **Students and young people.** Experiences with students (**T1 ANGLIA RUSKIN UNIVERSITY**) and young people in general usually aim to enhance their employability (**C10 COMPASS**, **C16 ELENE4WORK**) and offer engaging educational experiences (**C13 SAMSUNG DIGIPASS**, **C20 CODEMOB**, **T14 ABC DIGITALE**);
 - ▶ **Adults.** Experiences often target people with no or limited digital skills (**C15 PANE E INTERNET**, **C14 LINGUACUISINE**, **C21 BRIDGE THE DIGITAL GAP**) and/or adults wishing to enhance their digital competence (**C5 ADULT EDUCATION IN FLANDERS**);
 - ▶ **Workers.** Experiences address diverse workers, such as civil servants (**C27 TRAINING CIVIL SERVANTS IN SPAIN**), staff of public and private employment services (**C8 PRODIGEO**), social workers dealing with youth (**C24 DIGITAL SKILLS FOR YOU(TH)**) and museum professionals (**C6 MU.SA**).

In these experiences, DigComp has helped in the first place identify the competences and learning outcomes to be developed (which may be included in a profession-


al digital profile), based on user needs and the goals of each experience. Then, DigComp has been used to design curricula and learning experiences by defining course modules, identifying educational material, exercises, tests etc. according to the digital competence priorities and descriptions set in the previous step. **C8 PRODIGE**O provides a good illustration of this process.









Gap analysis using DigComp

DigComp has also been used to map the content of an existing or already planned course or learning activity in order to:

- ▶ identify missing elements worth addressing or to make revisions inspired by the comparison (**C15 PANE E INTERNET**);
- ▶ make trainers and learners aware of DigComp and how the given course or activity fits into, and aims to contribute to a broader digital competence framework (**C20 CODEMOB**, **T10 PANE E INTERNET**), **T14 ABC DIGITALE**);
- ▶ highlight the experience's coherence with the general effort underway in Europe to develop digital competence (exemplified by DigComp), thus increasing its value in the eyes of learners, funders and other stakeholders (**C20 CODEMOB**).

T.8 Step 3+4 - Training trainers, End-user learning / relevant content items

	MU.SA: USING E-CF AND DIGICOMP FOR WORK DIGITAL TRANSFORMATION IN MUSEUMS	P. 88		ELENE4WORK EU PROJECT: MAPPING SOFT DIGITAL SKILLS OF STUDENTS AND YOUNG WORKERS FOR THE JOB MARKET	P. 104
	ECCC DIGITAL COMPETENCE FRAMEWORK	P. 90		CODEMOB: CURRICULUM FOR E-FACILITATORS AND UNEMPLOYED YOUTH	P. 112
	PRODIGE O - LEARNING PLATFORM FOR EMPLOYMENT SERVICES' STAFF	P. 92		BRIDGE THE DIGITAL GAP: BASIC DIGITAL TRAINING OF ADULT POPULATION IN HUNGARY	P. 113
	HAPPY ONLIFE	P. 94		EXTREMADURA DIGITAL LITERACY TRAINING PROGRAMME	P. 116
	COMPASS - YOUR JOURNEY TO DIGITAL, THE UP-SKILLING PLATFORM FOR YOUNG UNEMPLOYED PEOPLE	P. 96		DIGITAL SKILLS 4 YOU(TH): TRAINING PROFESSIONALS WORKING WITH YOUNG PEOPLE	P. 116
	SAMSUNG DIGI PASS FOR VOCATIONAL SCHOOL STUDENTS IN ESTONIA	P. 100		BILDUNG IN DER DIGITALEN WELT. EMBEDDING DIGITAL COMPETENCE IN THE SCHOOL CURRICULUM	P. 117
	LINGUACUISINE: DEVELOPING DIGITAL SKILLS AND LANGUAGE WITH DISADVANTAGED PEOPLE	P. 101		TRAINING CIVIL SERVANTS IN SPAIN WITH DIGICOMP BASED E-LEARNING COURSES	P. 118
	PANE E INTERNET: THE DIGITAL LITERACY AND INCLUSION PROJECT IN EMILIA ROMAGNA	P. 102		DIGITAL INNOVATIONS FOR GROWTH ACADEMY: TRAINING ENTERPRISE TRAINERS AND EDUCATORS	P. 119

< T.8		
 C30	DEFINING DIGITAL COMPETENCE TRAINING NEEDS FOR YOUTH WORK	P. 119
 T1	FIVE DAYS OF DIGITAL LITERACY (SDODL)	P. 120
 T5	TEACHERS IN SPAIN: MOOCS, EDUPILLS AND OTHER TRAINING RESOURCES	P. 126
 T7	WEBSITE OF THE ADULT EDUCATION IN FLANDERS: THE NEW ICT PROGRAMMES	P. 129
 T10	PANE E INTERNET CURRICULUM AND LEARNING RESOURCES FOR BASIC DIGITAL LITERACY	P. 132
 T14	ABC DIGITALE: SELF-ASSESSMENT TEST AND DIGITAL LEARNING OPPORTUNITIES	P. 137
 T15	THE STUDENTS COMPETENCE FRAMEWORK BY THE SLOVENIAN EDUCATION INSTITUTE	P. 138
 T20	NORWEGIAN PROFESSIONAL DIGITAL COMPETENCE FRAMEWORK FOR TEACHERS	P. 138



STEP 5 Recognition and certification

DigComp is used to assess, recognise and possibly certify learning achievements and enhanced competence.

Acknowledging and giving visibility to the efforts and results of training activities is important to motivate the acquisition of digital competence by learners and to facilitate its use in employment and other contexts.

Recognition

Many digital competence testing services –especially those open to the general public– simply provide a results profile (more or less informative and formative) that the user can download or receive by mail. However, additional steps can be made to formally recognise competence, learning efforts and achievements outside of an assessment process. Recognition here refers to acknowledging, substantiating and giving visibility to other proof of one’s digital competence. This may be direct evidence (e.g. a product of a digital activity performed outside of an assessment situation) or indirect evidence (e.g. the completion of a course or learning activity designed to develop digital competence). Given the continuous growth and variety of digital learning opportunities online and offline, this recognition is important both for those wishing to show and prove their competence and for those interested in knowing about it (education and training institutions, employers etc.).

Digital competence can be recognised, for example, by giving digital badges that can be added to any LinkedIn profile, Facebook page, CV etc. to demonstrate:

- ▶ the participation and completion of courses ([T1 ANGLIA RUSKIN UNIVERSITY](#), [C4 E-SCHOOLS](#))

- ▶ learning achievements from specific training offers ([C19 PATHWAYS4EMPLOY](#), [T6 TEACHERS IN SPAIN](#))

A complementary solution to acknowledge experiences and improvements in digital competence is represented by competence portfolios ([T6 TEACHERS IN SPAIN](#)), e-Portfolios ([C10 COMPASS](#)) or personal accounts ([C12 PIX](#)), possibly fed automatically with the results of assessment systems. Here, users can store (and make public or share as wanted) personal and professional data; finished courses; evidence of learning and capability recognitions (badges, certificates, degrees, awards etc.); works, digital artifacts etc. that can illustrate and substantiate digital competence and other content.

In this context, DigComp has been used to create digital profiles and to relate to them any significant evidence of learning achievements and/or to design tests that can prove that the profile’s requirements are met, leading to issuing DigComp-related badges ([C13 SAMSUNG DIGIPASS](#), [C19 PATHWAYS4EMPLOY](#)).

Certification

Certification attests that assessment results have been produced according to appropriate methods, under controlled conditions, by authorised organisations, and that they match a clearly defined and possibly widely acknowledged standard. Policy makers play an important role here: as employers who can request certificates for accessing public jobs ([C2 IKANOS](#)); as regulators that can set specific digital competence requirements e.g. for given professions, to access employment services

etc.; and by encouraging private employers and other actors to take a similar stance.

A few initiatives have started developing DigComp-based certification services which attest that the recipient matches the requirements of a digital profile at a given proficiency level, defined according to the DigComp framework or an adapted version of it. The certification opportunity can be offered as an additional final service of (self) assessment test, with similar features in terms of assessment approach and content, but available under different/controlled conditions (C12 PIX¹), or as a dedicated assessment and certification service (C7 ECCC, C22 ECDL, T4 IKANOS, T17 TUCERTICYL).

Given the different testing circumstances, the assessment approach in certification services can also be different, such as the use of performance-based testing with simulations (T4 IKANOS). Certification tests can use randomly generated (T17 TUCERTICYL) or adaptive/personalised tests (C12 PIX, T4 IKANOS for shorter tests). The choice of assessment approach may also reflect the level of proficiency being tested, e.g. knowledge-based tests at low proficiency level and performance-based at higher levels (C7 ECCC).

Web platforms can be used to register users for certification tests and to deliver these tests (T4 IKANOS, T17 TUCERTICYL). DigComp certification can add to (C7 ECCC, C22 ECDL) and/or replace existing certifications (C12 PIX).

1 For instance, the PIX evaluation platform provides the user with a digital skills profile which can be certified with an additional test carried out in strict examination conditions.

T.9 Step 5 - Recognition and certification / relevant content items

	IKANOS – NIRE GAITASUN DIGITALAK / MIS COMPETENCIAS DIGITALES	P. 80		FIVE DAYS OF DIGITAL LITERACY (SDODL)	P. 120
	E-SCHOOLS: PILOT PROJECT TOWARDS DIGITAL SCHOOLS	P. 84		DIGITAL COMPETENCE EVALUATION SYSTEM IN BASQUE COUNTRY: BAIT	P. 124
	ECCC DIGITAL COMPETENCE FRAMEWORK	P. 90		TEACHERS IN SPAIN: THE DIGITAL COMPETENCE PORTFOLIO	P. 128
	COMPASS - YOUR JOURNEY TO DIGITAL, THE UP-SKILLING PLATFORM FOR YOUNG UNEMPLOYED PEOPLE	P. 96		TUCERTICYL: THE NEW DIGITAL COMPETENCE CERTIFICATION SYSTEM IN CASTILLA LEON	P. 129
	PIX: ONLINE PLATFORM FOR DIGITAL SKILLS EVALUATION AND CERTIFICATION	P. 99			
	SAMSUNG DIGI PASS FOR VOCATIONAL SCHOOL STUDENTS IN ESTONIA	P. 100			
	PATHWAYS FOR EMPLOY: DEFINING AND DEVELOPING DIGITAL PROFILES	P. 110			
	ECDL PROFILE DIGCOMP CERTIFICATES IN POLAND	P. 114			

2.4 Domains of digital competence development

The examples collected for the present Guide show that DigComp is being used in three main domains where digital competence is increasingly important.



Education and training

DigComp is used in education at all levels starting at school, where it contributes to educational achievements and the wellbeing of children and youngsters.

P. 44



Life-long learning and inclusion

Digital competence is important in everyday life and the lack of digital competence can exacerbate the condition of already disadvantaged people or contribute to socially exclude them.

P. 46



Employment

Digital competence is needed today for a wide variety of job profiles in the world of work.

P. 49



DOMAIN

Education and training

DigComp is used at all levels in education and training, because digital competence should start being developed at school, as it contributes to educational achievements and the wellbeing of children and youngsters, and then becomes important for employment.

Digital competence is perceived as an essential asset for young people's future professional life and as an enabler of other key competences developed at school and for life-long learning (see Annex V of DigComp 1.0). Moreover, given the full immersion of children and youth in the digital world, digital competence is also crucial for the quality and safety of their private and social life.

Reflecting on this growing awareness, education and training policy makers and education and training providers across Europe have launched experiences for the development of digital competence in the formal education and training sector, which typically include three main action lines:

1. the training and support of **teachers** to develop their own digital competence. Teachers are required to become more digitally proficient, as almost any other worker and all citizens are today, and as role models for their students. But they face the additional challenge -which calls for specific support and is common to all those with an educational role (including parents¹)- to innovate the approaches and tools they use in their pedagogical function (**C1 ANGLIA RUSKIN UNIVERSITY, C3+T5+T6 TEACHERS IN SPAIN, C4 E-SCHOOLS, C12 PIX, T15 THE STUDENTS COMPETENCE FRAMEWORK, T20 NORWEGIAN FRAMEWORK FOR TEACHERS**). The new

¹ On the nature and challenges of digital parenting see [TINYURL.COM/YCT2KFLK](https://tinyurl.com/YCT2KFLK)

European Framework for the Digital Competence of Educators (DigCompEdu) [EUROPA.EU/IGT63CH](https://europa.eu/igt63ch) published in late 2017 by the JRC, addresses precisely the educator-specific digital competence that are needed to effectively use digital technologies for teaching;

2. the development of learning initiatives for **students**, some of them long-term, such as with the introduction of digital competence in the curriculum (**C1+T1 ANGLIA RUSKIN UNIVERSITY, C26 BILDUNG IN DER DIGITALEN WELT, T15 THE STUDENTS COMPETENCE FRAMEWORK**), others with a pilot, experimental character (**C13 SAMSUNG DIGIPASS, C9+T8 HAPPY ONLINE, C11+T9 TASK, T19 SAFE ONLINE**);
3. the training of school **managers, administrative and other staff**, which are essential to facilitate and support the other processes and to exploit the many opportunities offered by digital technology to innovate the organisation, communication etc. in schools (**C1 ANGLIA RUSKIN UNIVERSITY, C4 E-SCHOOLS**).

Some comprehensive experiences address all three targets, as in a higher education context in the UK (**C1**) or in compulsory education in Croatia (**C4 E-SCHOOLS**). These started using DigComp to develop adapted competence frameworks for education sector actors, which inform on all subsequent steps: competence assessment, training and recognition activities.

Adapted frameworks for teachers based on DigComp

have been defined also in Norway (T20) and in Spain (C3), where it has been used to develop an articulate system for the initial and continuous training of teachers in the whole school system. In France, a DigComp-based adapted framework informs the PIX assessment and learning platform (C12 PIX), which serves the education community, but is also open to the whole population.

DigComp has been used also to design support tools for teachers:

- ▶ to decide which competences to address with students depending on school level (T15 SLOVENIAN STUDENTS COMPETENCE FRAMEWORK);
- ▶ to develop authentic evaluation activities on digital competence (C11+T9 TASK);
- ▶ to identify and recognise digital competence developed for labour market participation with vocational school students (C13 SAMSUNG DIGIPASS);
- ▶ to set up learning and assessment activities with younger students on digital citizenship competences (T19 SAFE ONLINE) or focusing on online safety (C9+T8 HAPPY ONLIFE).

T.10 Domain - Education / relevant content items

	ANGLIA RUSKIN UNIVERSITY: IMPLEMENTING DIGITAL LITERACY	P. 78		FIVE DAYS OF DIGITAL LITERACY (SDODL)	P. 120
	TEACHERS IN SPAIN: THE NEW DIGITAL COMPETENCE COMMON FRAMEWORK	P. 82		TEACHERS IN SPAIN: MOOCs, EDUPILLS AND OTHER TRAINING RESOURCES	P. 126
	E-SCHOOLS: PILOT PROJECT TOWARDS DIGITAL SCHOOLS	P. 84		TEACHERS IN SPAIN: THE DIGITAL COMPETENCE PORTFOLIO	P. 128
	HAPPY ONLIFE	P. 94		HAPPY ONLIFE TOOLKIT	P. 130
	TASK: A PROJECT FOR AUTHENTIC TASK BASED COMPETENCE ASSES- SMENT IN SECONDARY SCHOOLS	P. 98		TASK TOOL: AN ONLINE SYSTEM FOR ASSESSING KEY COMPETENC- ES IN SECONDARY SCHOOL	P. 131
	PIX: ONLINE PLATFORM FOR DIGITAL SKILLS EVALUATION AND CERTIFICATION	P. 99		THE STUDENTS COMPETENCE FRAMEWORK BY THE SLOVENIAN EDUCATION INSTITUTE	P. 138
	SAMSUNG DIGI PASS FOR VOCATIONAL SCHOOL STUDENTS IN ESTONIA	P. 100		SAFE ONLINE: A BOOK TO TRAIN THE NEW DIGITAL CITIZENS AT SCHOOL	P. 140
	BILDUNG IN DER DIGITALEN WELT. A STRATEGY TO EMBED DIGITAL COMPE- TENCE IN THE SCHOOL CURRICULUM	P. 117		NORWEGIAN PROFESSIONAL DIGITAL COMPETENCE FRAMEWORK FOR TEACHERS	P. 140



DOMAIN

Life-long learning and inclusion

DigComp is used in life-long learning and inclusion experiences, because digital competence is important in everyday life and the lack of it can exacerbate the condition of already disadvantaged people or contribute to socially exclude them.

With the constant change of digital technology and the services based on it, digital competence must continuously be updated, to avoid or minimise the risks of digital exclusion. Digital exclusion is in fact increasingly related to a lack of competence, rather than access to technology and services. Digital exclusion nowadays risks enhancing social exclusion, which is itself often at the origin of digital exclusion. Isolated people, or people lacking for some reason the initial push, encouragement and support to learn using digital technology and keep up to date with them, risk being further excluded both socially -as communication and social interactions increasingly depend on using digital media- and digitally, as many new learning resources and opportunities require a minimum level of digital literacy to be found, accessed and exploited effectively.

Thanks to a growing awareness of the above factors, policy makers from different areas, at European, national and regional level (including education and training policy makers in charge of adult education), third sector organisations and universities have launched experiences:

1. to train trainers, e-facilitators and other non-formal educators and volunteers who are called to develop the digital competence of different categories of end-users (C2 IKANOS, C5 + T7 ADULT EDUCATION IN FLANDERS, C15 PANE E INTERNET, C7 ECCC, C20 CODEMOB, C23 EXTREMADURA) or to assist those end-users with digital means, such as social workers (C24 DIGITAL SKILLS 4 YOU(TH)) and youth workers (C30 TRAIN-














ING NEEDS FOR YOUTH WORK). In these experiences, DigComp is used as the reference framework that professionals or volunteers can use to assess the digital competencies of end-users, and then to decide and design training and other support actions. It is also used to define the digital profiles of these professionals and volunteers and to assess and develop their digital competencies;

2. to assess and/or develop the digital competence of the adult population, from large scale actions (T2 ANGLIA RUSKIN UNIVERSITY, C5 ADULT EDUCATION IN FLANDERS, C12 PIX, T13 DIGITAL COMPETENCE SELF-DIAGNOSIS TOOL, C28 INCODE .2030), to local and more focused digital learning offers (T14 ABC DIGITALE);
3. as a variant of the above, to develop the digital literacy and competence of elderly people, unemployed people, low-educated adults and other groups at risk of digital exclusion (C15 + T10 PANE E INTERNET, T2 IKANOS, C14 LINGUACUISINE, C21 BRIDGE THE DIGITAL GAP);
4. to develop the digital competence of youth for employability (C10 COMPASS, C13 SAMSUNG DIGIPASS, C16 + T11 + T12 ELENE4WORK, C20 CODEMOB, T16 SKILLAGE);
5. to develop certification solutions for the population in general (C7 ECCC, C22 ECDL PROFILE, T4 IKANOS, T17 TUCERTICYL).

In the experiences from 2. to 5., DigComp is used to raise awareness about digital competence among policy and decision makers at various levels and the specific target groups of the initiatives; to set competence development goals depending on target priorities, and to design the content of self-assessment solutions and training offers (mapping their content to DigComp competences and proficiency levels). In various cases, especially under 5., DigComp-based recognition and certification solutions are offered.

In one special case (**C25 UNESCO-PEARSON**), Unesco used DigComp in a policy-oriented research perspective, to assess the implicit digital competence pre-requisites expected from beneficiaries of digital inclusion projects around the world.

T.11 Domain - Life-long learning and inclusion / relevant content items

	C2 IKANOS – NIRE GAITASUN DIGITALAK / MIS COMPETENCIAS DIGITALES	P. 80		C16 ELENE4WORK: MAPPING SOFT DIGITAL SKILLS OF STUDENTS AND YOUNG WORKERS	P. 104
	C5 ADULT EDUCATION IN FLANDERS: THE NEW ICT PROGRAMMES	P. 86		C20 CODEMOB: CURRICULUM FOR E-FACILITATORS AND UNEMPLOYED YOUTH	P. 112
	C7 ECCC DIGITAL COMPETENCE FRAMEWORK	P. 90		C21 BRIDGE THE DIGITAL GAP: BASIC DIGITAL TRAINING OF ADULT POPULATION IN HUNGARY	P. 113
	C10 COMPASS - YOUR JOURNEY TO DIGITAL, THE UP-SKILLING PLATFORM FOR YOUNG UNEMPLOYED PEOPLE	P. 96		C22 ECDL PROFILE DIGCOMP CERTIFICATES IN POLAND	P. 114
	C12 PIX: ONLINE PLATFORM FOR DIGITAL SKILLS EVALUATION AND CERTIFICATION	P. 99		C23 EXTREMADURA DIGITAL LITERACY TRAINING PROGRAMME	P. 116
	C13 SAMSUNG DIGI PASS FOR VOCATIONAL SCHOOL STUDENTS IN ESTONIA	P. 100		C24 DIGITAL SKILLS 4 YOU(TH) : TRAINING PROFESSIONALS WORKING WITH YOUNG PEOPLE	P. 116
	C14 LINGUACUISINE: DEVELOPING DIGITAL SKILLS AND LANGUAGE WITH DISADVANTAGED PEOPLE	P. 101		C25 UNESCO-PEARSON INITIATIVE FOR LITERACY: IMPROVED LIVELIHOODS IN A DIGITAL WORLD	P. 117
	C15 PANE E INTERNET: THE DIGITAL LITERACY AND INCLUSION PROJECT IN EMILIA ROMAGNA	P. 102		C28 PORTUGAL INCODE.2030: ENHANCING DIGITAL COMPETENCE	P. 118

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	IKANOS - SELF ASSESSMENT TEST	P. 121		SKILLAGE: ONLINE SELF-ASSESSMENT TOOL ON DIGITAL SKILLS FOR THE JOB MARKET	P. 138
	DIGITAL COMPETENCES EVALUATION SYSTEM IN BASQUE COUNTRY: BAIT	P. 124		TUCERTICYL: THE NEW DIGITAL COMPETENCE CERTIFICATION SYSTEM IN CASTILLA LEON	P. 139
	WEBSITE OF THE ADULT EDUCATION IN FLANDERS: THE NEW ICT PROGRAMMES	P. 129		DIGITAL SKILLS SELF-ASSESSMENT FOR EMPLOYEES AND MANAGERS OF THE DACH REGION	P. 139
	PANE E INTERNET CURRICULUM AND LEARNING RESOURCES FOR BASIC DIGITAL LITERACY	P. 132			
	ELENE4WORK ORIENTATION GUIDE FOR JOB SEEKERS	P. 134			
	ELENE4WORK SELF-ASSESSMENT TOOL FOR DIGITAL SOFT SKILLS IDENTIFICATION	P. 136			
	DIGITAL COMPETENCE SELF-DIAGNOSIS TOOL OF THE ANDALUSIA REGIONAL GOVERNMENT	P. 137			
	ABC DIGITALE: SELF-ASSESSMENT TEST AND DIGITAL LEARNING OPPORTUNITIES	P. 137			



DOMAIN
Employment

DigComp is used to upskill people and enhance their employability as digital competence is needed today for a wide variety of job profiles in the world of work.

There is a growing recognition that digital competence as defined by DigComp, also viewed as digital “soft skills” or “transversal skills”, is increasingly important for work today. This is in addition to specialist ICT skills which are on high demand in the job market, and those requested to perform specific job functions and tasks (which may in fact be incorporated into DigComp specifications, as in **T3 IKANOS**). Firstly, digital competence has become important to successfully search for and get a job, as well as to set up and run a business or professional activity. Banking, marketing, fiscal aspects and all kinds of business services rely today on digital solutions. Digital competence is important at work in order to collaborate with others and perform many job functions, which depend on information and data management, communication, etc. Digital competence also facilitates continuous professional development.

Thanks to a growing awareness of the aforementioned factors, half of the experiences in this Guide address digital challenges and opportunities for employment and have been launched by:

1. stakeholders from the third sector and universities concerned with youth employability (**C10 COMPASS**, **C16 ELENE4WORK**, **C19 PATHWAYS4EMPLOY**, **T16 SKILLAGE**), with the innovation of cultural (**C6 MU.SA**) and social work (**C24 DIGITAL SKILLS FOR YOU(TH)**), with the support of SMEs (**C29 DIGITAL INNOVATIONS FOR GROWTH ACADEMY**), with promoting wider digital competence awareness (**T16 SKILLAGE**, **T18 SELF-ASSESSMENT IN DACH REGION**) and with certification services

to enhance employability (**C7 ECCC**, **C22 ECDL**);

2. policy makers engaged in comprehensive digital innovation strategies across economic and social sectors (**C2 IKANOS**) and public organisations supporting the upskilling of the public-sector workforce, such as employment services staff (**C8 PRODIGE0**), civil servants in general (**C27 TRAINING CIVIL SERVANTS**, **C28 INCODE.2030**) and school managers and administrators (**C4 E-SCHOOLS**, we do not consider here teachers). Public organisations also offer certification services for employability (**C12 PIX**, **T3 IKANOS**, **T17 TUCERTICYL**);
3. private providers of digital competence assessment and training services to support the initiatives of both private (**C18 SMARTIVEMAP**) and public customers (**C17 DIGITAL COMPETENCE WHEEL**, **C27 TRAINING CIVIL SERVANTS**).

The above stakeholders have used DigComp to define the digital competence profiles and training requirements of professional activities such as: industry 4.0 functions (**T3 IKANOS**), self-entrepreneurs and virtual office workers (**C19 PATHWAYS4EMPLOY**), social workers (**C24 DIGITAL SKILLS FOR YOU(TH)**), youth workers (**C30 TRAINING NEEDS FOR YOUTH WORK**), new museum professions (**C6 MU.SA**), employment services staff (**C8 PRODIGE0**), school managers and administrators (**C4 E-SCHOOLS**), career paths in secretary/administrative roles, project management, marketing & advertising and teaching jobs (**C10 COMPASS**).

DigComp has also been used to design digital competence (self-)assessment tests related to the above profiles, but also more general tests for young people (C16 ELENE4WORK, T16 SKILLAGE), the population in general (C17 DIGITAL COMPETENCE WHEEL, T2 IKANOS, T18 SELF-ASSESSMENT IN DACH REGION), workers involved in digital transformation processes (C18 SMARTIVEMAP, C27 TRAINING CIVIL SERVANTS) and enterprise trainers and educators called to support such a transformation in SMEs (C29 DIGITAL INNOVATIONS FOR GROWTH ACADEMY). These tests are often used to show the respondents their strengths and weaknesses and guide them towards further learning opportunities, in view of new employment and/or personal development goals.

Many of the experiences focused on new professional digital profiles have also used DigComp to design curricula to develop those competences as with: social workers (C24 DIGITAL SKILLS FOR YOU(TH)), new museum professionals (C6 MU.SA), employment services staff (C8 PRODIGE), civil servants (C27 TRAINING CIVIL SERVANTS), school managers and administrators (C4 E-SCHOOLS), for the career paths in secretary/administrative roles, project management, marketing & advertising and teaching jobs (C10 COMPASS).

Finally, some experiences complete the cycle by issuing DigComp-based badges (C4 E-SCHOOLS, C19 PATHWAY-S4EMPLOY) which acknowledge the completion of courses and/or the acquired competences. DigComp based certification services are also provided (C7 ECCC, C12 PIX, C22 ECDL, T4 IKANOS, T17 TUCERTICYL), to enhance the value of the acquired competence for employment purposes.

T.12 Domain - Employment / relevant content items

	IKANOS - NIRE GAITASUN DIGITALAK / MIS COMPETENCIAS DIGITALES	P. 80		THE DIGITAL COMPETENCE WHEEL	P. 106
	E-SCHOOLS: PILOT PROJECT TOWARDS DIGITAL SCHOOLS	P. 84		SMARTIVEMAP, A DIGITAL COMPETENCE MAPPING TOOL TO START DIGITAL TRANSFORMATION	P. 108
	MU.SA: USING E-CF AND DIGCOMP FOR WORK DIGITAL TRANSFORMATION IN MUSEUMS	P. 88		PATHWAYS FOR EMPLOY: DEFINING AND DEVELOPING DIGITAL PROFILES	P. 110
	ECCC DIGITAL COMPETENCE FRAMEWORK	P. 90		ECDL PROFILE DIGCOMP CERTIFICATES IN POLAND	P. 114
	PRODIGE: LEARNING PLATFORM FOR EMPLOYMENT SERVICES' STAFF	P. 92		DIGITAL SKILLS 4 YOU(TH): TRAINING PROFESSIONALS WORKING WITH YOUNG PEOPLE	P. 116
	COMPASS - YOUR JOURNEY TO DIGITAL, THE UP-SKILLING PLATFORM FOR YOUNG UNEMPLOYED PEOPLE	P. 96		TRAINING CIVIL SERVANTS IN SPAIN WITH DIGCOMP BASED E-LEARNING COURSES	P. 118
	PIX: ONLINE PLATFORM FOR DIGITAL SKILLS EVALUATION AND CERTIFICATION	P. 99		PORTUGAL INCODE.2030: ENHANCING DIGITAL COMPETENCE	P. 118
	ELENE4WORK: MAPPING SOFT DIGITAL SKILLS OF STUDENTS AND YOUNG WORKERS	P. 104		DIGITAL INNOVATIONS FOR GROWTH ACADEMY: TRAINING ENTERPRISE TRAINERS AND EDUCATORS	P. 119

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	IKANOS - SELF ASSESSMENT TEST	P. 121
	IKANOS - PROFESSIONAL DIGITAL COMPETENCE PROFILES	P. 122
	IKANOS - BAIT, THE NEW DIGITAL COMPETENCE EVALUATION SYSTEM	P. 124
	SKILLAGE: ONLINE SELF-ASSESSMENT TOOL ON DIGITAL SKILLS FOR THE JOB MARKET	P. 138
	TUCERTICYL: THE NEW DIGITAL COMPETENCE CERTIFICATION SYSTEM IN CASTILLA LEON	P. 139
	DIGITAL SKILLS SELF-ASSESSMENT FOR EMPLOYEES AND MANAGERS OF THE DACH REGION	P. 139

2.5 Stakeholders using DigComp

The examples collected for the present Guide show that DigComp is being used by the following main stakeholder categories.



Policy makers

are national or regional ministries or international organisations (e.g. European Commission, United Nations) and their related research and support agencies, institutes and similar entities. They develop digital competence initiatives in different policy areas: education and training, employment, economic development, public administration, and digital agenda. In the case of education and training, they undertake digital development actions at all levels and they address the life-long learning perspective in adult education.

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Education and training

institutions develop digital competence initiatives acting independently, in national networks (also in association with professional and government bodies) or in European projects with different types of partners. They operate in the education and training and other domain, but with research and support functions. A few examples are implemented by schools, typically in the context of European projects.

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Third sector and enterprise

are foundations, associations and other non-profit organisations which run activities and offer services in non-formal education and training, including specialised digital competence centres (i.e. All Digital ALL-DIGITAL.ORG).

Non-profit organisations address various target users such as: youngsters to enhance their employability, children in a (non-formal) educational perspective and older people, unemployed people and adults in general in a life-long learning and inclusion perspective. DigComp is also being used to develop digital competence for employees of companies and public organisations facing digital transformation challenges.

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STAKEHOLDER Policy makers

Ministries of education and training and other related agencies at national and regional level have been among the early adopters of DigComp. Policy makers also develop digital competence in employment, economic development, public administration, information society and digital agenda. European policy experiences include DESI, ESCO, Europass, DigCompConsumers, and Digital Skills and Jobs Coalition.

Currently the development of teachers' digital competence (as well as managers and other staff), is often prioritized as a prerequisite to spread digital-enhanced education more widely and to develop the digital competence of learners (**T15 SLOVENIAN STUDENTS COMPETENCE FRAMEWORK**), by embedding digital competence in the disciplinary school curriculum (**C26 BILDUNG IN DER DIGITALEN WELT**).

Anglia Ruskin University (see later under "Education and Training") is embedding digital competence in the curriculum of higher education.

Policy makers have used DigComp to:

- ▶ **raise awareness and understanding** of digital competence and related needs and goals in the education and training sector. Besides most of the experiences illustrated in this Guide, another example is the Green Paper on Digital Literacy based on DigComp published by the Ministry of Education and Employment in Malta in April 2015 [TINYURL.COM/Y8K4OKDE](https://tinyurl.com/y8k4okde);
- ▶ **address digital competence of school teachers** (**C3 TEACHERS IN SPAIN**, **C4 E-SCHOOLS**, **T20 DIGITAL COMPETENCE FRAMEWORK FOR CITIZENS**) and/or to set up competence development actions for teachers, such as assessing their initial competence (**T6 TEACHERS IN SPAIN**, **C12 PIX**), designing and delivering continuous training opportunities (**T5 TEACHERS IN SPAIN**, **C4 E-SCHOOLS**) and recognising their learning achievements (**T6 TEACHERS IN SPAIN**). In fact, one experience

(**C4 E-SCHOOLS**) considers the digital competencies not only of teachers, but also of school managers and administrative staff;

- ▶ **help teachers design and deliver activities for developing and/or assessing the digital competence** of students (**T15 SLOVENIAN STUDENTS COMPETENCE FRAMEWORK**), by embedding digital competence in the disciplinary school curriculum (**C26 BILDUNG IN DER DIGITALEN WELT**). Anglia Ruskin University (see later under "University and schools") is embedding digital competence in the curriculum of higher education;
- ▶ **review** past ICT training programmes and develop a new offer for digital competence in **adult education** (**C5 ADULT EDUCATION IN FLANDERS**);
- ▶ **develop digital competence assessment** and learning platforms for students, making them open also to the whole population (**C12 PIX**).

Policy makers outside of the formal education sector have used DigComp to:















- ▶ promote and support the life-long learning of the population at large in this key competence area and to fight digital exclusion risks. They have done this through digital literacy programmes in their digital agendas, delivered by public or private non-profit networks of digital competence centres (such as

those represented in Europe by All Digital, ALL-DIGITAL.ORG). In this context, DigComp is used to design training measures for digital facilitators, entry tests and training offers for citizens in general and particularly those at risk of exclusion (**C2 IKANOS**, **C15 PANE E INTERNET**, **C21 BRIDGE THE DIGITAL GAP**, **C23 EXTREMADURA**, **T13 DIGITAL COMPETENCE SELF-DIAGNOSIS TOOL**);

► enhance the employability of youth and unemployed people, and to promote the professional upskilling of the workforce and the creation of new types of jobs. For these aims, DigComp has been used to assess existing competences, to define the digital competence requirements of existing and new jobs and to provide further training guidance (**C2 IKANOS**). DigComp-related certification experiences, by strengthening the market value and recognition of acquired digital competence also contribute to these goals (**T4 IKANOS**, **T17 TUCERTICYL**);

► facilitate the upskilling of civil servants as part of the modernisation of public administration. For this, DigComp has been used to define the digital competence requirements of categories of civil servants (**C28 INCODE 2030**), to measure their current level and to develop training actions (**C8 PRODIGEO**, **C27 TRAINING CIVIL SERVANTS**). Also the Directorate General for the Civil Service of the Murcia Regional Government in Spain has used DigComp 2.0 to define the digital competence of its public employees: TINYURL.COM/YCBSYWUS

T.13 Stakeholders - Policy makers / relevant content items

 C2	IKANOS - NIRE GAITASUN DIGITALAK / MIS COMPETENCIAS DIGITALES	P. 80	 C23	EXTREMADURA DIGITAL LITERACY TRAINING PROGRAMME	P. 116
 C3	TEACHERS IN SPAIN: THE NEW DIGITAL COMPETENCE COMMON FRAMEWORK	P. 82	 C26	BILDUNG IN DER DIGITALEN WELT. A STRATEGY TO EMBED DIGITAL COMPETENCE IN THE SCHOOL CURRICULUM	P. 117
 C4	E-SCHOOLS: PILOT PROJECT TOWARDS DIGITAL SCHOOLS	P. 84	 C27	TRAINING CIVIL SERVANTS IN SPAIN WITH DIGCOMP BASED E-LEARNING COURSES	P. 118
 C5	ADULT EDUCATION IN FLANDERS: THE NEW ICT PROGRAMMES	P. 86	 C28	PORTUGAL INCODE.2030: AN INITIATIVE TO ENHANCE DIGITAL COMPETENCE	P. 118
 C8	PRODIGEO - LEARNING PLATFORM FOR EMPLOYMENT SERVICES' STAFF	P. 92	 T4	IKANOS - BAIT, THE NEW DIGITAL COMPETENCE EVALUATION SYSTEM	P. 124
 C12	PIX ONLINE PLATFORM FOR DIGITAL SKILLS EVALUATION AND CERTIFICATION	P. 99	 T5	TEACHERS IN SPAIN: MOOCS, EDUPILLS AND OTHER TRAINING RESOURCES	P. 126
 C15	PANE E INTERNET: THE DIGITAL LITERACY AND INCLUSION PROJECT IN EMILIA ROMAGNA	P. 102	 T6	TEACHERS IN SPAIN: THE DIGITAL COMPETENCE PORTFOLIO	P. 128
 C21	BRIDGE THE DIGITAL GAP: BASIC DIGITAL TRAINING OF ADULT POPULATION IN HUNGARY	P. 113	 T7	WEBSITE OF THE ADULT EDUCATION IN FLANDERS: THE NEW ICT PROGRAMMES	P. 129

< T.13



DIGITAL COMPETENCE
SELF-DIAGNOSIS TOOL OF
THE ANDALUSIA REGIONAL
GOVERNMENT

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THE STUDENTS COMPETENCE
FRAMEWORK BY THE SLOVENIAN
EDUCATION INSTITUTE

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TUCERTICYL: THE NEW DIGITAL
COMPETENCE CERTIFICATION
SYSTEM IN CASTILLA LEON

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NORWEGIAN PROFESSIONAL
DIGITAL COMPETENCE
FRAMEWORK FOR TEACHERS

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STAKEHOLDER








Education and training

Education and training providers at all levels design and deliver digital competence experience for learners, employees, as research institutions and as service providers for other customers.

Education and training providers have used DigComp to:

- ▶ design digital competence strategies and/or provide related support services (competence assessment, training etc.) for teaching staff, researchers, students, administration and management within higher education (**C1** + **T1** ANGLIA RUSKIN UNIVERSITY, see also REBIUN cited in p.39) and for the broader school system. For instance, in Estonia, following the introduction of digital competence in the school curriculum in 2014, the Information Technology Foundation for Education (HITSA) and its university members started in 2017 to use DigComp for assessing 16-19 years old students;
- ▶ design educational projects involving digital competence assessment and/or training for employability of the students of vocational schools (**C13** SAMSUNG DIGIPASS) and youth in general (**C16** ELENE4WORK), for all citizens in a life-long learning perspective (**C14** LINGUACUISINE), and to develop new professional digital profiles in cultural activities (**C6** MU.SA).
- ▶ develop an authentic task-based evaluation methodology to support teachers in lower/upper secondary school in the assessment of the digital competence of the students. Among the experiences in this Guide, there is a European project partnership of several schools, a research institute, and an association of Ministers of Education (**C11** TASK).

T.14 Relevant content items

	IMPLEMENTING DIGITAL LITERACY AT ANGLIA RUSKIN UNIVERSITY	P. 78
	MU.SA: USING E-CF AND DIGCOMP FOR WORK DIGITAL TRANSFORMATION IN MUSEUMS	P. 88
	TASK: AUTHENTIC TASK BASED COMPETENCE ASSESSMENT IN SECONDARY SCHOOLS	P. 98
	SAMSUNG DIGI PASS FOR VOCATIONAL SCHOOL STUDENTS IN ESTONIA	P. 100
	LINGUACUISINE: DEVELOPING DIGITAL SKILLS AND LANGUAGE WITH DISADVANTAGED PEOPLE	P. 101
	ELENE4WORK: MAPPING SOFT DIGITAL SKILLS OF STUDENTS AND YOUNG WORKERS	P. 104
	ANGLIA RUSKIN UNIVERSITY: FIVE DAYS OF DIGITAL LITERACY (5DODL)	P. 120



STAKEHOLDER

Third sector and enterprise

Foundations, associations and other non-profit organisations promote and facilitate digital competence acquisition in the population. In the digital transformation, most companies face the strategic challenge of upgrading quickly both the specific ICT skills and the transversal digital competence of their workforce.

Third sector actors develop digital competence initiatives for various target users, in particular **unemployed youth and youth in general**, to enhance their employability.

Other targets include **children** in a (non-formal) educational perspective.

They also address **elderly people, unemployed people and other adults** in a life-long learning and inclusion perspective. They thus operate in all three digital competence development domains.

Third sector actors have used DigComp to:

▶ train trainers and educators

They use DigComp to define, assess and develop the digital competence of trainers and educators within their staff (**C20 CODEMOB**), and other professionals such as social workers dealing primarily with young people out of the school context (**C24 DIGITAL SKILLS 4 YOUTH**) and youth workers. Enterprise trainers and educators have also been helped to enhance their own digital competence and spread digital competence and support digital actions in SMEs (**C29 DIGITAL INNOVATION FOR GROWTH ACADEMY**);

▶ support youth employability

They use DigComp to define, assess and offer learning opportunities on digital competence for youth employability (**C10 COMPASS**, **C20 CODEMOB**), including self-entrepreneurship and 'virtual office work' (**C19 PATHWAYS4EMPLOY**), and among SMEs;

▶ signpost learning opportunities

They use DigComp to assess the digital competence of citizens in view of signalling learning opportunities (**T14 ABC DIGITALE**, **T16 SKILLAGE**, **T18 SELF-ASSESSMENT IN DACH REGION**) and to promote the certification of digital competence (**C7 ECCC**, **C22 ECDL**).

Private business services companies have started using DigComp to provide digital competence development services both to other private companies and to public customers, from ministries, to local schools. The three examples in this Guide are run by a social economy enterprise, a training services provider and a business consultancy company.

Private training and business service providers have used DigComp to:

▶ design and deliver digital competence assessment and training services for civil servants (**C27 TRAINING CIVIL SERVANTS IN SPAIN**), for schools and their students (**C17 DIGITAL COMPETENCE WHEEL**) and other interested entities;

▶ assess digital competence in other private companies in view of promoting and supporting digital transformation initiatives (**C18 SMARTIVEMAP**).

T.15 Stakeholders - Third sector and enterprise / relevant content items

	ECCC DIGITAL COMPETENCE FRAMEWORK	P. 90		TRAINING CIVIL SERVANTS IN SPAIN WITH DIGCOMP BASED E-LEARNING COURSES	P. 118
	ECOCT - DIGITAL UP-SKILLING PLATFORM FOR EU YOUNG UNEMPLOYED	P. 96		DIGITAL INNOVATIONS FOR GROWTH ACADEMY: TRAINING ENTERPRISE TRAINERS AND EDUCATORS	P. 119
	PATHWAYS FOR EMPLOY: DEFINING AND DEVELOPING DIGITAL PROFILES	P. 110		ABC DIGITALE: SELF-ASSESSMENT TEST AND DIGITAL LEARNING OPPORTUNITIES	P. 137
	CODEMOB: CURRICULUM FOR E-FACILITATORS AND UNEMPLOYED YOUTH	P. 112		SKILLAGE: ONLINE SELF-ASSESSMENT TOOL ON DIGITAL SKILLS FOR THE JOB MARKET	P. 138
	ECDL PROFILE DIGCOMP CERTIFICATES IN POLAND	P. 114		DIGITAL SELF-ASSESSMENT TOOL FOR EMPLOYEES AND MANAGERS OF THE DACH REGION	P. 139
	DIGITAL SKILLS 4 YOU(TH) : TRAINING PROFESSIONALS WORKING WITH YOUNG PEOPLE	P. 116			
	THE DIGITAL COMPETENCE WHEEL	P. 106			
	SMARTIVEMAP, A DIGITAL COMPETENCE MAPPING TOOL TO START DIGITAL TRANSFORMATION IN LARGE ORGANIZATIONS	P. 108			



3. **DigComp resources**

3.1 Summary of resources

Resources and information to support use of DigComp

T.16 Resources and information to support use of DigComp

Resource	Guide	Other source
DigComp website		EC.EUROPA.EU/JRC/EN/DIGCOMP
Competence Descriptors	P. 16	DigComp 2.0 p. 8-9 EUROPA.EU/!TN34BB
Changes between descriptors from 1.0 to 2.0		DigComp 2.0 p. 14-16 Annex 1
Explanation of different versions of DigComp	P. 66	
Mapping with other Competence Frameworks	P. 64	DigComp 2.0, Annex 2 and 3
Mapping with the ECDL certification modules		TINYURL.COM/YC8HAQ5L
DESI index: Digital Skills indicator		DigComp 2.0 p. 18
DigComp translations (full and partial)	P. 61	
Glossary	p. 68-69	DigComp 2.0 p. 10-11 EUROPA.EU/!TN34BB
Cross-reference with other Key Competences		DigComp 1.0, Annex V
Cross-reference between competences (1.0)		DigComp 1.0, Annex II

3.2 DigComp translations

Is DigComp available in all EU languages?

The translations identified for this Guide are listed in Table 17 and 18. The first table shows the literal translations of the full JRC DigComp reports or the detailed Framework with the content of all five dimensions (Extremadura online version). DigComp 1.0 is the most frequently translated version. Some translations also exist of DigComp 2.0 and DigComp 2.1 (published in 2017). To date, three countries have translated two different DigComp reports.

Table 17 lists a range of varied documents. Some offer partial translations of DigComp reports, usually of Framework dimensions 1 and 2, but also of all competence descriptors/learning outcomes (Flanders) or with some adaptations (France). One partial translation also highlights changes from DigComp 1.0 to 2.0 (Italy). Other documents are at the same time translations and specifications of the DigComp Framework for specific target categories (Spain).

For the Europass CV compilation, Cedefop has made available a short DigComp self-assessment questionnaire, based on DigComp 1.0 and translated into 23 official EU languages, plus Icelandic, Norwegian, Macedonian and Turkish. The translations can be found by selecting the language in the upper right corner of this web page [EUROPA.EU/CW83GW](https://europa.eu/cw83gw).

For each one of DigComp 1.0 five main areas, concise competence descriptions/learning outcomes are presented at three proficiency levels: basic user, inde-

T.17 Literal DigComp translations

Country	Who did it	DigComp version	Content and URL
Estonia	Ministry of Education and Research	DigComp 1.0	PDF: TINYURL.COM/Y8E8UC3S
Hungary	Ministry for National Economy	DigComp 1.0	PDF: TINYURL.COM/YBCSF72S brochure: TINYURL.COM/YCDN0FVH
Italy	AGID: Agenzia per l'Italia Digitale	DigComp 2.1	PDF: TINYURL.COM/YD9Q09A8
Italy	Mirella Sale (teacher)	DigComp 2.0	Kindle version: TINYURL.COM/Y8EBXLVZ
Lithuania	Education Development Centre	DigComp 1.0	PDF: TINYURL.COM/YCF4YMP0
Lithuania	Education Development Centre	DigComp 2.1	PDF: TINYURL.COM/YB4K4B4H
Poland	ECCC Foundation	DigComp 1.0	PDF: DIGCOMP.PL online interactive version: TINYURL.COM/Y8NYCZSD
Poland	ECDL Poland	DigComp 2.0	PDF: TINYURL.COM/YDXLXQLM online interactive version: TINYURL.COM/Y7T2TASU
Portugal	CIDTFF - Dept. of Education and Psychology, University of Aveiro	DigComp 1.0	PDF + tables with differences in DigComp 2.0: TINYURL.COM/YB92A9BB
Portugal	CIDTFF - Dept. of Education and Psychology, University of Aveiro	DigComp 2.1	PDF: TINYURL.COM/Y90SR6FQ
Slovenia	National Education Institute Slovenia	DigComp 2.1	PDF: TINYURL.COM/Y7F6TY67
Spain	Extremadura Regional Government - Dept. of Education and Employment	DigComp 2.1	online interactive version: TINYURL.COM/Y7DUEFVP

pendent user and proficient user. The same options and translations are offered by selecting the language in the upper left corner in the Europass CV online compilation access page [EUROPA.EU/!RR69RD](https://europa.eu/!RR69RD) and by going to the Personal skills -> Digital skills section. In addition, ESCO, the multilingual classification of European Skills, Competences, Qualifications and Occupations contains partial translations of DigComp areas and descriptors in 26 languages: [EC.EUROPA.EU/ESCO/PORTAL/SKILL](https://ec.europa.eu/ESCO/PORTAL/SKILL).

How to translate the report?

The JRC DigComp reports are published under an open EC licence, allowing their re-use and translation, providing the original source is mentioned. Therefore, a translation can be done without a formal JRC authorisation.

Nevertheless, JRC recommends potential translation projects to follow the guidelines under “Policy for reproduction and reuse” and “Rules on modifications and translations” in DigComp Support Material webpage [EUROPA.EU/!TT93NF](https://europa.eu/!TT93NF).

For DigComp 2.1, given the rich use of illustrations, specific guidelines [EUROPA.EU/!TP47TH](https://europa.eu/!TP47TH) have been produced. They clarify the correct use of images, logos and cover pages. On request, the JRC can also provide the original source file and graphics for the translation of this report.

Although there is no obligation to request authorisation, the JRC would be grateful if informed about new translations by using the existing template in the gallery: [EUROPA.EU/!NW98VJ](https://europa.eu/!NW98VJ).

T.18 Partial DigComp translations and adaptations

Country	Who did it	Version and content	URL
Belgium	Dept. of Education of Flanders	DigComp 1.0 - List of 367 basic learning outcomes extracted and partly rearranged from DigComp 1.0	TINYURL.COM/YDEFTENB
France	Ministry of National Education, Higher Education and Research	DigComp 2.1 - Titles of the 5 areas + partial revision of specific competences (from 21 to 16) and their descriptors	TINYURL.COM/Y97T67MN
Italy	Cittadinanza Digitale.eu	DigComp 1.0 - Translation and presentation of 5 areas and 21 competences titles and descriptors	TINYURL.COM/Y7EZ55J3
Italy	Cittadinanza Digitale.eu	DigComp 2.0 - Illustration of main changes from 1.0 and updated titles of 5 areas and 21 competences	TINYURL.COM/Y7F2R05N
Spain	National Institute of Educational Technologies and Teacher Training (INTEF)	DigComp 2.1 - Translation, adaptation and specification for teachers	TINYURL.COM/YCQCQ38
Spain	REBIUN, the Network of Spanish University Libraries	DigComp 2.0 - Translation, adaptation and specification for graduate students	TINYURL.COM/Y73L9LHP
Spain	Murcia Regional Government - School of Public Administration	DigComp 1.0 and 2.0 - Translation, adaptation and specification for public administration employees	TINYURL.COM/Y73L9LHP

Learning from the experience: the Slovenian case

We asked Nives Kreuh from the National Education Institute in Slovenia, to summarise her recent experience with the translation into Slovenian ([TINYURL.COM/YB4X3QFC](https://tinyurl.com/YB4X3QFC)) of the JRC report DigComp 2.1.

“The translation of the document DigComp 2.1 consisted of 5 steps, which were carried out between May and the end of September 2017 and which produced the final online publication.

Step 1 – Contacting JRC

The Joint Research Centre in Seville was contacted to inform them of the intention to translate DigComp 2.1 into Slovenian and the JRC sent back the guidelines for the translation.

Step 2 – Selecting the team of translators and reviewers

An experienced, professional translator was selected through a public call for tender and reviewers were invited to comment on and edit the translated text.

The team of reviewers consisted of the following professionals in the field: two language consultants from the National Education Institute¹, two subject consult-

1 One of them was the editor of the translation into Slovene of FREPA – A Framework of Reference for Pluralistic Approaches to Languages and Cultures: Competences and resources (2013).

ants², an expert who co-edited the DigComp 1.0 2013 report, an expert in ICT working at the Ministry of Education, Science and Sport Slovenia, an expert in digital competence from the National Education Institute, who had developed the Slovenian “Teachers, principals and IT experts in the digital competence framework”.

Past experiences had shown that translators often lack knowledge of the subject they are translating. This was also the case here and the initial translation turned out being too literal, with many professional terms and descriptors translated in such a way that they did not convey any proper meaning. For this reason, the team of reviewers was selected carefully, with a good mix of professional backgrounds. In particular, Nive Kreuh underlines the key role of the three linguists in the revision process, since language sensitivity is important when reviewing and editing the text. A lot of attention was put on the sentence structure and the way language was used in translation, to make it as meaningful as possible for the readers.

Step 3 – The revision of the translated text

The reviewing phase took three months. The editor who was leading the whole process sent the Slovenian translation to the reviewers and asked them to read it carefully and prepare the initial comments, and to reflect on the terms used in the document. A meeting was held to decide what general terms should be used

2 They are from the MENTEP project team in Slovenia [TINYURL.COM/Y9S74WB3](https://tinyurl.com/Y9S74WB3) and worked on editing the Slovene translation of descriptors for the MENTEP self-assessment tool of the pedagogical digital competencies.

(i.e. the Slovenian terms for DigComp areas, levels, competences etc.). After this initial agreement, the editing of the descriptors started for all the 5 areas and 21 competences. Five other meetings took place, each time with negotiations among reviewers about the way competences should be described (i.e. the Slovene wording of the translation). The translated text was corrected and edited repeatedly during and in between the meetings.

Step 4 – Proofreading the final document

When the reviewing phase ended, the text was sent to be proofread by the Slovenian language consultant from the National Education Institute, as she is a professional in the field who fully understands the terms used.

Step 5 – Technical and visual design of the final document

In order to have full control on the design of the text and pages of the final document, only the cover page was done by a professional designer and the rest of the technical editing was done by the staff of the National Education Institute. The publishing office took care of the rest of the process.“

Summarising Nive Kreuh’s conclusion. “the translation of such a document is a demanding task, that needs a great engagement of professionals in the field. It is also important to include linguists, ideally from the professional field, since the translation requires specific knowledge and language awareness”.

3.3 DigComp and other frameworks

Related frameworks

The DigComp conceptual reference model has been used by the JRC to develop other related frameworks for the European Commission:

▶ **DigCompOrg (2015)**

The European Framework for Digitally Competent Educational Organisations

[EUROPA.EU/IV93HQ](https://europa.eu/iv93HQ)

▶ **DigCompConsumers (2016)**

The Digital Competence Framework for Consumers

[EUROPA.EU/IKP66HB](https://europa.eu/IKP66HB)

▶ **DigCompEdu (2017)**

The European Framework for the Digital Competence of Educators

[EUROPA.EU/IGT63CH](https://europa.eu/IGT63CH)

How does DigComp compare with other frameworks related to digital skills and literacy?

DigComp has been developed through an extensive process of analysis and comparison of existing frameworks and models of ICT skills, digital literacy, information and media literacy, to mention but a few. It is important to acknowledge these correspondences. Below, we show some of the existing mappings in order to indicate the synergies and touch-points between a number of existing frameworks.

DigComp and the e-CF

The European e-Competence Framework (e-CF) provides a common language to describe 40 competences including skills and knowledge requirements of ICT professions. The e-CF is the first sector-specific implementation of the European Qualifications Framework (EQF). In 2016 it became a standard, as Norm EN 16234-1. e-CF was mapped with DigComp to better understand the synergies between the two frameworks, showing, among other results, that the ICT competence required of professionals in the ICT sector has a much wider scope and is more specifically focused on ICT tasks related with the industry. The mapping also shows the continuity and complementarity of certain skills when passing from competences expected of citizens to those expected of ICT professionals (C6 in the Guide provides an example of this).

DigComp and the ESCO transversal ICT skills

ESCO is the multilingual classification of European Skills, Competences, Qualifications and Occupations. It identifies and categorises 3,000 occupations and 13,500 skills and competences that are relevant for the EU labour market and education and training. It also includes information on qualifications that are owned and managed by the European Member States. In ESCO, the sub-vocabulary of “digital competences” is defined by the DigComp 2.0 five areas (as in table 19). All the 21 competences are found in ESCO. Some of them have slightly modified titles and descriptors to comply with ESCO rules. The competences are available in all official EU languages, Norwegian, Icelandic and Arabic, and are linked to other ESCO skills. DigComp descriptors are also available in Linked data for-

T.19 The mapping of the competence areas of DigComp and ESCO transversal ICT skills

DigComp	ESCO transversal ICT skills
Communication and collaboration	Digital communication and collaboration
Safety	ICT safety
Digital content creation	Digital content creation
Information and data literacy	Digital data processing
Problem solving	Problem-solving with digital tools

mat through the ESCO Web Services Application Programming Interface (API): [EUROPA.EU/IT93NF](https://europa.eu/IT93NF) and [EUROPA.EU/JU44XF](https://europa.eu/JU44XF).

DigComp and UNESCO's Media and Information Literacy framework

DigComp was mapped to UNESCO's work on Media and Information Literacy, which brings together the fields of Information and Media literacy as "a combined set of competencies necessary for life and work today". JRC incorporated this perspective with the DigComp 2.0 update, which encompasses the main components of Information Literacy and parts of Media Literacy as showed in Table 20.

T.20 DigComp and UNESCO's Media Information Literacy framework

DigComp Competences	Global Media and Information Literacy Assessment Framework (UNESCO, 2013) "MIL Subject Matters"
1.1 Browsing, searching and filtering data, information and digital content 1.2 Evaluating data, information and digital content 1.3 Managing data, information and digital content	1.1. Definition and articulation of a need for information 1.2 Search and location of information and media content 1.3 Access to information, media content and media and information providers 1.4 Retrieval and holding/storage of information and media content 2.2 Assessment of information and media content, and media and information providers 2.3 Evaluation of information and media content, and media and information providers 2.4 Organisation of information and media content
2.1 Interacting through digital technologies 2.2 Sharing through digital technologies 2.3 Engaging in citizenship through digital technologies 2.4 Collaborating through digital technologies 2.5 Netiquette 2.6 Managing digital identity	3.2 Communication of information, media content and knowledge ... (see below) 3.3 Participating in societal-public activities as active citizen 3.4 Monitoring influence of information, media content, knowledge production and use, as well as of media and information providers
3.1 Developing digital content 3.2 Integrating and re-elaborating digital content 3.3 Copyright and licences 3.4 Programming	3.1 Creation of knowledge and creative expression 3.2 in an ethical and effective manner
4.1 Protecting devices 4.2 Protecting personal data and privacy 4.3 Protecting health and well-being 4.4 Protecting the environment	
5.1 Solving technical problems 5.2 Identifying needs and technological responses 5.3 Creatively using digital technologies 5.4 Identifying digital competence gaps	

3.4 DigComp versions

Which are the different versions of the DigComp framework and how do they differ?

The three official DigComp Framework reports are the following:

- ▶ **DigComp: A Framework for Developing and Understanding Digital Competence in Europe (2013)** by Anusca Ferrari, Yves Punie and Barbara Brečko (Eds.)

[EUROPA.EU/!KF69YG](https://europa.eu/!KF69YG)

- ▶ **DigComp 2.0: The Digital Competence Framework for Citizens. Update Phase 1: The Conceptual Reference Model (2016)**, by Riina Vuorikari, Yves Punie, Stephanie Carretero, Lieve Van den Brande

[EUROPA.EU/!UT88HX](https://europa.eu/!UT88HX)

- ▶ **DigComp 2.1: The Digital Competence Framework for Citizens with eight proficiency levels and examples of use (2017)**, by Stephanie Carretero, Riina Vuorikari and Yves Punie

[EUROPA.EU/!YG77DH](https://europa.eu/!YG77DH)

DigComp 1.0 (2013)

The DigComp 1.0 report defined and described the Framework's:

- scope and content - 21 competences grouped into 5 main areas
- basic structure - 5 dimensions i.e. the way in which the content of the Framework is displayed

Besides presenting the Framework's general features, the DigComp 1.0 report includes:

- (chapter 2.2) a **self-assessment grid** with the 5 areas of digital competence and expected learning outcomes at three proficiency levels (foundation, intermediate and advanced). The grid attempts to give an overview of each area, summarising the DigComp model at a more abstract, general level as in the Common European Framework of Reference for Languages.
- (chapter 3) a tabular view of the **detailed framework**, which for every competence provides: a detailed description of the competence learning outcomes at three proficiency levels (dimension 3); a list of examples of the knowledge, attitudes and skills that can illustrate the competence (dimension 4); and the applicability of these competence for learning and employment purposes, again with learning outcomes at three proficiency levels (dimension 5).
- (Annex I), a **glossary** of key terms used in the report (knowledge, skills, attitudes, competence, dimensions and purpose of competence application).
- (Annex II) a table of the **cross-references between competences**, which highlights the transversal char-

acter of some of them and/or the contribution of one competence to another.

- (Annex IV) **indicators for the development of digital competence**, which give suggestions on how to move from a proficiency level to the next.
- (Annex V) **cross-references** between the 2006 list of **key competences for lifelong learning** and DigComp's specific competences, which highlight and confirm how many of the key competences are overlapped and interlocked. This table is of great interest for educators wishing to design learning activities which develop several key competences at once.

DigComp 2.0 (2016)

The DigComp 2.0 report brought the following improvements to the Framework:

- an **update of the conceptual reference model**, with updates for competence areas (dimension 1) and competence titles and descriptors (dimension 2). This model can be seen in Table 3 in this Guide, in an online version [EUROPA.EU/!TN34BB](https://europa.eu/!TN34BB) and in a downloadable infographic. [EUROPA.EU/!XK77KW](https://europa.eu/!XK77KW)
- a revision of the **vocabulary** and **streamlined descriptors**.

These changes were made also to reflect:

- relevant updates in EU legislation
- new requirements for digital competence and data literacy stemming for instance from greater data availability and new visualisation techniques, the growing use of cloud-based services etc.

- concerns for accessibility and social inclusion issues. Section 5 of DigComp 2.0 provides **examples of DigComp use** at European, national and regional level for policy formulation and support, instructional planning, assessment and certification. These are visualised online in the Gallery of DigComp implementations constantly update by the JRC EUROPA.EU/IRH96YM and in Annex 4 of DigComp 2.0. Many examples from the Gallery are included in this Guide.

Annexed to DigComp 2.0, one finds, after the illustration of the updated changes (Annex 1), three **comparisons** of DigComp with other frameworks:

- UNESCO’s Media and Information Literacy (MIL)** curriculum for teachers (DigComp 2.0 Annex 2, p. 34)
- UNESCO’s “Global Media and Information Literacy Assessment Framework”** (DigComp 2.0 Annex 3, p. 35)
- e-CF**, the European e-Competence Framework for ICT professionals in all sectors (DigComp 2.0 Annex 5, p. 37)

DigComp 2.1 (2017)

The main novelty of DigComp 2.1 - the new **8 proficiency levels** of the Framework- is already illustrated in section 1.5 of this Guide.

The infographic “Learning to swim in the Digital Ocean” (p.20) visualises in a simple way a learner’s progression over the 8 levels. It is available also as a downloadable poster: EUROPA.EU/IVB88UF.

DigComp 2.1 presents in Section 3 (from p. 21 onwards) **new examples of use** of digital competence

(dimension 5) for the learning and employment scenarios for each competence area.

As an inspiration for future specifications of the framework by stakeholders according to the new proficiency levels, DigComp 2.1 provides at pp. 19-20 exemplary competence descriptors for all 8 proficiency levels and both scenarios of one specific competence (1.1 Browsing, searching and filtering data, information and digital content). For the other 20 competences, Section 3 provides exemplary descriptors for just 1 proficiency level and both scenarios in each competence.

Table 21 summarises the evolution of the Framework over the three DigComp reports from the point of view of the 5 dimensions (dimension 4 “Knowledge, skills and attitudes” is not included as a separate dimension but integrated in the description of learning outcomes).

T.21 Evolution of the framework	
Dimension	DigComp version
D1 Competence area	updated in DigComp 2.0
D2 Competence titles and descriptors	updated in DigComp 2.0
D3 Proficiency levels	updated in DigComp 2.1
D4 Knowledge, skills and attitudes	not included as a separate dimension in in DigComp 2.1
D5 Examples of use	updated in DigComp 2.1

Competences in DigComp 2.1

Table 4 (p.19) shows an example of how the competence levels are presented in DigComp 2.1.

The first row shows the names of the 8 Proficiency Levels (dimension 3) according to the version 2.1 (level 1, level 2, etc). The name of the levels according to DigComp 1.0 are also stated (Foundation, Intermediate, etc.).

The description for each proficiency level can be seen in the second row, related to the complexity of the tasks and problems, and the level of autonomy. The description of the competence in terms of learning outcomes is also included. Each bullet corresponds to a descriptor of the competences. Furthermore, the action verbs and key words appear in bold.

Examples of use (dimension 5 of the framework) have been updated and are shown in scenarios for two areas of use: employment and learning. These examples illustrate the 8 proficiency levels to help future implementation and specification of DigComp 2.1.

3.5 Glossary

T.22 Updated vocabulary for DigComp 2.0

<p>Content in different formats</p>	<p>E.g. text document, graphics, images, video, music, multimedia, web-pages stored using a standard file format, 3D printing (either proprietary, free and/or open). For more, see: TINYURL.COM/A8UZO</p>	<p>Digital content</p>	<p>Any type of content that exists in the form of digital data that are encoded in a machine-readable format, and can be created, viewed, distributed, modified and stored using computers and digital technologies, e.g. the internet. The content can be either free or pay content. Examples of digital content include: web pages and websites, social media, data and databases, digital audio, such as mp3s, and e-books, digital imagery, digital video, video games, computer programmes and software.</p>
<p>Data</p>	<p>A sequence of one or more symbols given meaning by specific act(s) of interpretation. Data can be analysed or used in an effort to gain knowledge or make decisions. Digital data is represented using the binary number system of ones (1) and zeros (0) as opposed to its analogue representation.</p> <p>(sources: TINYURL.COM/YBY8RHQ9; TINYURL.COM/7DOGFOF)</p>	<p>Digital environment</p>	<p>A context, or a “place”, that is enabled by technology and digital devices, often transmitted over the internet, or other digital means, e.g. mobile phone network. Records and evidence of an individual’s interaction with a digital environment constitute their digital footprint. In DigComp, the term digital environment is used as a backdrop for digital actions without naming a specific technology or tool.</p>
<p>Digital communication</p>	<p>Communication using digital technology. Various modes of communication exist, e.g. synchronous communication (real time communication, e.g. using skype or video chat or Bluetooth) and asynchronous ones (not concurrent communication, e.g. email, forum to send a message, sms) using for example, one to one, one to many, or many to many modes.</p>	<p>Digital services (public or private)</p>	<p>Services that can be delivered through digital communication, e.g. internet, mobile phone network that might include delivery of digital information (e.g. data, content) and/or transactional services. They can be either public or private, e.g. e-government, digital banking services, e-commerce, music services (e.g. Spotify), film/tv services (e.g. Netflix).</p>

< T.22

<p>Digital technology</p>	<p>Any product that can be used to create, view, distribute, modify, store, retrieve, transmit and receive information electronically in a digital form. For example, personal computers and devices (e.g. a desktop, laptop, netbook, tablet computer, smart phones, pda with mobile phone facilities, games consoles, media players, e-book readers), digital television, robots.</p> <p>Modified from source: TINYURL.COM/Y7HS4TUG</p>	<p>Well-being</p>	<p>The term is related to the WHO definition of good health as a state of complete physical, social and mental well-being , and not merely the absence of disease or infirmity. Social well-being refers to the sense of involvement with others and with the communities (e.g. access and use of social capital, social trust, social connectedness and social networks).</p>
<p>Digital tools</p>	<p>Digital technologies (see: digital technology) used for a given purpose or for carrying out a particular function of information processing, communication, content creation, safety or problem solving</p>	<p>Social inclusion</p>	<p>The process of improving the terms for individuals and groups to take part in society (the World Bank). Social inclusion aims to empower poor and marginalized people to take advantage of burgeoning global opportunities. It ensures that people have a voice in decisions which affect their lives and that they enjoy equal access to markets, services and political, social and physical spaces.</p>
<p>Privacy policy</p>	<p>The term related to the protection of personal data, for example, how a service provider collects, stores, protects, discloses, transfers and uses information (data) about its users, what data are collected, etc.</p>	<p>Structured environment</p>	<p>Where data resides in a fixed field within a record or file, e.g. relational databases and spreadsheets.</p>
<p>Problem solving</p>	<p>An individual's capacity to engage in cognitive processing to understand and resolve problem situations where a method of solution is not immediately obvious. It includes the willingness to engage with such situations in order to achieve one's potential as a constructive and reflective citizen" (OECD, 2014).</p>	<p>Technological response/solution</p>	<p>Refers to the attempt to use technology (and/or engineering) to solve a problem.</p>



Annex. **Inspiring DigComp examples: case studies and tools**

Annex presentation

The Annex offers a full description of all 50 case studies and tools. Each description contains the information illustrated in the following infographic.

You can access the full description of all cases studies and tools by clicking to the interactive icons in Summary lists of DigComp examples, where case studies and tools are categorized in the five steps of a recommended DigComp implementation process and by the three main domains where digital competence is increasingly important. Colours in the summary illustrate the category of stakeholder. This summary aims to help readers identify the inspiring examples that may be of most interest to them. Finally, the same examples are listed by country.

The infographic displays a grid of case study cards. Each card contains the following information:

- CONTENT ITEM TYPE AND CODE:** A diamond-shaped icon with a code (e.g., ICT1, ICT2, ICT3).
- COUNTRIES INVOLVED:** A small map icon representing the country (e.g., Spain, Belgium, Italy).
- TITLE:** The main title of the case study (e.g., 'TEACHERS IN SPAIN: THE DIGITAL', 'WEBSITE OF THE ADULT EDUCATION', 'PANE E INTERNET: THE DIGITAL LITERACY AND INCLUSION PROJECT IN EMILIA ROMAGNA').
- ABSTRACT:** A short summary of the project's goals and activities.
- ACKNOWLEDGEMENTS AND CONTACTS:** Information about the project's partners and contact details.
- DESCRIPTION:** A detailed description of the project's implementation, including the number of participants and activities.
- USEFUL LINKS:** A list of related resources and links.
















Labels on the left side of the infographic point to these specific elements on a sample card:

- CONTENT ITEM TYPE AND CODE
- COUNTRIES INVOLVED
- TITLE
- ABSTRACT
- ACKNOWLEDGEMENTS AND CONTACTS
- DESCRIPTION
- USEFUL LINKS

Labels on the right side of the infographic point to a separate section:

- EXAMPLE RELATED ITEMS










T.23 Summary of examples

COUNTRY + TITLE	CONTENT ITEMS		COUNTRY + TITLE	CONTENT ITEMS	
ITALY PANE E INTERNET THE DIGITAL LITERACY AND INCLUSION PROJECT OF EMILIA ROMAGNA	 + 	P. 102 P. 132	POLAND ECDL PROFILE DIGCOMP CERTIFICATES IN POLAND		P. 114
BE • DE • ES • FI • FR • HE • IT • PL • UK ELENE4WORK: DEVELOPING SOFT DIGITAL SKILLS OF STUDENTS AND YOUNG WORKERS	 +  + 	P. 104 P. 134 P. 136	SPAIN EXTREMADURA DIGITAL LITERACY TRAINING PROGRAMME		P. 116
DENMARK THE DIGITAL COMPETENCE WHEEL		P. 106	CZ • DE • ES DIGITAL SKILLS 4 YOU(TH): TRAINING PROFESSIONALS WORKING WITH YOUNG PEOPLE		P. 116
ITALY SMARTIVEMAP, A DIGITAL COMPETENCE MAPPING TOOL TO START DIGITAL TRANSFORMATION		P. 108	INTERNATIONAL UNESCO-PEARSON INITIATIVE FOR LITERACY: IMPROVED LIVELIHOODS IN A DIGITAL WORLD		P. 117
EL • ES • IE • INT PATHWAYS FOR EMPLOY: DEFINING AND DEVELOPING DIGITAL PROFILES		P. 110	GERMANY BILDUNG IN DER DIGITALEN WELT. EMBEDDING DIGITAL COMPETENCE IN THE SCHOOL CURRICULUM		P. 117
ES • DE • HR • HU • INT CODEMOB: CURRICULUM FOR E-FACILITATORS AND UNEMPLOYED YOUTH		P. 112	SPAIN TRAINING CIVIL SERVANTS IN SPAIN WITH DIGCOMP BASED E-LEARNING COURSES		P. 118
HUNGARY BRIDGE THE DIGITAL GAP: BASIC DIGITAL TRAINING OF ADULT POPULATION		P. 113	PORTUGAL PORTUGAL INCODE.2030: ENHANCING DIGITAL COMPETENCE		P. 118

> T.23

COUNTRY + TITLE	CONTENT ITEMS		COUNTRY + TITLE	CONTENT ITEMS	
UNITED KINGDOM ANGLIA RUSKIN UNIVERSITY: INTEGRATING DIGITAL LEARNING AND TEACHING INTO HIGHER EDUCATION		P. 78 P. 120	ITALY PRODIGEO: LEARNING PLATFORM FOR EMPLOYMENT SERVICES' STAFF		P. 92
SPAIN IKANOS: DIGITAL COMPETENCE IN THE BASQUE COUNTRY'S DIGITAL AGENDA		P. 80 P. 121 P. 122 P. 124	INTERNATIONAL HAPPY ONLIFE PROJECT AND TOOLKIT		P. 94 P. 130
SPAIN INTEF'S INITIATIVES FOR TEACHERS DIGITAL COMPETENCE IN SPAIN		P. 82 P. 126 P. 128	FR • IE • IT • RO COMPASS - YOUR JOURNEY TO DIGITAL, THE UP-SKILLING PLATFORM FOR YOUNG UNEMPLOYED PEOPLE		P. 96
CROATIA E-SCHOOLS: PILOT PROJECT TOWARDS DIGITAL SCHOOLS		P. 84	ES • FR • INT • IT • TR TASK: PROJECT FOR AUTHENTIC TASK BASED COMPETENCE ASSESSMENT IN SECONDARY SCHOOLS		P. 98 P. 131
BELGIUM ADULTS EDUCATION IN FLANDERS: THE NEW ICT EDUCATION PROGRAMMES		P. 86 P. 129	FRANCE PIX: ONLINE PLATFORM FOR DIGITAL SKILLS EVALUATION AND CERTIFICATION		P. 99
BE • EL • IT • PT MU.SA: USING E-CF AND DIGCOMP FOR WORK DIGITAL TRANSFORMATION IN MUSEUMS		P. 88	ESTONIA SAMSUNG DIGI PASS FOR VOCATIONAL SCHOOL STUDENTS IN ESTONIA		P. 100
POLAND ECCC DIGITAL COMPETENCE FRAMEWORK		P. 90	EL • IT • UK LINGUACUISINE: DEVELOPING DIGITAL SKILLS WITH DISADVANTAGED PEOPLE		P. 101

> T.23

COUNTRY + TITLE	CONTENT ITEMS		COUNTRY + TITLE	CONTENT ITEMS	
BG • ES • IE • LT • NO • SI • UK DIGITAL INNOVATIONS FOR GROWTH ACADEMY: TRAINING ENTERPRISE TRAINERS AND EDUCATORS		P. 119	GERMANY DIGITAL SKILLS SELF-ASSESSMENT TOOL FOR EMPLOYEES AND MANAGERS OF THE DACH REGION		P. 139
INTERNATIONAL DEFINING DIGITAL COMPETENCE TRAINING NEEDS FOR YOUTH WORK		P. 119	ITALY SAFE ONLINE: A BOOK TO TRAIN THE NEW DIGITAL CITIZENS AT SCHOOL		P. 140
SPAIN DIGITAL COMPETENCE SELF-DIAGNOSIS TOOL OF THE ANDALUSIA REGIONAL GOVERNMENT		P. 137	NORWAY NORWEGIAN PROFESSIONAL DIGITAL COMPETENCE FRAMEWORK FOR TEACHERS		P. 140
ITALY ABC DIGITALE: SELF-ASSESSMENT TEST AND DIGITAL LEARNING OPPORTUNITIES		P. 137			
SLOVENIA THE STUDENTS COMPETENCE FRAMEWORK BY THE SLOVENIAN EDUCATION INSTITUTE		P. 138			
INTERNATIONAL SKILLAGE: ONLINE SELF- ASSESSMENT TOOL ON DIGITAL SKILLS FOR THE JOB MARKET		P. 138			
SPAIN TUCERTICYL: THE NEW DIGITAL COMPETENCE CERTIFICATION SYSTEM IN CASTILLA LEON		P. 139			

T.24 List of examples by country

BELGIUM

C5 ADULT EDUCATION IN FLANDERS: THE NEW ICT PROGRAMMES

T7 WEBSITE OF THE ADULT EDUCATION IN FLANDERS: THE NEW ICT PROGRAMMES

CROATIA

C4 E-SCHOOLS: PILOT PROJECT TOWARDS DIGITAL SCHOOLS

DENMARK

C17 THE DIGITAL COMPETENCE WHEEL

ESTONIA

C13 SAMSUNG DIGI PASS FOR VOCATIONAL SCHOOL STUDENTS IN ESTONIA

FRANCE

C12 PIX: ONLINE PLATFORM FOR DIGITAL SKILLS EVALUATION AND CERTIFICATION

GERMANY

C26 BILDUNG IN DER DIGITALEN WELT. EMBEDDING DIGITAL COMPETENCE IN THE SCHOOL CURRICULUM

T18 DIGITAL SKILLS SELF-ASSESSMENT TOOL FOR EMPLOYEES AND MANAGERS OF THE DACH REGION

HUNGARY

C21 BRIDGE THE DIGITAL GAP: BASIC DIGITAL TRAINING OF ADULT POPULATION

INTERNATIONAL

C9 HAPPY ONLIFE

T8 HAPPY ONLIFE TOOLKIT

C25 UNESCO-PEARSON INITIATIVE FOR LITERACY: IMPROVED LIVELIHOODS IN A DIGITAL WORLD

C30 DEFINING DIGITAL COMPETENCE TRAINING NEEDS FOR YOUTH WORK

T16 SKILLAGE: ONLINE SELF-ASSESSMENT TOOL ON DIGITAL SKILLS FOR THE JOB MARKET

ITALY

C8 PRODIGEO: LEARNING PLATFORM FOR EMPLOYMENT SERVICES' STAFF

C15 PANE E INTERNET: THE DIGITAL LITERACY AND INCLUSION PROJECT IN EMILIA ROMAGNA

T10 PANE E INTERNET CURRICULUM AND LEARNING RESOURCES FOR BASIC DIGITAL LITERACY

C18 SMARTIVEMAP, A DIGITAL COMPETENCE MAPPING TOOL TO START DIGITAL TRANSFORMATION

T14 ABC DIGITALE: SELF-ASSESSMENT TEST AND DIGITAL LEARNING OPPORTUNITIES

T19 SAFE ONLINE: A BOOK TO TRAIN THE NEW DIGITAL CITIZENS AT SCHOOL

< T.24

NORWAY



NORWEGIAN PROFESSIONAL
DIGITAL COMPETENCE
FRAMEWORK FOR TEACHERS

SLOVENIA



THE STUDENTS
COMPETENCE FRAMEWORK
BY THE SLOVENIAN
EDUCATION INSTITUTE

UNITED KINGDOM



ANGLIA RUSKIN UNIVERSITY:
IMPLEMENTING DIGITAL
LITERACY

POLAND



ECCC DIGITAL COMPETENCE
FRAMEWORK

SPAIN



IKANOS - NIRE GAITASUN
DIGITALAK / MIS COMPETENCIAS
DIGITALES



ANGLIA RUSKIN UNIVERSITY:
FIVE DAYS OF DIGITAL
LITERACY (5DODL)



ECDL PROFILE DIGCOMP
CERTIFICATES IN POLAND



IKANOS - SELF ASSESSMENT
TEST



TEACHERS IN SPAIN: THE NEW
DIGITAL COMPETENCE COMMON
FRAMEWORK



TEACHERS IN SPAIN: MOOCS,
EDUPILLS AND OTHER TRAINING
RESOURCES



TEACHERS IN SPAIN: THE DIGITAL
COMPETENCE PORTFOLIO

PORTUGAL



PORTUGAL INCODE.2030:
ENHANCING DIGITAL
COMPETENCE



IKANOS - PROFESSIONAL
DIGITAL COMPETENCE PROFILES



EXTREMADURA DIGITAL
LITERACY TRAINING
PROGRAMME



TRAINING CIVIL SERVANTS IN
SPAIN WITH DIGCOMP BASED
E-LEARNING COURSES



IKANOS - BAIT, THE NEW
DIGITAL COMPETENCE
CERTIFICATION SYSTEM



DIGITAL COMPETENCE
SELF-DIAGNOSIS TOOL OF
THE ANDALUSIA REGIONAL
GOVERNMENT



TUCERTICYL: THE NEW DIGITAL
COMPETENCE CERTIFICATION
SYSTEM IN CASTILLA LEON

T.25 List of european projects



BE • EL • IT • PT
MU.SA: USING E-CF AND DIGCOMP FOR WORK DIGITAL TRANSFORMATION IN MUSEUMS



BE • DE • ES • FI • FR • HE • IT • PL • UK
ELENE4WORK: MAPPING SOFT DIGITAL SKILLS OF STUDENTS AND YOUNG WORKERS



CZ • DE • ES
DIGITAL SKILLS 4 YOU(TH): TRAINING PROFESSIONALS WORKING WITH YOUNG PEOPLE



FR • IE • IT • RO
COMPASS - YOUR JOURNEY TO DIGITAL, THE UP-SKILLING PLATFORM FOR YOUNG UNEMPLOYED PEOPLE



ELENE4WORK ORIENTATION GUIDE FOR JOB SEEKERS



BG • ES • IE • LT • NO • SI • UK
DIGITAL INNOVATIONS FOR GROWTH ACADEMY: TRAINING ENTERPRISE TRAINERS AND EDUCATORS



ES • FR • INT • IT • TR
TASK: AUTHENTIC TASK BASED COMPETENCE ASSESSMENT IN SECONDARY SCHOOLS



ELENE4WORK SELF-ASSESSMENT TOOL FOR DIGITAL SOFT SKILLS IDENTIFICATION



TASK TOOL: AN ONLINE SYSTEM FOR ASSESSING KEY COMPETENCES IN SECONDARY SCHOOL



EL • ES • IE • INT
PATHWAYS FOR EMPLOY: DEFINING AND DEVELOPING DIGITAL PROFILES



EL • IT • UK
LINGUACUISINE: DEVELOPING DIGITAL SKILLS WITH DISADVANTAGED PEOPLE



ES • DE • HR • HU • INT
CODEMOB: CURRICULUM FOR E-FACILITATORS AND UNEMPLOYED YOUTH



• UNITED KINGDOM

ANGLIA RUSKIN UNIVERSITY: IMPLEMENTING DIGITAL LITERACY

Application of a DigComp-related framework as the basis for a competence diagnostic test (barometer), staff development and embedding digital literacies into the curriculum certified by digital badges

ACKNOWLEDGEMENTS

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Anglia Ruskin University's (ARU) history goes back to 1858 and over the years the institution has grown to incorporate a number of regional, international colleges and partner institutes as well as four campuses to become the university it is today. Nearly 40,000 students from more than 185 countries study with ARU on a wide range of subjects many of which offer professional accreditation.

Since 2015, a strategic aim of ARU has been to further develop active student-centred learning as reflected in the Learning, Teaching and Assessment Strategy 2015-17 ([TINYURL.COM/YCPEB8JE](https://tinyurl.com/YCPEB8JE)).

Building upon this, the university strategy 2017-2026 aims to deliver 'an outstanding and inclusive educational experience' by 'systematically integrating the best of face-to-face and digital learning and teaching into all of its degrees'. For this reason, academic and professional services staff is requested to keep up-to-date with the digital competencies required for their role.

In order to deliver its strategic mission, in April 2016, ARU developed a digital literacy framework drawing from the EU DigComp 1.0 Framework and the Jisc's Building Digital Capability Project 2014-2018 ([TINYURL.COM/LGHXFZ8](https://tinyurl.com/LGHXFZ8)). Adopting Jisc's definition of digital literacy, the DigComp Framework was redesigned to align it with the needs of staff and students in higher education. Specifically, the ARU framework was used to underpin the following three main developments.

The **Digital Literacy Barometer** includes competency statements about a spectrum of digital capabilities aligned to DigComp. Using a quiz format, individuals receive a score for their overall self-reported competency as well as for each of the five literacies in the frame-

work. Staff are able to use the results to identify their existing strengths and areas for further development.

ARU, via its central educational development team (Anglia Learning & Teaching), provides a range of **staff development activities** aligned to the framework, including bite-sized training (see **T2**) following completion of which participants receive digital badges.

The **embedding of digital competencies in the curriculum** was piloted in one faculty. Digital badges were developed for each digital literacy domain and proficiency level. As part of a review process, course curricula were examined and subsequently mapped to identify opportunities to deliver the elements of the ARU digital literacy framework.¹ This mapping was facilitated by a bespoke digital literacy curriculum-mapping tool, which is scalable for institutional use.²

A variety of stakeholders representing academics, professional services and students were engaged in the development of the framework and this has raised awareness and gathered support for the additional development of digital literacy across the university. The implementation process has driven a change in institutional culture to meet the needs of an evolving digital

1 Evangelinos, G., Holley, D. and Kerrigan, M.J.P., 2016. *Implementing a Model and Processes for Mapping Digital Literacy in the Curriculum* (Online Badges). In: A. Moreira Teixeira, A. Szűcs and I. Mázár, eds., *Re-Imaging Learning Environments Proceedings of the European Distance and E-Learning Network 2016 Annual Conference Budapest, 14-17 June, 2016*. Budapest: European Distance and E-Learning Network (EDEN), pp.545-553.

2 Kerrigan, M.J.P. and Evangelinos, G., 2015. *Curriculum Mapping Toolkit*. Cambridge, UK.



economy and post-graduation work environment.

One of the challenges encountered in the process was staff reluctance in adopting technology in their teaching to further develop their digital capabilities. This is currently being addressed by raising further awareness across the institution and providing a range of staff development opportunities. A planned refinement of the Barometer platform will further establish a link between staff development needs and relevant training. An additional challenge to the sustainability of the initiative has been the administrative burden caused by the lack of an integrated badging platform. However, ARU has continued to invest in its IT infrastructure including the implementation in 2016-2017 of a new Learning Management System (LMS), which includes an integrated badging facility that will address the latter.

ARU's ambition to become a 'digital leader' is underpinned by systematically embedding the benefits of digital technology as part of a seamless digital learning environment. Future work will involve the alignment of online learning design, badging and the ARU digital literacy framework. This work will support students to develop their digital literacies through technology-enhanced online learning activities embedded directly into the curriculum. These learning activities will be customisable and shared as reusable learning objects across the institutional LMS.

ARU also plans to update the ARU framework and related instruments according to the evolution of its two reference frameworks (DigComp and Jisc Capability Framework).

RELATED ITEMS



ANGLIA RUSKIN
UNIVERSITY: FIVE DAYS
OF DIGITAL LITERACY
(SDODL)

P. 120

USEFUL LINKS

ARU page on Digital Literacy

[TINYURL.COM/Y7MKMBWL](https://tinyurl.com/Y7MKMBWL)

ARU Learning, Teaching and Assessment Strategy 2015-2017

[TINYURL.COM/YCPEB8JE](https://tinyurl.com/YCPEB8JE)

ARU 'Designing our Future 2017-2026' Our Strategy

[TINYURL.COM/Y8LU42Y5](https://tinyurl.com/Y8LU42Y5)

Jisc Building Digital Capability Project 2014-2018

[TINYURL.COM/LGHXFZ8](https://tinyurl.com/LGHXFZ8)

Jisc case studies on "Improving organisational digital capability"

[TINYURL.COM/Y9UXXQ24](https://tinyurl.com/Y9UXXQ24)



• SPAIN

IKANOS – NIRE GAITASUN DIGITALAK / MIS COMPETENCIAS DIGITALES

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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The Basque Country's Government launched the Ikanos project in 2012 to develop digital competence on a large scale within the Basque society, as part of its Agenda Digital de Euskadi 2015 (AD@15). Ikanos was from the very beginning inspired by and designed to implement the DigComp framework, aiming to address the common and specific digital competence needs of citizens, enterprises, civil servants, teachers and other segments of the Basque society.

Over time, Ikanos has focused on different segments and aspects of the Basque information society and economic life, always stimulating the acquisition of digital competence and promoting knowledge and application of the DigComp framework. In the past few years, Ikanos defined and assessed the digital profile of teachers working in public and private educational centres and of students of vocational training. Workshops

were organised to disseminate the role of digital technology in education, in certification, and in the creation also of new digital professional profiles.

The launch of the Ikanos project in 2013 (Digital Agenda 2015) was intended to provide expert support to individuals and organisations to encourage collaboration, explore, share and disseminate digital competencies and how digital competence can be acquired, evaluated and accredited according to the new conceptual framework.

In its initial launching phase, Ikanos has been responsible for accompanying the relevant agents and show how the DigComp European framework extends what was being done in terms of computer skills.

The main milestones have been:

- The application of the DigComp methodology and the



adaptation to the framework of professional qualifications.

- The preparation and start-up of the self-assessment test of digital competence.
- The organisation of thematic meetings with key actors.
- The mapping of experiences related to the evaluation and certification of digital competence.
- The dissemination of the project to national and European agents.

In the second phase, intense dissemination activities were continued, focusing efforts on identifying the significant elements of the improvement of digital skills and accompanying those responsible for digital competitions in Euskadi. After these two phases, an Ikanos model has been defined, featuring an implementation process model containing 5 steps and 7 tool elements

The project in the 2020 horizon evolves towards the integration of digital competence into the formal educational model, training for employment and lifelong learning to expand the employability of citizens. In 2016 Ikanos began developing the digital competence that Industry 4.0 needs by describing some sub-competences of the DigComp framework. In 2017, the activity has focused on the definition of new professional digital competence profiles related to industry 4.0

The DigComp framework has been used to draw digital profiles of both the general population and job requirements. The gap between these two classes of profiles ought to be resolved through education, training and new tools for lifelong learning, such as the Personal Learning Environment.

There are four tools based on DigComp content:




1. Ikanos self-assessment test v.2 (T2), which has been designed to provide a personal digital profile to any user. The test considers eight areas that make up an individual's digital profile.

2. Professional digital competence profiles on Basque industry 4.0 (T3): following the DigComp model, this tool identifies the mix of competences and proficiency that characterise industrial professions such as 3D Designer for additive manufacturing or Maintenance technician for 4.0 industry.

3. Digital competence certification system: BAIT (T4). Ikanos is about to launch the revision of the existing ICT competence certification system of the Basque country. Over the last 10 years, this system issued about 500,000 certificates, following the traditional approach to ICT skills development and certification focused on operational and application-related skills

4. Ikanos orientation guide for intermediaries. The Orientation Guide developed by Ikanos helps e-facilitators from the local KZ-Gunea telecentres network and other intermediaries to compare the Professional Digital Profile for a given occupation with the results from a user's Ikanos self-assessment test, in order to identify the main competence gaps faced by the user and to recommend training opportunities to fill those gaps. Regarding next steps, Ikanos priority is to go further in the promotion of digital profiles in economic activities.

RELATED ITEMS

	IKANOS - SELF ASSESSMENT TEST	P. 121
	IKANOS - PROFESSIONAL DIGITAL COMPETENCE PROFILES	P. 122
	IKANOS - BAIT, THE NEW DIGITAL COMPETENCE CERTIFICATION SYSTEM	P. 124

USEFUL LINKS

Info of the project in the Basque Government website

WWW.IKANOS.EUS



• SPAIN

TEACHERS IN SPAIN: THE NEW DIGITAL COMPETENCE COMMON FRAMEWORK

The Spanish Digital Competence Framework comprises a range of online tools, apps, badges, mentoring and peer-learning solutions for teacher digital competence development and recognition

ACKNOWLEDGEMENTS & CONTACTS

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The project is using DigComp in the teaching context by adapting it and compiling a Spanish Digital Competence Framework for Teachers. When the project team started working with Digital Competence for Teachers back in 2012, after analysing various Frameworks, it regarded DigComp as the best one for adaptation into the teaching context and for the Spanish background. The current Spanish Framework is published at [TINYURL.COM/YCQCGQ38](https://tinyurl.com/YCQCGQ38) and it is available both in English and Spanish. It is the basis of the Portfolio for the Digital Competence of Teachers, an endorsement web service for acknowledging Digital Competence to teachers in Spain (see **T6**).

DigComp is used with a focus on Open Online Training, Networks of teachers, mentoring and peer-learning. The content of the online teaching training includes a wide range of educational trends, such as Flipped Education, PBL, Formative Assessment, Nurturing Creativity, Digital Citizenship, Digital Collaboration and Communication, Digital Content Creation, Safety, Problem Solving and so forth.

The training scheme includes a roadmap to foster the acquisition and/or development of teachers' digital competence based on the Common Digital Competence Framework for Teachers, published by INTEF in January 2017, updated in September 2017, which is an adaptation of DigComp to the teaching profession. The scheme is aimed at helping teachers improve their digital competence level, from A1 to C2, according to the Spanish Framework: [TINYURL.COM/Y7V52AFY](https://tinyurl.com/Y7V52AFY)

Participation is acknowledged with open badges that provide evidence of accomplished goals and acquired professional competencies during the online training actions. The open badges, which are compatible with open badge standards, are issued at the Open Badge

Backpack that the Ministry of Education has developed. It is called "EducaLAB Insignias" and it is connected to the INTEF digital learning platforms where badges are safely stored and made available for sharing on social networks.

The open online courses (see **T5**) are a training path that focuses on content dissemination and include an activity plan that is open to collaboration. The main goal of the catalogue of open online courses is for participants to learn by doing and produce digital artifacts which showcase their learning development, that help them improve their digital competence and that they can set up portfolios and learning diaries full of evidence of what they have learned, which will endorse the whole experience.

From only offering a pilot catalogue of 3 MOOCs in 2014, the project has evolved into offering a series of Nano Open Online Learning Experiences (NOOC), whose estimated effort is 180 minutes and that are oriented to achieving a single goal, to developing or improving a single digital competence. Furthermore, the project is now offering Self-Paced Online Open Courses (SPOOC) to foster self-paced learning.

The concept underlying the whole offer is The Common Digital Competence Framework for Teachers, whose latest version is to be published in 2017, so all online training initiatives are based on that framework, divided into 5 Areas, 21 sub-competencies and six competence levels. The Spanish Framework is an adaptation of DigComp, it has been updated hand in hand with DigComp from the very beginning and has lately integrated some features from DigCompEdu ([EUROPA.EU/!GT63CH](https://europa.eu/!GT63CH)) as well.

From the beginning, in 2014, up to this very day, over



77,000 teachers and professionals in the field of education have signed up and taken part to the MOOCs, NOOCs and SPOOCs, all developed on a customised Open Edx learning environment, which has been enriched with the design of X-blocks that cover the needs for the social open online teacher training that INTEF supports. The project team has also developed an Open Badge Backpack in order to endorse teachers with their achievements on Digital Competence. It is in continuous evolution and is fully compatible with the Open Online learning environments as well as with the Portfolio for the Digital Competence of Teachers.

Regarding tools developed within the realm of the project, they include:

- **T5.** MOOCs, EduPills and other teacher training resources (MOOC.EDUCALAB.ES, NOOC.EDUCALAB.ES, SPOOC.EDUCALAB.ES, FORMACION.EDUCALAB.ES, EDUPILLS.EDUCALAB.ES/)
- **T6.** The Portfolio for the Digital Competence of Teachers (PORTFOLIO.EDUCALAB.ES)

The added value of using DigComp has been having a double checked descriptive reference framework, with enough flexibility to be adapted to different fields. The fact that it is an overall framework for citizens allows professionals from other fields, such as teachers and other professionals, to take it from there and extend and adapt it to their own needs and according to their own national context.

As the project was a forerunner in the use of DigComp, back in 2012, at that time the DigComp Framework did not include competence levels or descriptors for competences, so the most difficult part when adapting it to the Spanish profession was to come up with a set of descriptors stemming from DigComp.

The next step in Spain is to publish, in October 2017, the Portfolio for the Digital Competence of Teachers, as a service to endorse and acknowledge teachers' digital competence nationwide. This Portfolio includes a self-assessment tool, a dossier for teachers to keep track of their progress and experiences on digital competence, as well as to prove the competence level they have reached through self-evaluation, and a passport that validates it all. The endorsement of that digital competence will be carried out through open badges.

RELATED ITEMS

	TEACHERS IN SPAIN: MOOCs, EDUPILLS AND OTHER TRAINING RESOURCES	P. 126
	TEACHERS IN SPAIN: THE DIGITAL COMPETENCE PORTFOLIO	P. 128

USEFUL LINKS

Current Spanish Framework
APRENDE.EDUCALAB.ES/MCCDD

Digital Competence Portfolio Teachers
PORTFOLIO.EDUCALAB.ES

INTEF MOOC
MOOC.EDUCALAB.ES

INTEF NOOC
NOOC.EDUCALAB.ES

INTEF SPOOC
SPOOC.EDUCALAB.ES

INTEF Online Instructed Courses
FORMACION.EDUCALAB.ES

EduPills
EDUPILLS.EDUCALAB.ES

Open Badge Backpack "EducaLAB Insignias"
INSIGNIAS.EDUCALAB.ES



• CROATIA

E-SCHOOLS: PILOT PROJECT TOWARDS DIGITAL SCHOOLS

Use of DigComp supporting competence development of school employees: general digital competences, competences for the educational use of digital technology, digital competences for school management

ACKNOWLEDGEMENTS & CONTACTS

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ALL SCHOOL EMPLOYEES	General digital competences	Competences for the educational use of digital technology	TEACHERS
	Information and data literacy	Work in the school environment	
	Data, information and digital content management	Digital technology in the curriculum	
	Authorship and copyright	The learning environment	
	Digital content creation	Professional development, communication and interaction	
	Digital content and personal protection in the digital environment	Digital competences for school management	PRINCIPALS
	Technological solutions	Strategic planning of ict use in school	
	Digital competences and lifelong learning	Digital infrastructure management in learning (teaching) processes and school management	
		Digital technologies and social responsibility	

In 2015, Croatia started the programme entitled “e-Schools: A comprehensive informatisation of school operation processes and teaching processes aimed at the creation of digitally mature schools for the 21st century”. The e-Schools programme consists in the pilot project, implemented in the period 2015–2018 and involving 150 primary and secondary schools (or about 10% of Croatian schools), and the major project, which will be implemented in the period 2019–2022 and will encompass at least 850 schools. Both stages of the project are financed mostly (85%) from the Structural Funds of the European Union. The project coordinating body is the Croatian Academic and Research Network - CARNet, a public institution that operates under the Ministry of Science, Education and Sports.

In the first phase, the Digital Competence Framework

for School Employees: Teachers, Principals and Administrative Staff was developed. The framework defines which competences these three categories of school employees should have – with regards to the key tasks they perform in their daily work – in order to be able to plan and implement contemporary teaching, learning and other activities with the support of digital technologies. The Digital Competence Framework introduces three main dimensions of competences: general digital competences for all target user groups, competences for the educational use of digital technologies for the category of teachers, and digital competences for school management. General digital competences have mainly been drawn from DigComp 1.0, thus adopting three levels of competence complexity were defined: basic, intermediate and advanced. The Digital Compe-



tence Framework is accompanied by a handbook with descriptive contextual examples of the demonstration of digital competencies in certain types of tasks, for each target user group and for all three levels.

In the second phase, self-assessment questionnaires were developed for the three categories of target users (teachers, headmasters and administrative staff). By filling out the questionnaires, the users receive feedback on the level of development of individual digital competencies and the need for the development of certain competences.

The next phase saw the development of the Curriculum for the Enhancement of Digital Competences of School Employees: Teachers, Principals and Administrative Staff, also based on DigComp.

The curriculum is based on DigComp, as well as on the Framework for Digitally Mature Schools. The curriculum defines the learning outcomes, the outline of educational content, recommended teaching methods, educational models and evaluation methods for the acquisition and enhancement of digital competencies of school employees. It is meant to be used by training providers as the basis for providing educational content and delivering training. Based on the 36 competencies proposed in the Digital Competence Framework, the curriculum defines and describes 34 units of learning outcomes incorporated in 17 modules and 42 basic units.

Three main groups of competences are introduced:

- General digital competences - 16 units of learning outcomes required for all target user groups;
- Competences for the educational use of digital technology – 11 units of learning outcomes required for the

category of teachers;

- Digital competences for school management – 7 units of learning outcomes required for school principals.

An overview of the modules grouped by dimension and target user group is available in the image on previous page.

Based on the curriculum, educational content is further produced for delivery in three different forms – live workshops, webinars and MOOCs – and accompanying instruments for the assessment of learning outcomes are also developed. Teachers, principals and administrative staff are enrolled in training for the development of digital competences. At the time this Guide was generated, more than 5,000 school employees have been enrolled in training. On participation in and the successful completion of each workshop, webinar or MOOC, participants receive a first level digital badge providing evidence of their acquired digital competences. Participants who have completed a set of training sessions comprising a whole dimension of digital competences receive a second level badge.

Finally, the next steps are as follows:

- Further delivery of training based on Curriculum for the Enhancement of Digital Competences of School Employees during the e-Schools pilot project;
- Evaluation of Framework and Handbook, Instrument for Self-Assessment of Digital Competences, Curriculum, design and development of educational content and delivery of training;
- Planning of delivery of training in the e-Schools major project.

USEFUL LINKS

Framework for the Digital Competence of Schools

[TINYURL.COM/Y89T2788](https://tinyurl.com/Y89T2788)

Croatian Qualification Framework requirements

[TINYURL.COM/Y9WANWTX](https://tinyurl.com/Y9WANWTX)

Handbook with descriptive situational examples of the demonstration of digital competencies

[TINYURL.COM/Y7UQJXXL](https://tinyurl.com/Y7UQJXXL)



• BELGIUM

ADULT EDUCATION IN FLANDERS: THE NEW ICT PROGRAMMES

Using DigComp to support the transition from traditional ICT training to competence-based training in the adult education sector

ACKNOWLEDGEMENTS & CONTACTS

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In the Flanders Community, there are about 100 adult education centres (AECs) with 350,000 people enrolled annually in adult secondary education, higher vocational adult education and specific teacher training. Another 50,000 people attend adult basic education courses in 13 Adult Basic Education Centres.

In 2014, the Flemish government launched a deep revision of the ICT-courses offered by the AECs, which at the time were structured into 30 modules devoted to learning common software applications for text processing, calculations and so on (MS Word, Excel, Access, Powerpoint, Photoshop etc.). The decision was to shift to a new functional and competence-oriented perspective and with this aim DigComp was adopted as the appropriate reference framework for citizens, distinct from and complementary to other frameworks for vocational and specialist ICT education. The aim was also to modernise content and include new ICT developments such as Internet 2.0, social media, tablets, smartphones etc.; and to design shorter education programmes, with a maximum of 9 ICT programmes.

Between May 2014 and June 2015, the cross-sectoral commission in charge of the process (with experts in ICT and adult education) met for about 20 full-day meetings and as first step:

- Studied and translated much of the content of DigComp v1.0 into Dutch
- Extracted and reformulated from it a draft list of about 500 potential learning outcomes, or basic competences, from very generic to very specific ones
- Categorised them according to DigComp's areas and competences, by type (knowledge, skills, and attitudes) and, when possible, by the three proficiency levels (dif-

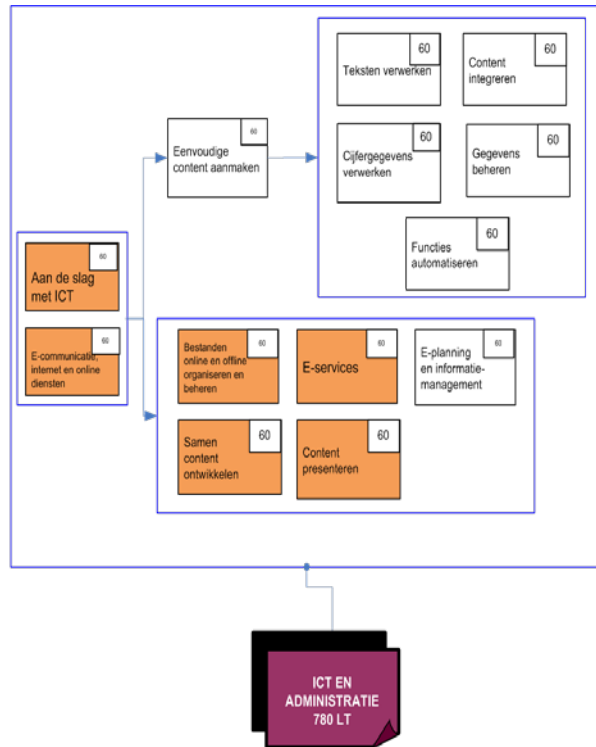
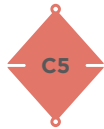
ferences between intermediate and advanced levels for some competences in the DigComp framework were sometimes not detailed and clear enough for such classification, leaving room for subsequent revisions also based on future teaching experience).

As a second step, the 500 learning outcomes were reorganised into 365 competences ([TINYURL.COM/Y8MGBMM2](https://tinyurl.com/y8mgbmm2)) and clustered into 55 modules, each with maximum duration of 60 school-hours ([TINYURL.COM/YDE9KBND](https://tinyurl.com/yde9kbnd)). Each module is composed of a variable set of basic competences: 5 'transversal' ones (dealing with problem solving and safety) are present in all modules. A further 5 to 10 are specific competences that only apply to the specific module.

Finally, the 55 modules were combined into 9 education programmes called: Start to ICT; ICT and Office work; ICT and social media; ICT in an educational context; ICT and creativity; Web content; App development; ICT operating systems and networks; and ICT programming.

The number of modules per programme varies from 2 to 14, so the overall duration of the programme also varies. The two modules of the ICT programme Start to ICT - "Getting started with ICT" and "E-communication, Internet and online services"- are the common entry step for all learning paths. A few other modules (e.g. "Collaborative content development") are also shared by two programmes. Each programme not only defines which modules to address, but also how they can be clustered and their delivery sequence (see the example below for the "ICT and Office work" programme), thus orienting progression in competence development in terms of content and growing proficiency.

In August 2016, the Flemish government approved the commission's revision proposal and Provinciaal Onder-



wijs Vlaanderen (Provincial Education Flanders, the organisation coordinating this process), contracted two additional professionals and started the implementation of the new programmes, which entailed the following steps during 2016-2017:

- The definition of a pedagogical-didactical vision appropriate to the new competence-focused approach, which requires a mind shift for many ICT teachers
- The development of a website for ICT teachers with all kinds of support and examples illustrating how they

can use the new ICT-programmes (see T7)

- The organisation in most of the adult education centers of information and training working sessions on the new 9 ICT programmes and DigComp
 - The organisation of refresher courses for teachers on “Online safety and privacy”, “Critical view on digital information”, “Competence-oriented education” and other common themes for all 55 modules (see T7)
 - The establishment (from September 2017) of a permanent educational support team on these matters for teachers in the adult education centers
 - The development of entry tests for the first two modules with an online application (a login is required to access them), used in 2016-17 by over 1,500 candidates.
- Plans are to launch two more entry tests during 2017-2018 for the module “Start to create” of ‘ICT and and creativity’ and for the module “Making simple content” of ‘ICT and Office work’.

RELATED ITEMS



WEBSITE OF THE
ADULT EDUCATION IN
FLANDERS: THE NEW
ICT PROGRAMMES

P. 129

USEFUL LINKS

Approved revision proposal for ICT education programmes

[TINYURL.COM/Y7MMGHA9](https://tinyurl.com/y7mmgha9)

Website for supporting teachers in adult education on the new ICT education programmes

[SVWO.BE](https://svwo.be)



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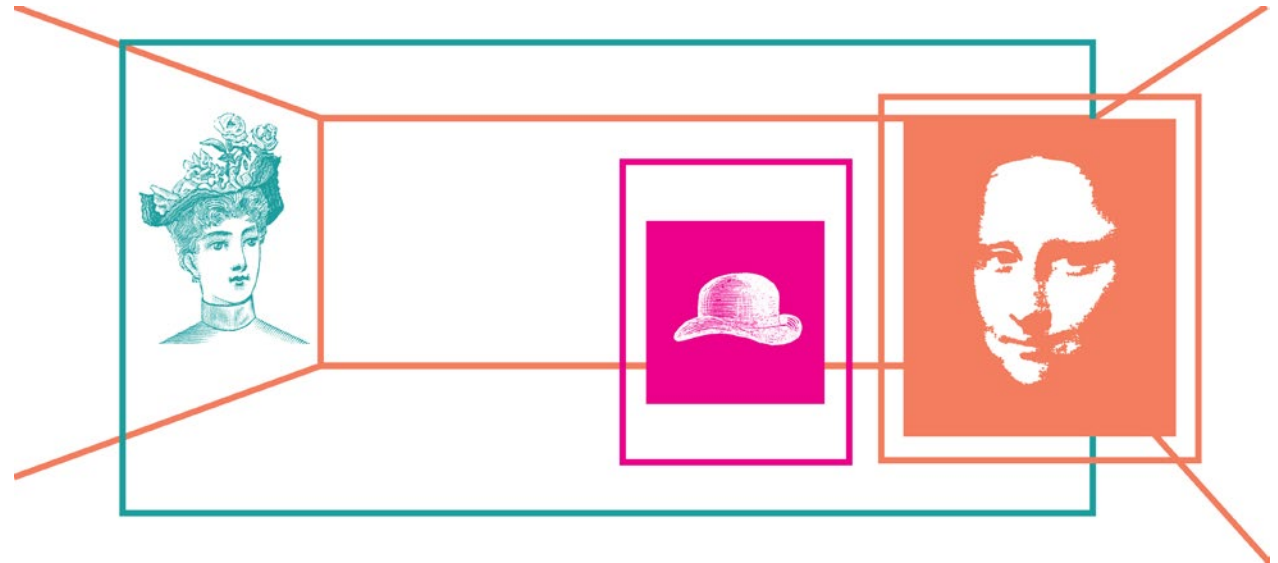
MU.SA: USING E-CF AND DIGCOMP FOR WORK DIGITAL TRANSFORMATION IN MUSEUMS

Defining the digital competence for new ICT-related job roles of museum professionals and developing training solutions for them

ACKNOWLEDGEMENTS & CONTACTS

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Project “Mu.SA: Museum Sector Alliance” is funded in the context of European Framework of Erasmus+ / Sector Skills Alliances. It aims to address the increasing disconnection between formal education and training and the world of work, because of the emergence of new job roles due to the quickening pace of ICT adoption in the museum sector. The project supports continuous professional development of museum professionals in order to address the shortage of digital and transferrable skills identified in the museum sector.

In the **early stages of the project**, extensive research took place mainly in Greece, Italy and Portugal in order to identify the changes in the museum professions and functions caused by the wide adoption of ICT both by the cultural sector and society. The findings of the research are published in three reports (all available on the project website).

Following an extensive needs analysis, four new ICT-related job roles were identified (Digital Strategy Manager, Digital Collections Curator, Digital Interactive Experience Developer, Online Community Manager) together with the digital and transversal competences that char-

acterise each role.

The analysis highlighted some common trends regarding digital skills and museum professionals:

- It is necessary to rethink the role of the museum and its functions in relation to audiences and society at large in a digital environment
- It is necessary to build up what can be defined as “digital cultural awareness” and “digital confidence”. This means developing digital skills for the whole staff of a museum, regardless of their role, from the most basic to the upper levels according to their specific functions and tasks
- It is necessary to foster a mental shift/cultural change regarding the planning and implementation of services, so that the digital element can become an integral part of the thinking and planning process from the outset. Technologies should enhance visitor experiences and not be a barrier
- Leadership at an institutional and political level must take every opportunity to invest in digital infrastructures. It is necessary to develop leadership, strategic



and business planning skills as well as specific digital skills

- It is important to support digitisation and digital management of museum collections and archives, basic requirement for the creation of content to be communicated.

To meet some of these requirements, the project targets mostly e-CF competences, but the interviews with museum professionals showed also the need to add DigComp competences (at high proficiency levels), that are complementary to the e-CF ones and are often essential to facilitate their acquisition.

For each job role, a broad training phase using digital Open Educational Resources is planned. Its **first stage** is a MOOC titled “Essential digital skills for museum professionals”, open for all museum professionals. Reflecting the above considerations, the MOOC offers training in a combination of competences, by “embedding” and distributing the DigComp competences (focused on transversal digital skills) in the modules,

which are organised according to a number of e-CF competences. The figure shows the result of this process (competences in the same row do not necessarily map to each other).

The **second stage** includes a Specialisation Training Course including e-learning and face-to-face lectures. The course will be delivered via an online platform that stimulates sharing and exchange of knowledge, experiences and best practices. Communities of practice to ensure the sustainability of results beyond the end of the project will also be formed.

The **third stage** involves workplace learning in the museums and cultural organisations affiliated with the project.

Project outputs will directly benefit museum professionals and unemployed people in the cultural sector, as well as the museums themselves. Indirectly, the project will contribute to raising the quality of life of the general public, by enabling museums to offer enhanced cultural experiences.

USEFUL LINKS

Project website

PROJECT-MUSA.EU

e-CF	DigComp
A1. IS and business strategy alignment A3. Business plan development	1.1 Browsing, searching and filtering data, information and digital content 1.2 Evaluating data, information and digital content 1.3 Managing data, information and digital content
A7. Technology trend monitoring A9. Innovating	2.2 Sharing through digital technologies 2.4 Collaborating through digital technologies 2.5 Netiquette
D11. Needs identification	3.1 Developing digital content
E1. Forecast development E4. Relationship management	4.1 Protecting devices 4.2 Protecting personal data and privacy
E6. ICT quality management	5.3 Creatively using digital technologies



• 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

ACKNOWLEDGEMENTS & CONTACTS

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The first framework for the validation of digital skills in Poland was developed from 2008-2009. The ECCC Foundation was established to implement and develop this framework. One of the advantages of the framework is that it is growing together with the digitalisation process. The goal of the framework was to align its understanding of the digital skills to a European-wide approach for promoting digital skills. As part of the research carried by ECCC in order to develop such framework for Poland, their researchers run across the DigComp Framework. At that time, ECCC noticed the goals of both DigComp and ECCC frameworks were similar. As a result, ECCC decided to adapt DigComp to the ECCC framework and developed a system for the assessment of digital skills based on DigComp.

After contacting the authors of DigComp at the JRC-European Commission, the ECCC Foundation published

a Polish version of the DigComp framework and started with the promotion and implementation of the framework, including the system for the assessment of digital skills. At present, both the DigComp framework and the assessment system are widely used in Poland.

The project was conceived as a four-step approach:

1. First, the research and development phase comprised a translation of the DigComp framework, promotion activities, the organisation of a workshop and an open consultation about its use.
2. The second step included the dissemination and mainstreaming, which was focused on the strategic planning of digital skills development in Poland. This step comprised the organisation of workshops and different conferences for users. In this phase, in February 2016, by a resolution of the ECCC Foundation Board in



the final phase of a Polish translation of the DigComp, a Polish National Contact Point (NCP) for the DigComp framework was established. At that time, there was a lack of awareness in Poland about the DigComp framework. Therefore, the NCP was conceived as a supporting tool for the framework's promotion. It was also a source of information and counsel for any actor, who could be interested in it, including policy makers. ECCC built a digcomp.pl website and established a 24h phone line as part of their activities as NCP. Up until now, NCP has been performing satisfactorily and the questions raised by users have changed over time: from basic to more complex demands e.g. how to conduct lessons with DigComp framework. Now NCP offers information about the DigComp, advice on the framework, but also on how to conduct lessons/trainings based on the DigComp, or explanations from experts. NCP is open to everybody without any type of barrier (legal or other). The strategy to implement a NCP was seen as a key milestone in order to increase awareness and use of DigComp framework. Although ECCC does not record the number of users of NCP, their estimates comprise dozen calls a day and a total of 6,000 recipients. Within NCP users, ECCC highlights representatives of universities, companies conducting ICT training, teachers, trainers, representatives from the public administration responsible for education or EU projects, digital competences exam centres and citizens (end-users).

3. The third step referred to validation and certification, where ECCC developed five new testing areas, complimentary to already existing examination modules.

4. Finally, the fourth phase provided the training support. Within this step ECCC prepared and published a training book, based on the DigComp framework, for

educators and teachers on how to teach digital skills.

The use of DigComp had the advantage that the framework is a clear tool for all the users, as it is a type of the clear content helping the user to improve their digital competencies and get the new ones. At the same time, the validation system of the ECCC in the DigComp area allows the user to recognise those accomplishments during their education as well as and on the labour market.

At the time of writing ECCC is in the last steps before publishing in Polish DigComp 2.0. After that, ECCC Foundation will implement the updated framework.

USEFUL LINKS

Handbooks for trainers, DigComp foundation and intermediate levels (table of content in English, handbooks in Polish only)

[ECCC.EU/CERTIFICATION/BOOKS](https://eccc.eu/certification/books)

Website of DigComp in Polish

[DIGCOMP.PL](https://digcomp.pl)



• ITALY

PRODIGEO: LEARNING PLATFORM FOR EMPLOYMENT SERVICES' STAFF

Project Pro.Dig.E.O. aims to provide advanced training for public and private employment service staff, through a specifically designed educational IT platform, using digital and innovative content

ACKNOWLEDGEMENTS & CONTACTS

Nicoletta Staccioli

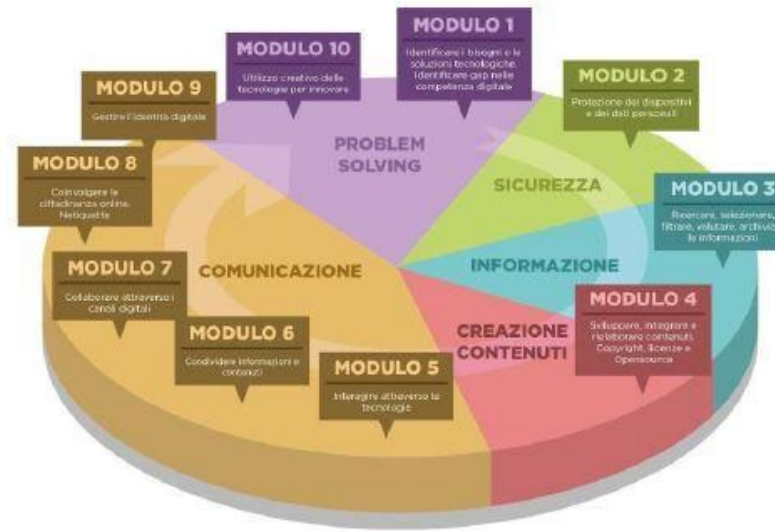
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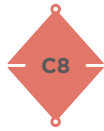


Pro.Dig.E.O. is a project promoted by the Italian Ministry of Labour and Social Policy and implemented by Anpal Servizi S.p.A. Its main purpose is to provide advanced training for public and private employment service staff, through a specifically designed educational IT platform, using digital and innovative content. The project starts with the consideration that the increasing automation process requires digitally skilled workers and specific training is needed to fill the existing competence gap between. It is in this context that Pro.Dig.E.O. developed an e-learning course focused on digital competence, a key skill for the staff, much in demand for the innovation of public and private employment services. The course (tests, videos, tutorials) was modelled on DigComp 1.0, and then adapted to the needs of labour market workers, in order to provide coherent and measurable education and to have a common basis for comparison with similar digital literacy initiatives.

The project's first action was the definition of the main steps of the content design process. This activity made use of the expertise gained during past projects under-

taken by Pro.Dig.E.O. and included:

- Target identification and needs analysis, in order to satisfy the needs of the specific context (in this case, labour market workers);
 - A two-phase mapping of the educational needs, in order to identify the most relevant topics for the digital literacy course:
 - Phase one: comparison with DigComp Dimension 1 (competence areas)
 - Phase two: comparison with DigComp Dimension 2 (competence descriptors)
 - Definition (Evaluation) of the proficiency level to be reached for each DigComp competence (A-foundation/B-intermediate/C-advanced)
 - Assessment of the resulting grid, in terms of the consistency of proficiency levels and educational needs.
- The result of this design process, followed by the development of the digital content, is a 10-module e-learning course. Each one includes an entry test, two or more tutorials, a supplementary worksheet, a video lesson



and a final test. The list of the modules is as follows:

- Problem solving
- Safety
- Information
- Creating content
- Interacting through the new technologies
- Sharing information and content
- Collaborating through digital channels
- Engaging in online citizenship
- Managing digital identity
- Digital competences and entrepreneurship.

The modules are depicted in the image on previous page.

The first module tackles the subject of “problem solving” and works as a starting point by helping learners to understand the importance of digital competences in everyday life and in a working environment. This module aims to motivate them to go on with their training. The thought-provoking theme of problem solving will be deepened in the final module, so to induce the students to apply their newly acquired skills in their own careers.

This approach starts from the digital age citizen’s status quo (**Module 8 – Engaging in online citizenship**), by having the learner reflect upon its own situation, and the potential gap between its skills and an optimal level of competence (**Module 1 – Problem solving**). The reflection is driven by the question to the employment service staff: “What should you know and be able to do, in order to effectively help job seekers explore all the opportunities in today’s digital labour market?”

The learner proceeds by studying which tools help to protect an individual’s personal data, hardware and digital identity from internet threats (**Module 2 – Safety** and **Module 9 – Managing digital identity**). Having become aware of the possible risks and opportunities connected to the use of digital media, the next module helps explore how one can take advantage of social networks (**Module 6 – Sharing information and contents** and **Module 7 – Collaborating through digital channels**).

The subsequent modules support the learner taking part in the online community, being able to create and manage information and content (**Module 3 – Information** and **Module 4 – Creating content**) through the self-conscious use of the technology (Module 5 – Interacting through the new technologies).

The final module helps the learner to become familiar with the digital world and facilitates the creation of a digital identity, in order to innovate in their life (**Module 10 – Digital competences and entrepreneurship**). In this final part of the training, the “problem solving” theme (once used for self-analysis) is re-analysed, to implement newly learned digital competence skills in the working activity.

Finally, the next steps of the project include the following:

- Adaptation of the grid, still based on DigComp 1.0, to the latest DigComp version
- Revision and update of the content of e-learning modules
- Definition of a self-assessment tool based on DigComp for the evaluation of digital competences in a company.

USEFUL LINKS

Presentation of the Project

PRODIGEO.IT



• INTERNATIONAL

HAPPY ONLIFE

Happy Onlife is a peer and media edutainment toolkit promoting the safe and responsible use of ICT among adults and children

ACKNOWLEDGEMENTS & CONTACTS

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Children's online safety is an emerging theme in societal and policy context. The Joint Research Centre of European Commission, notably the Cyber & Digital Citizens' Security Unit has been investigating the risks and opportunities to children in the digital age to support the EU Agenda for the Rights of the Child and the European Strategy for a Better Internet for Children.

Developing digital competences in general is essential to develop the skills for a safe and responsible use of ICT. Therefore, the entire DigComp framework was considered to design and conceptualise the Happy Onlife toolkit, that includes a (video) game and a booklet

aiming at empowering children and adults against cyber risks and threats through informal and meaningful education.

The DigComp areas inspired both the game quiz questions and the activities described in the booklet. Consistently with the mission of Cyber & Digital Citizens' Security unit, the research group gave more emphasis to the safety dimension of the framework. Nevertheless, each area cannot stand on its own and needs to be developed and explored with the others. For this reason, all areas were integrated in the Happy Onlife research concept with a focus on safety, netiquette and



managing digital identity.

JRC has developed the Happy Onlife toolkit. It has been chosen as a principal teaching aid in the exploratory project sponsored by the Italian Safer Internet Centre and Ministry of Education (MIUR, 2016). Other actions in taking up Happy Onlife were raised by Ministry of Education in Cyprus, by regional Swiss educational organisations and the EPA (European Parents Associations) representing more than 150 million parents across Europe.

Happy Onlife opens a path to empower teachers and parents in actively guiding children to become smarter, responsible, and respectful when using digital technologies and to help them understand opportunities, skills, risks and consequences behind the decisions they make online.

Regarding next steps, the Happy Onlife software was released under open-source EUPL licence by a Commission Decision during the Safer Internet day 2017. This step reinforces the participatory dimension towards more active awareness raising, education and community building campaigns and educational strategies. This initiative has already shown positive impact with the translation of Happy Onlife into Portuguese and Romanian, in addition to the submission of new Happy Onlife quiz questions.

In 2016 JRC- Cyber & Digital Citizens' Security Unit submitted the Proof of Concept (PoC) proposal 'Do-It-Together HOL game-based learning' to further develop and transfer the product. This PoC was endorsed and the Unit has received institutional funds by the 'Technology Transfer Office' of the JRC Work programme. All Happy Onlife results will be explored in the frame of the Proof of Concept activities limited to four European

countries (BE, IT, PT, RO). However, such results might be further developed in a larger European research context to prepare policy-makers recommendations and awareness raising and educational actions in privacy, data protection and cybersecurity areas.

The team is also finalising a new quantitative research aiming at corroborating previous research results, thus confirming the validity of Happy Onlife resources as learning tools for digital competences. A second purpose of this research is the development and validation of new implicit measures of risk propensity for children aged 8-12 years old. A third aim is to investigate the relationship between implicit risk attitudes and objective risk-taking behaviour. The risk propensity in children is evaluated using quantitative measures such as questionnaires, an implicit and an objective measure via Implicit Association Test (IAT) ([TINYURL.COM/OMCXXXK](https://tinyurl.com/omcxxxk)) and investigate the role of personality factors, sensation seeking and emotion regulation on the implicit risk attitudes.

Finally, JRC Human Capital and Employment Unit, JRC Cyber & Digital Citizens' Security Unit and the Institute of Sociology of the Romanian Academy started exploring qualitative DigComp dataset of 0-8-year-olds use of digital technologies and analysing it against the DigComp framework. The main goal is to map young children's digital competences against the DigComp, analyse the results and evaluate the need of developing tools for young children.

RELATED ITEMS



HAPPY ONLIFE TOOLKIT

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USEFUL LINKS

Happy Onlife on EC website

[EUROPA.EU/!BH74KV](https://europa.eu/!BH74KV)

Happy Onlife community

[GITHUB.COM/HAPPYONLIFE/HOL](https://github.com/HAPPYONLIFE/HOL)

'Happy Onlife' - A video game to support mediation on internet risks and opportunities

[PUBLICATIONS.JRC.EC.EUROPA.EU/REPOSITORY/HANDLE/JRC96733](https://publications.jrc.ec.europa.eu/repository/handle/JRC96733)



• FRANCE • IRELAND • ITALY • ROMANIA

COMPASS - YOUR JOURNEY TO DIG- ITAL, THE UP-SKILLING PLATFORM FOR YOUNG UNEMPLOYED PEOPLE

Online learning platform to help young unemployed to identify missing skills, define relevant learning paths and to improve and validate their digital competences with a view to finding employment

ACKNOWLEDGEMENTS & CONTACTS

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DigComp is used as the main reference for the Compass pilot project, as it provided a common framework for shared digital competence applicable to every EU country while implementing the pilot project in Italy, France, Romania and Ireland. The main goal is to help young unemployed Europeans and other users, aged between 15 to 30 years old, to identify their missing skills, define the most relevant learning paths and to improve and validate their digital competences with a view to finding a job placement in an ever-changing 21st century digitalised labour market.

In this regard, the project is using DigComp to select and define the digital competences that will be addressed in a series of courses and assessment. In this regard, the project will develop different courses addressing 9 digital competences selected from DigComp 2.1 taxonomy, following the findings of an initial background research and user needs analysis.

Each competence is addressed by a course, in 4 steps (modules). For each competence, there are 2 proficiency levels, Foundation and Advanced. Therefore, the project is progressively developing 72 modules based on three determinants: difficulty level (Foundation – Advanced), competence (learning outcome, corresponding to DigComp descriptors), and theme (Career, Learning, Holiday, Social life, Myself). The following table illustrates how the courses will be articulated; C stands for the competence, M for the module and F/A for the level (Foundation/Advanced).

The table in next page is a schematic representation of the educational courses to be developed. Each course corresponds to a digital competence (first column), and it has a foundation level and an advanced level (second column). Each course is developed in 4 education-

al modules (4 foundation e 4 advanced), for a global amount of 72 modules. Each module is identified by:

- The related competence according to DigComp 2.1;
- The number of the module;
- The level.

For instance, the first module of the first course is C11 M1 F, that means Competence 1.1, Module 1, Level Foundation.

Regarding next steps, in early 2018, a first pilot of the platform will be launched followed by other 2 iterations. Each iteration will incorporate improvements based on user feedback, which will enable us to customise the features and integrate new interactive content requested by the users to deliver a 'user-led' platform. One of the most ambitious goals is also to be able to validate the achieved competences with an international certification system recognised in every European country by users, educational institutions and employers.



COURSE/COMPETENCE	LEVEL	MODULE 1	MODULE 2	MODULE 3	MODULE 4
1.1 Browsing, searching and filtering data, information and digital content	F	C1.1 M1 F	C1.1 M2 F	C1.1 M3 F	C1.1 M4 F
	A	w.1 M1 A	C1.1 M2 A	C1.1 M3 A	C1.1 M4 A
2.1 Interacting through digital technologies	F	C2.1 M1 F	C2.1 M2 F	C2.1 M3 F	C2.1 M4 F
	A	C2.1 M1 A	C2.1 M2 A	C2.1 M3 A	C2.1 M4 A
2.2 Sharing through digital technologies	F	C2.2 M1 F	C2.2 M2 F	C2.2 M3 F	C2.2 M4 F
	A	C2.2 M1 A	C2.2 M2 A	C2.2 M3 A	C2.2 M4 A
2.4 Collaborating through digital technologies	F	C2.4 M1 F	C2.4 M2 F	C2.4 M3 F	C2.4 M4 F
	A	C2.4 M1 A	C2.4 M2 A	C2.4 M3 A	C2.4 M4 A
3.1 Developing digital content	F	C3.1 M1 F	C3.1 M2 F	C3.1 M3 F	C3.1 M4 F
	A	C3.1 M1 A	C3.1 M2 A	C3.1 M3 A	C3.1 M4 A
3.4 Programming	F	C3.4 M1 F	C3.4 M2 F	C3.4 M3 F	C3.4 M4 F
	A	C3.4 M1 A	C3.4 M2 A	C3.4 M3 A	C3.4 M4 A
4.1 Protecting devices	F	C4.1 M1 F	C4.1 M2 F	C4.1 M3 F	C4.1 M4 F
	A	C4.1 M1 A	C4.1 M2 A	C4.1 M3 A	C4.1 M4 A
4.2 Protecting personal data and privacy	F	C4.2 M1 F	C4.2 M2 F	C4.2 M3 F	C4.2 M4 F
	A	C4.2 M1 A	C4.2 M2 A	C4.2 M3 A	C4.2 M4 A
5.3 Creatively using technology	F	C5.3 M1 F	C5.3 M2 F	C5.3 M3 F	C5.3 M4 F
	A	C5.3 M1 A	C5.3 M2 A	C5.3 M3 A	C5.3 M4 A

USEFUL LINKS

Compass platform's website

COMPASSDIGITALSKILLS.EU



• ES • FR • INT • IT • TR

TASK: AUTHENTIC TASK BASED COMPETENCE ASSESSMENT IN SECONDARY SCHOOLS

ERASMUS + project that developed didactic strategies and a web application for the assessment of key competences in secondary school in order to certificate them with national formats

ACKNOWLEDGEMENTS & CONTACTS

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The Erasmus+ project TASK (Teacher Assessing Key Competences in School: authentic task based evaluation methodology) developed a web tool supporting secondary school teachers and students in the assessment and certification of three key competences: communication in mother tongue, communication in foreign language and digital competence. DigComp was used as the reference framework for the latter.

The TASK framework is the methodological frame for the self-assessment of key competences and defines the procedure, mastery levels, evaluation items, real-life situations, specific feedback and the competence profiles. As the framework is designed for lower and upper secondary school, it uses a simplified language and refers to real-life situations and competence descriptors adequate to the level of the students.

The TASK framework adopted DigComp's five competence areas -information, communication, content creation, safety, problem solving- and their descriptors inspired the content of the authentic tasks for evaluation. According to the TASK framework, each competence can be performed at four different mastery levels (from D-lowest to A-highest). Real tasks with corresponding increasing complexity must be performed in real life situations and are assessed. The example below refers to the assessment of information competence (browsing, searching, evaluating etc.):

- **Mastery level D:** you have to search information on the construction of the Egyptian pyramids. Use a search engine and save the results on your computer.

- **Mastery level C:** you want your parents to buy you a new pair of shoes online. Use a browser to find the e-commerce websites to buy them, and to compare models, prices and shipping options.

- **Mastery level B:** a friend of yours shares on the web the news that starting from tomorrow the message service you are using on your smartphone will be upon payment. Use a browser to verify if the information is true, comparing the results of your web search.

- **Mastery level A:** you have to write a school paper about some recent news. Look for the news on the web, compare the sources, gather and label the results in a digital archive so that your classmates can retrieve them.

The TASK pilot was supported by a web application and involved over 100 students and as many teachers in 14 European countries. The results demonstrate the effectiveness of the proposed approach. Nevertheless, the tools, the assessment items and repertory of real tasks, the profiles and feedback can be further improved, by adapting them to other specific contexts.

In this project, DigComp offered a valuable, reliable and scientific basis for the development of the assessment items.

RELATED ITEMS



TASK TOOL

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USEFUL LINKS

TASK project website with framework, guidelines and tool guide

[TASKPROJECT.COM](https://taskproject.com)



• 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

ACKNOWLEDGEMENTS & CONTACTS

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PIX is a project focussing on an online platform for digital skills evaluation and certification, led by the French ministry of Education in close relationship with public and private stakeholders. It is dedicated to any citizen and it aims at contributing to the general increase of the level of digital skills in society. PIX allows anyone to create an account, play adaptive tests composed with challenges that automatically assess a person's level for each competence. It generates a digital skills profile, which can be certified with an additional test carried out under strict examination conditions.

DigComp was used as a basis for designing the **PIX digital competence profile** generated by the project assessment and certification service. This choice was meant to bring more impact for this certification, by writing it in a shared language that can be understood by anyone aware of DigComp. DigComp also helped to establish the fields covered by the certification (for instance it reinforced the belief that such topics as programming or environmental impact should be represented). The 5 domains of DigComp framework were adopted as they are, while the subdivision into competences was slightly rearranged for it to better fit the project purpose (simplicity / readability of the profile and proportionate competences). Moreover, the project team extensively developed the description of the 8 levels in order

to reach an operational definition suited for assessment purposes. Then for each competence, the project team detailed what was involved in terms of practice, knowledge, and stakes, to produce the **PIX competence reference framework**, which serves as an inspirational basis for creating PIX assessment tables and PIX challenges.

The platform contains a **PIX main service** (assessment and certification) available to **any French speaking** person today and that can be **adapted to other countries and/or languages** in order to share the PIX certification more widely. Moreover, **PIX prescriptor features** are currently being experimented with teachers who can use PIX as a pedagogical tool with their students: they can ask them to share a copy of their profile at a given time and process this data (statistics, personalisation of teaching, etc.). "Prescriptor accounts" are free for schools and higher education institutions to use with their students. They will also be available on a paying basis to private or public-sector **companies**, for them to better identify the training needs of their employees with regards to digital skills. Finally, the **PIX technical framework** is delivered as open source software. Regarding the next steps, the project managers are waiting for Europass to evolve in order to facilitate integration of PIX profile into the Europass platform.

USEFUL LINKS

Link to the platform
PIX.BETA.GOUV.FR



• ESTONIA

SAMSUNG DIGI PASS FOR VOCATIONAL SCHOOL STUDENTS IN ESTONIA

A training initiative to develop digital competence for enhancing youth job market participation

ACKNOWLEDGEMENTS & CONTACTS

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The Samsung Digi Pass initiative was first launched in September 2016 as a contest with 10 teams of vocational students, who in general terms struggle to live and work in the digital age. Participants had to complete individual and group assignments, consisting in developing a prototype of an app for their professional domain or school.

- A 2-day session (early October) devoted to:

1. Learning environment, digital tools at the workplace
2. Making yourself attractive in the job market: building your competency-based e-portfolio
3. Kicking off the collaborative project, prototyping

- October: 1 day devoted to learning about the job market and job interviews
- November: 1 day devoted to creative design and pitching
- December: final event

Over the two months of activity, mentoring was provided twice for 2 hours in face-to-face sessions, and continuously online.

The students presented their results in December 2016 and received silver and gold badges (issued on Credly platform) as recognition for completing these tasks. All badges were collected on the [OPENBADGES.ORG](https://openbadges.org) backpack and linked to a QR-code on a plastic card (Samsung Digi Pass). Samsung also gave some prizes to the winner team (from Valga Vocational Education Centre) and an internship opportunity in its regional logistics centre in Riga.

A second round of the initiative, again

with 10 teams, was launched in late 2017 to end by February 2018. As before, participating students were selected based on their self-presentation and project idea. Each team is made up of three students, usually coming from the same vocational school, but three teams are mixed.

The whole programme is designed and provided by the Centre for Educational Technology, which is an R&D unit within School of Digital Technologies, Tallinn University. Samsung Electronics Baltics is the funding body and also provides PR support and the prizes for winners.

In this initiative, DigComp was used to identify the relevant digital skills profile for youth, and to define the training goals and content of the initiative. The 9 resulting items, shown in the list below, correspond to some specific competence or key words in competence descriptors from DigComp, although many have been adapted in a more youth-friendly language:

Collect	stuff, tools, memories, friends
Make sense	annotate, systematise
Share	know what and how and with whom
Create	digital production, social skills
Collaborate	teamwork, social skills
Show yourself	digital identity, portfolio, pitching
Be safe, be nice	licenses, privacy, health, ethics
Fix it	problem solving, troubleshooting
Improve it	innovation, entrepreneurial mindset

USEFUL LINKS

Initiative's website
[SAMSUNGDIGIPASS.EE/EN](https://samsungdigipass.ee/en)

Videos with participants to 2016 initiative
[TINYURL.COM/YDDSBNTZ](https://tinyurl.com/yDDSBNTZ)
[TINYURL.COM/Y6U8XZER](https://tinyurl.com/y6U8XZER)



• GREECE • ITALY • UK

LINGUACUISINE: DEVELOPING DIGITAL SKILLS WITH DISADVANTAGED PEOPLE

A European project that uses cooking recipes to motivate digitally marginalised people to learn digital skills along with foreign languages, cultures and cuisines

ACKNOWLEDGEMENTS & CONTACTS

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This project creates a motivational way of learning digital skills together with foreign languages, cultures and cuisines, by making engaging technology available and involving users in the design process with little or no digital experience, including migrants and refugees.

Firstly, project participants are asked to follow an algorithmic approach in designing a cooking recipe and to use digital storytelling techniques for a multimedia presentation of its implementation. Then, they are trained to find and retrieve relevant information online (e.g. images of the ingredients, videos, cultural aspects, etc.) and to select the pieces they can use. At the same time, they create their own digital resources, by using tablets to record the recipe preparation and implementation phases (with narration and video editing). Finally, with the online app developed in the project they author and publish a multimedia social recipe for language learning online. Participants work in pairs throughout the training process, supervised by expert tutors. Through the online app, they also become members of an online community and communicate with others all over the world. Thus,

they develop digital, transferable and language skills.

The following DigComp competence areas are targeted and LinguaCuisine provides a certification system based on them for the acquired digital skills:

- 1.1 Browsing, searching and filtering data, information and digital content
- 1.2 Evaluating data, information and digital content
- 1.3 Managing data, information and digital content
- 2.3 Engaging in citizenship through digital technologies
- 3.1 Developing digital content

Certification is based on questionnaires and observation. Before the training, participants fill questionnaires to indicate their prior digital competences; their anxiety stemming from the lack of such competences is also measured. During the training, participants are observed and coached. In addition, they fill an intermediate questionnaire. After the end of the training, the skills they acquired are evaluated both by filling a questionnaire (the same one used at the beginning) and by assessing the quality of the material they produced and published.

USEFUL LINKS

Project website
LINGUACUISINE.COM



• 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

ACKNOWLEDGEMENTS & CONTACTS

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Pane e Internet (“Bread and the Internet”), Pel, started in 2009 as a pilot initiative of the Emilia Romagna regional government (RER). It has been developed in collaboration with local administrations and several other public and private actors. Pel’s strategic goal is to enhance citizens’ digital competence and reduce digital exclusion. The project’s main target groups are citizens who do not use the Internet (mainly retired and unemployed adults and housewives) and citizens who use the Internet, but ignore security aspects and lack awareness and critical usage capacity (e.g. many high school students).

In 2014 Pel adopted DigComp to overhaul its training activities and produce new learning resources. A **learning pathway** was designed that gradually moves citizens away from a condition of digital exclusion. Once citizens have acquired basic digital skills, the next step is to encourage and support their autonomy, self-learning and problem-solving capability using technology.

Pel’s initiatives for digital competence development revolve around **three main activities**:

- 1. Digital literacy for citizens** with low or no digital skills. RER redesigned its training offer with two courses, called Digital literacy for citizens level 1 and 2, reflecting DigComp three proficiency levels
- 2. Digital facilitation or “e-facilitation”**. This service provides citizens with continuous non-formal digital competence training and customised support to enhance Internet usage
- 3. Digital culture programme**. Pel organises workshops, conferences and other events aimed at developing personal and professional potential through digital technologies and promoting their safe and creative use among citizens.

In 2014-17, 3,750 citizens attended digital literacy courses and about 8,000 the e-facilitation service in over 60 municipalities; 7,700 citizens attended 175 digital cultural events; 110 teachers and 100 tutors



delivered the training.

In all three-action lines, RER used DigComp to create a common language and promote understanding of digital competence, with some differentiations.

With digital literacy courses, DigComp was used as a **methodological tool** to redesign existing training goals and outcomes, learning resources and activities (see **T7**).

DigComp was used as a “**knowledge tool**” in the training of e-facilitators (mostly public library staff and volunteers). The aim is to develop e-facilitators’ soft skills and educational skills and to enhance their awareness of digital competence relevance for inclusion and full citizenship. DigComp is presented in a dedicated Learning Unit and taught as the **common language** to understand and describe citizens’ skills and the gaps to be filled in facilitation sessions.

In the Digital culture programme, DigComp is a **source of inspiration** to design events and seminars and stimulate citizens’ curiosity about various information society topics.

In these activities, DigComp was found useful for several reasons:

- it provides a common language between experts and citizens with respect to digital competence
- it allows to set standards in a training offer on digital skills for citizens
- being technology-neutral, it is compatible with the “bring your own device” approach in training
- it is also independent from operating systems and applications used by trainees and citizens
- it broadens the scope of training goals and outcomes

- it permits the organisation of activities in learning blocks and units
- it permits the measurement of various levels of difficulty of each competence
- it permits the benchmarking of projects and products aimed at digital inclusion of citizens.

On the other side, RER found that DigComp does not consider the basic instrumental abilities and knowledge addressed at the start of PEI’s entry-level course, which are a prerequisite to further learning. For this reason, RER defined a new competence area number zero, called “First Access”.

RER faced difficulties to “translate” some competences as described in DigComp 1.0 at different proficiency levels into specific training activities and content, because sometimes the difference between one level and the next is small, whereas in other cases it can be a major challenge. Also, DigComp competence descriptions were considered abstract and linked more to conceptual rather than operational definitions. Some teachers therefore find it difficult to relate a given training activity to the corresponding DigComp definition.

RER used the three-level proficiency model of DigComp 1.0 and found it quite handy. The 8-level organisation of skills in DigComp 2.1 represents more clearly the progression a person can make towards higher levels of mastery in a specific competence. However, there is a concern that the framework will prove too complex and “artificial” to use when setting specific learning goals and outcomes. Besides, the three-level model is well-known and appreciated by citizens and educators, so a move away from it might prove problematic.

RELATED ITEMS



PANE E INTERNET
CURRICULUM AND
LEARNING RESOURCES
FOR BASIC DIGITAL
LITERACY

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USEFUL LINKS

Pane e Internet website

PANEINTERNET.IT

English version of Pane e Internet website

TINYURL.COM/YB4MEZ5T

Video on the Pane e Internet project (select English subtitles in the bottom right corner)

PANEINTERNET.IT/PUBLIC/VIDEO



• BELGIUM • FINLAND • FRANCE • GERMANY
• GREECE • ITALY • POLAND • SPAIN • UK

ELENE4WORK: MAPPING DIGITAL SKILLS OF STUDENTS AND YOUNG WORKERS FOR EMPLOYMENT

eLene4work has produced a soft skills framework and open education initiatives to help young talents better understand the expectations of employers, assess their level of competency and improve skills

ACKNOWLEDGEMENTS & CONTACTS

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The eLene4work Erasmus+ project (2015-2017) has produced a framework for soft skills, including digital soft skills, and proposes a series of actions and practical tools to help young talents better understand the expectations of employers, assess their own level of competency and further develop these skills through open education initiatives such as MOOCs (Massive Open Online Courses) and OERs (Open Educational Resources). The overall soft skills framework was based on a European-wide study of policy, projects, initiatives and literature, and on the results of focus groups carried out in 9 countries to elicit the views of students, young workers, higher education teachers and employers. For the specific digital soft skills, the project chose to refer to the DigComp framework in order to align with this European-wide initiative. Discussions took place with JRC to reach common understanding of the two frameworks and to select the DigComp elements to include in eLene4work.

The DigComp framework was used as a basis for the digital soft skills section of the eLene4work soft skills framework. This framework covers four areas of soft skills - social, personal, methodological and digital. The framework is integrated into all stages of the learning pathway created by the project.

The first stage in this learning pathway is for students to complete a Self-Assessment Questionnaire, in order to identify their strengths and areas for improvement. They are free to choose whether to continue working on their strengths or to fill the gaps in their soft skills profile, following the eLene4work commitment to supporting autonomous learning.

The next step involves consulting the eLene4work Orientation Guide, which contains useful advice on how to

develop soft skills through MOOCs and OERs, as well as the possibility to select MOOCs to follow from a list of over 200 selected MOOCs, classified according to the eLene4work framework by the project partners. Advice is also available on how to get the most out of a MOOC experience, not forgetting that it's not just the content that can help them develop soft skills, but also many of the learning activities embedded in the more social and connectivist type MOOCs.

During the project, 53 students and young workers were involved in piloting the eLene4work-learning pathway. To support their learning, they kept a Personal Journal, which served the triple purpose of providing a structured space for reflexion and keep track of their learning, as well as a support for the monitoring team who observed the process. The learning process is depicted in the image (left).

The benefits of using DigComp were most definitely the opportunity to align with an existing and sound European-wide framework. All too often, European projects find themselves reinventing the wheel, and it was a strategic decision on the part of the partnership to avoid developing an alternative framework. Furthermore, it emerged during the Focus Groups that the notion of digital soft skills was unknown or somewhat vague to many participants, including even employers, and DigComp helped us enormously in defining such skills.

The main difficulty was keeping up with the different versions of DigComp to ensure that the initiative was aligned with the latest version. This may continue to be a challenge in future, although the eLene4work framework exists independently. It was also not always easy to know where to find the different versions on the



web, between the various European Commission and JRC websites which reference both working documents and final versions. The only other challenge was more conceptual, concerning the common understanding of what is meant by skills (and soft skills in particular) and competences.

Regarding next steps, the eLene4work project partners have created a Sustainability Plan for the project outcomes. This Sustainability Plan not only sets out the commitment of all the project partners in order to keep the aforementioned tools and the whole learning path available after the end of the funding, but also includes a networking strategy to allow other individuals or institutions to join the eLene network.

RELATED ITEMS



ELENE4WORK
ORIENTATION GUIDE
FOR JOB SEEKERS

P. 134



ELENE4WORK SELF-
ASSESSMENT TOOL FOR
DIGITAL SOFT SKILLS
IDENTIFICATION

P. 136

USEFUL LINKS

Elene4work project website (EN)

ELENE4WORK.EU

Self-assessment tool (EN)

SA.ELENE4WORK.EU

Orientation guide (EN, FR)

OG.ELENE4WORK.EU



• DENMARK

THE DIGITAL COMPETENCE WHEEL

The Center for Digital Dannelsø used DigComp to develop a tool to map digital competence of citizens, students, and staff over specific subject areas and provide feedback and training services

ACKNOWLEDGEMENTS & CONTACTS

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The aim of the project is to create a practical tool that could provide Danish citizens, students, staff, a language to articulate digitalisation of their own life world and assess their own strengths and weaknesses. In this way, the respondent could be more accurately conscious about what to do to strengthen his / her digital competence. DigComp offered the project team a language and a wide range of definitions and examples of digital competencies, so that the project did not have to start from scratch. From this starting point, the project team set out to transform DigComp Framework to include more digital skills with the view of providing an online tool that could measure these skills. DigComp was the theoretical inspiration for the Digital Competence Wheel, especially for what concerns the definition of competence levels. After reviewing the DigComp documents, the project team produced a mind map with over 300 aspects of digital competence drawn from them. These have then been reduced to the most relevant and measurable 54 aspects, which substantiate 16 competencies under four main competence areas. Under each competence there are some aspects related to each learning domain: knowledge, skills and attitude.

There are several skills wheels. The original competence wheel was inspired by DigComp and targeted the general citizen. However, the project team has since developed some competence wheels in more specific subject areas. More specifically the project team has programmed an online survey tool called MapUs (available at DIGITALEKOMPETENCER.DK) that, based on a number of questions, can produce a digital competence wheel for the respondent in a few seconds. It is MapUs that forms the visual frame setting of the competence wheel, and

MapUs intelligent algorithm calculates the overall result. With MapUs various questions are weighted by importance, combined to calculate a single judgement, or be set to have an impact on several skills. In this way, a user can make his/her own targeted skills wheel easy, cheap and fast. MapUs also contains a user's administrated tool that can group responses or extract reports. On next page is a description of the various skills wheels that are produced or under development.

The next step is to develop even more skills wheels that are targeted to the participant. The closer the examples to the participant's daily life / work, the more he / she is can get out from using the Digital Competency Wheel.



TITLE	LINK	AUDIENCE	PURPOSE
The Digital Competency Wheel	DIGITALEKOMPETENCER.DK	Adult citizen in Denmark	Test and map own digital proficiency. Provides an overview of which competencies should be lifted, as well as concrete inspiration for how to improve them
The Digital Competency Wheel in English	DIGITAL-COMPETENCE.EU	English speaking adult citizens in the EU	Test and map own digital proficiency. Provides an overview of which competencies should be lifted.
The Digital Competency Wheel for Teachers	UNDERSISER.DIGITALEKOMPETENCER.DK	Teachers	Test and map own digital competencies relevant to a professional who would like to use the learning potential of digital technologies in teaching
The Digital Competency Wheel for Students	ELEV.DIGITALEKOMPETENCER.DK	Students of age 12-17	Test and map own digital competencies, as well as 72 training exercises
The Digital Competency Wheel for Organisations	ORGANISATION.DIGITALEKOMPETENCER.DK	Employees of both private and public organisations	Test and map the organisations digital proficiency level

USEFUL LINKS

The Digital Competence Wheel
[DIGITALEKOMPETENCER.DK](https://digitalekompetencer.dk)

Teachers Digital Competence Wheel
[UNDERSISER.DIGITALEKOMPETENCER.DK](https://underviser.digitalekompetencer.dk)



• ITALY

SMARTIVEMAP, A DIGITAL COMPETENCE MAPPING TOOL TO START DIGITAL TRANSFORMATION

SmartiveMap is a self-assessment tool available online to map the readiness of an organisation's staff to a digital transformation process, evaluating openness to change and digital competence

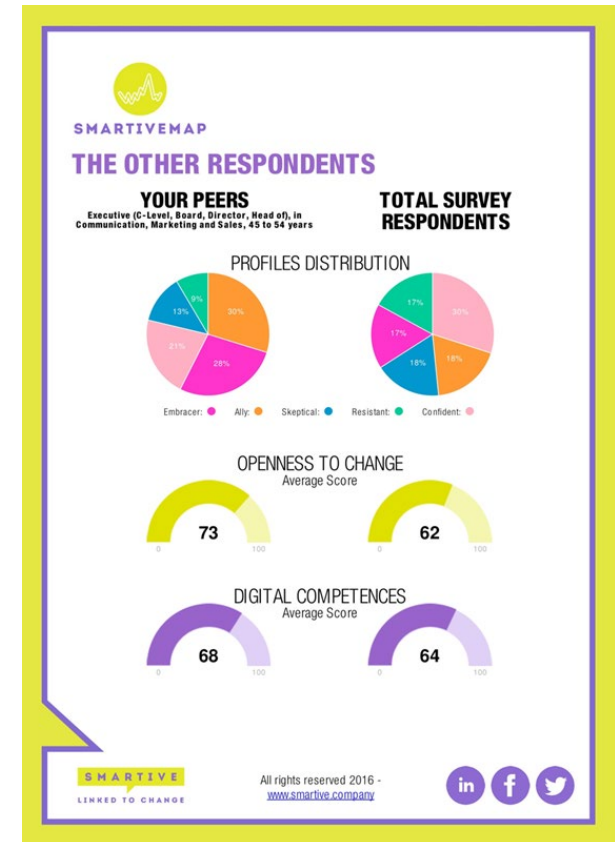
ACKNOWLEDGEMENTS & CONTACTS

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SmartiveMap is a proprietary tool developed by Smartive (SMARTIVE.COMPANY), an Italian company supporting large organisations on change management and digital transformation. Large companies and public organisations are facing to a huge transformation, generated by technology disruption and business innovation. The larger the organisation, the more difficult it is to change. This is mostly related to a cultural issue: employees, from management to lower levels, often do not have the right mind set, skills and competences to understand and react to this kind of innovation. The mission of Smartive is therefore to support these organisations in increasing the digital skills of their people in the view of a digital transformation.

To better accomplish this purpose, Smartive has developed SmartiveMap (available for free use online) a digital self-assessment tool to map the readiness of organisation's employees to the digital transformation. SmartiveMap uses 2 evaluation dimensions: **openness to change** and **digital competencies**. The user is asked to answer several Likert-style and multiple-choice questions during a 10 minute session, available in English or Italian and accessible from all devices (mobile, tablet or PC). The questions include multiple choices curated and updated regularly by means of consulting the experts of the Smartive network.

At the end of the self-assessment, SmartiveMap sends a personal PDF report to the respondent with the assigned SmartiveMap profile, scores, comparisons with benchmarks and general advises about the role the respondent can play in the digital change. SmartiveMap has 5 profiles: **Embracers** (ready to play a proactive role as change agent inside the organisation), **Confident** (close to play the change agent role), **Ally** (ready





to change, but it needs to improve digital competences), **Sceptical** (digital proficient, but still conservative) and **Resistant**.

An illustration of the report is depicted in the image on previous page.

SmartiveMap has 2 main outcomes:

- to get the respondent aware about his/her level of readiness to the digital transformation and
- to let the company management (mainly the Human Resources department) understand the actual map of the digital competences (the Digital Champions and the Resistant).

This kind of mapping is very useful for planning training activities, change management and engagement across the whole organisation.

DigComp has been a very useful framework for developing a part of the SmartiveMap content. The project team identified 2 levels for the digital competences analysis: the general competences (the level of general knowledge and use of the digital technology for the daily life) and the functional competences (the level of competences required for specific organisation areas: marketing, It, finance, etc.). The project team has used the DigComp 2.0 to develop the content of SmartiveMap of the general competences, with some adaptations, considering the business context. In fact, it is a very useful framework to get the most important dimensions of the common digital awareness and proficiency of all people in whatever organisation. One of the most important SmartiveMap assumptions is measuring only how well people know (and use) the common digital technologies and the other crucial elements of the DigComp dimensions (such as security, privacy, etc.).

These dimensions have been excluded by the assessment of the digital skills because it is not possible to measure them with a quick online tool unless self-reported. This kind of analysis is conducted by Smartive with series of interviews and focus groups.

The Smartive team really appreciated the new 8 levels of the version 2.1, because it identifies the proactive role an advanced user can play to engage and support the beginners in a closed context such as an organisation. Unfortunately, even DigComp 2.1 does not have a specific adaptation for company/business use and it had to be integrated to this purpose.

USEFUL LINKS

Mapping tool
SMARTIVEMAP.COM

Company website
SMARTIVE.COMPANY



• GREECE • INT • IRELAND • SPAIN

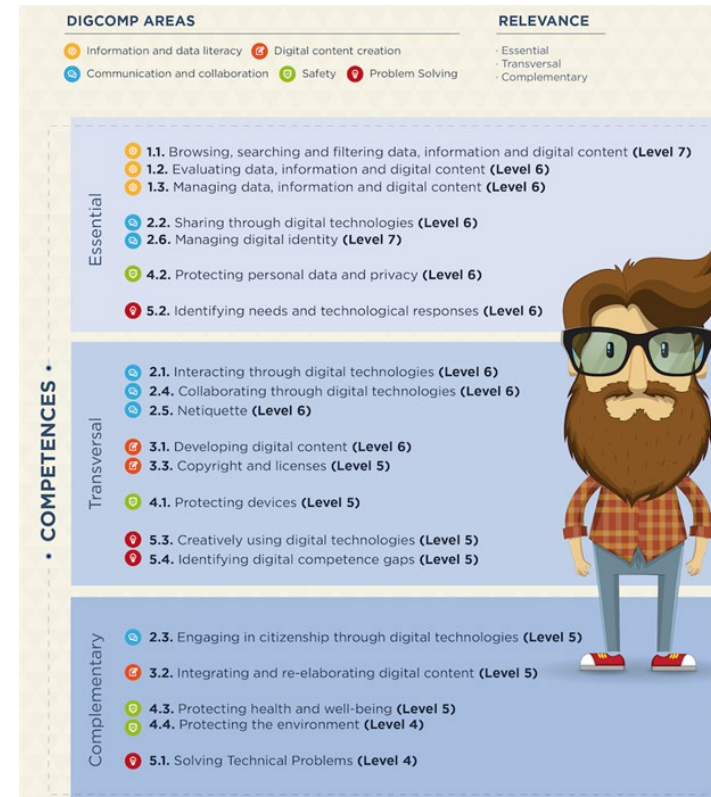
PATHWAYS4EMPLOY: DEFINING AND DEVELOPING DIGITAL PROFILES

The project used DigComp to define, assess, accredit digital profiles for entrepreneurs and virtual office worker. Assessment and accreditation will be ultimately implemented in an online platform

ACKNOWLEDGEMENTS & CONTACTS

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The Pathways4Employ project takes the DigComp framework as a reference to define and assess the digital competence of **entrepreneurs** and **virtual office workers**. The first step in the project was to collect information related to these profiles. Therefore, the project elaborated two online surveys based on the Surveymoz Web tool so as to understand **what digital competences were needed** by anyone who would like to work remotely or become an entrepreneur regardless of the activity field. Many survey questions took into account the DigComp 2.0 and also the EntreComp conceptual model.

The methodology for collecting data consisted of two main phases: in the first phase, a needs analysis was carried out through a series of surveys with experts,

stakeholders and e-facilitators of telecentres, using Surveymoz. The results served as the basis to define both competence profiles. The second phase used the basics profile elaborated in phase one and consists in a validation process through a workshop with experts. 67 people answered the “Mobile office worker” survey and 84 people answered the “Entrepreneur” survey. All of them distributed throughout Europe. Data was gathered based on desk and field research and questionnaires and the competence needs assessment was focused on practical digital competence skills.

Furthermore, the project team designed the “accreditation” pathways for both competence profiles based on Open Badges. Each pathway allows the users to obtain an Open Badge per competence profile and in order to



obtain this Open Badge the users need to obtain the 5 Open Badges linked to the 5 digital areas based on DigComp. The Open Badge of each area requires the user to obtain the digital competences and levels required for those profiles.

An example for the entrepreneur pathway is depicted in the image on the left.

Pathways4Employ will also develop an e-assessment online platform that will implement the assessment and accreditation tool. The e-assessment platform will be designed implementing the assessment modules aligned with the 5 areas and 21 competences of the DigComp framework. It will assess the three key elements of digital competence: knowledge, ability and attitude. The platform will present different digital challenges to the users to assess their levels in the 21 competences according to the DigComp framework. Open badges will be issued and linked to the platform to guide people in their goal of developing the digital competence to become a successful **virtual office worker** or an effective **entrepreneur**. One of the most important goals of the project is to develop a product (platform). On the platform, there will be a service where the users will be able to consult their digital profile (showing the levels obtained in the 21 competences) and the progress in the accreditation pathways selected by them.

The assessment modules for both profiles based on DigComp are being developed: Entrepreneur and 'virtual office worker'. These modules will be integrated in the assessment tool platform. The assessment modules represent situations and tasks that usually need to be overcome in usual situations in both competence profiles. Designing them in storytelling terms facilitates

the contextualisation of the digital challenges according to the competence profiles.

The e-assessment online web platform will be able to be used by all the people interested in assessing their digital competences. New profiles will be able to be designed by other organisations and be developed and integrated on the e-assessment platform (e.g. an administrative, a commercial, etc.). People will be able to use the two profiles (entrepreneur and virtual office worker) as inspiration, while being able to re-use, or modify them according to their requirements.

The main benefit of using DigComp is that it provides a **common language and terminology**. Moreover, the adoption of DigComp facilitated the design and development of the assessment modules providing clear criteria, which were easy to adapt to the needs of each case. On the other hand, DigComp seemed **the most appropriate when talking about digital competence as a transversal component** that is necessary for a wide variety of work profiles.

The next step is to finish the Pathways4Employ platform development and pilot it with as many users as possible at the beginning of 2018.

USEFUL LINKS

Project URL

PATHWAYSFOREMPLOY.EU/WORDPRESS



• CROATIA • GERMANY • HUNGARY
• SPAIN • INTERNATIONAL

CODEMOB: CURRICULUM FOR E-FACILITATORS AND UNEMPLOYED YOUTH

CodeMob used DigComp to design the curriculum for e-facilitators who should train young people at risk of social/ occupational exclusion on mobile learning and coding

ACKNOWLEDGEMENTS & CONTACTS

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CODEMOB is an Erasmus+ project developed by All Digital (previously known as Telecentre Europe) focused on teaching digital skills and capacity building of e-facilitators. E-facilitators are volunteers or contracted staff that support citizens with limited or no digital capabilities in the use of digital technologies and services and the development of their digital competence. Five past projects run by Telecentre Europe members have already created and tested 11 training modules for e-facilitators. The DigComp has been used as a base to design two more courses on coding and effective use of mobile devices for end-users and a training curriculum for e-Facilitators. The two courses will be part of an existing training curriculum already developed for e-Facilitators in previous EU projects. The course on coding is made up of a total of 40 hours of teaching, 20 hours of studying/rehearsals and 20 hours of group projects. The contents of the course are mapped on the DigComp competences: introduction to web technologies (DigComp 2.0 - 1.1), algorithms (DigComp 1.2), HTML (DigComp 1.3), CSS (DigComp 3.1), and JavaScript (DigComp 3.4).

The course on the effective use of mobile devices consists in a curriculum for facilitators (40 hours of training) and a curriculum for young people comprising 170 pages in its final version. The curriculum follows the structure mini task + basic information + problem solving.

The values promoted in the course include: mobility, immediate access to information, learning opportunities, communicate, interact and collaborate, access to new services, opportunities for a revolution in education. The training has been provided using gamification, problem-based learning, flipped classroom, and project-based learning. All the course material can be downloaded and tested. Between March and June 2017, 15 youngsters from 4 countries have been trained by facilitators as part of the course. An important part of the project has been the training of trainers in the effective use of the curriculum. In fact, the curriculum has been designed to be used to train e-facilitators who, in turn, should train young people at risk of social or occupational exclusion.

To learn how to use the curriculum, trainers have to register an account into the learning platform [LEARNING.CODEMOB.EU/](http://learning.codemob.eu/) where they will find the step-by-step plan. The Mobile e-facilitators draft curriculum is available at [TINYURL.COM/YCT67N02](http://tinyurl.com/yct67n02), while the final version of the curriculum will be available soon at <http://codemob.eu/en/resources/mobile>. The next steps of the project will be to introduce CODEMOB curriculum to more trainers so they know they can find in it a tool to deploy the DigComp framework.

USEFUL LINKS

Project URL
[CODEMOB.EU](http://codemob.eu)

Toolkit presenting the CodeMob curricula and learning platform
[CODEMOB.EU/EN/CONTENT/TOOLKIT](http://codemob.eu/en/content/toolkit)

Four curricula for trainers and end-users on coding and effective mobile use
[CODEMOB.EU/EN/RESOURCES](http://codemob.eu/en/resources)



• 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

ACKNOWLEDGEMENTS & CONTACTS

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Following the launch of the Digital Success Programme (2016-2020), Hungary developed in mid-2016 the new **Digital Education Strategy** that addresses the Hungarian education and skills development system at all levels – including life-long learning. The main goal of the strategy is to equip everyone with the basic digital skills necessary for the labour market. Hungary also launched its National Digital Jobs Coalition in December 2016.

Part of this strategy, the project “**Bridge the Digital Gap**” (GINOP-6.1.2) aims to provide training on basic digital skills to 260,000 people by 2020, in six regions of Hungary (except the Central Hungarian region). The project also aims to test DigComp as a general, novel framework for digital skills.

The project included a pilot phase, which translated DigComp 1.0 in Hungarian language and developed a training package for the basic two levels of DigComp with study materials and a self-assessment tool, approved by the National Office for Vocational Training and Adult Learning in May 2016. Three pilot groups tested the training package IKER I-II before it went public.

IKER I-II (IKER is the acronym of Digital Competence Reference Framework in Hungarian) is a certified, 35-hour, adult training course, open for low-skilled working age population (16-65 years old) and financed by the 2014-2020 Economic Development and Innovation Operative Programme (GINOP). The course content is the following (it refers to Europass digital proficiency levels based on DigComp):

IKER1 “The first steps into digital world” addresses Europass A level basic skills

- operate the basic function of an info-communication tool: PC, tablet, notebook, smart phone etc.
- basic word processing skills
- “save” operations
- extract information from the Internet
- use of electronic mail

IKER2 “I use information tools on my own independently”, addresses Europass A level more advanced skills

- setting functions on smart electronic tools
- services of the operation systems on smart electronic tools
- creation of short messages, e-mails with short word processing steps
- process information gained on internet - for problem solving
- knowledge on spam mails, fraud mails
- use of social portals (for registration, sharing, simple data security)

By the end of 2017, almost 90,000 people had already been trained by about 280 training providers (public VET Centers, adult education providers, NGOs, for profit training institutions, language schools and even some universities).

As next steps, the project plans to develop higher level training packages (IKER III-IV), and to reach out for teachers of general or vocational subjects, whose digital skills should be improved.

USEFUL LINKS

Project website (in Hungarian)

[TINYURL.COM/YA4965T8](https://tinyurl.com/YA4965T8)

e-Hungary website (in Hungarian)

[TINYURL.COM/Y7G7FE39](https://tinyurl.com/Y7G7FE39)



• POLAND

ECDL PROFILE: DIGCOMP CERTIFICATES IN POLAND

The international organisation ECDL Foundation offers ECDL certification modules covering competences outlined in DigComp. The aim of this Polish project is to “translate/specify” the framework’s competences into particular/specific competences in order to choose which ECDL modules to be taught for ICT training

DigComp competence area	Reference competence	Proficiency levels v.1.0																				
		A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A
1. Information and data literacy	1.1	■	■			■	■			■	■			■	■			■	■			■
	1.2					■	■			■	■			■	■			■	■			■
	1.3					■	■			■	■			■	■			■	■			■
2. Communication and collaboration	2.1					■	■			■	■			■	■			■	■			■
	2.2					■	■			■	■			■	■			■	■			■
	2.3					■	■			■	■			■	■			■	■			■
	2.4					■	■			■	■			■	■			■	■			■
	2.5					■	■			■	■			■	■			■	■			■
	2.6					■	■			■	■			■	■			■	■			■
3. Digital content creation	3.1					■	■			■	■			■	■			■	■			■
	3.2					■	■			■	■			■	■			■	■			■
	3.3					■	■			■	■			■	■			■	■			■
	3.4					■	■			■	■			■	■			■	■			■
4. Safety	4.1					■	■			■	■			■	■			■	■			■
	4.2					■	■			■	■			■	■			■	■			■
	4.3					■	■			■	■			■	■			■	■			■
	4.4					■	■			■	■			■	■			■	■			■
5. Problem solving	5.1					■	■			■	■			■	■			■	■			■
	5.2					■	■			■	■			■	■			■	■			■
	5.3					■	■			■	■			■	■			■	■			■
	5.4					■	■			■	■			■	■			■	■			■
ECDL Profile DIGCOMP Certificate N°:																						
		1,2	3	4	5, 5A, 5T	6, 6A, 6T	7, 7A, 7T	8, 8A, 8T	9, 10	11	12	13, 13A, 13T	14, 14A, 14T, 21	15, 15A, 15T	16, 16A, 16T, 19, 19E, 19T, 20	17	18	50	51, 52, 53, 54, 55, 56, 57, 58	59	61, 62, 63, 64	0

■ all 21 competences, level A and B
 ■ all 21 competences, level A or B
 ■ 13 competences first 3 areas, level A and B

ACKNOWLEDGEMENTS & CONTACTS

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In June 2015, the Polish Ministry of Development announced new rules on EU funding for projects concerning ICT training and defined a new standard for training content – compatibility with the DigComp 1.0 framework. According to new rules, originally, all ICT training financed by the European Social Fund had to cover all 21 reference competences (all 5 competence areas) of the DigComp framework. ECDL Poland expanded ECDL skillsets/DigComp mapping table, originally provided by the ECDL and developed some original test extensions to cover the entire DigComp framework on proficiency levels A and B. Through extensive engagement with the

DigComp framework, ECDL Poland has succeeded in achieving broad coverage of the framework with ECDL. Initially, using DigComp framework as an enabler, ECDL Poland defined a set of 21 ECDL Profile DigComp Certificates to cover different sets of competences. Afterwards, according to market needs, 54 certificates are offered – some of these covering all 21 DigComp reference competences (red and violet), some of these covering 13 competences – first 3 competence areas (green) and some of these (blue) covering another set of reference competences (ECDL Poland toolset - see the image above).



Every certificate is a set of ECDL modules and it is defined by a comprehensive set of ECDL syllabi, corresponding to these modules. All tables can be found (in Polish) showing ECDL modules/DigComp mapping and all ECDL Profile DigComp certificates at TINYURL.COM/YA3B82FM. With this system, ICT training providers in Poland, with experience in ECDL or planning to offer their students a valuable, internationally recognised certificate, got a powerful tool to help design their training sessions. When performing their activity, ICT training providers have to define:

- target group,
- purpose of the training,
- character of the training,
- set of DigComp reference competences they plan to cover,
- set of software tools to practice the competences,
- level of proficiency.

Then – using the ECDL Poland toolset – ICT training providers should define a set of ECDL modules they have to teach and – basing on these modules syllabi – define the training content and programme. As it can be observed, DigComp helps to understand digital competences and therefore the perception of the ECDL concept is much easier. DigComp is a tool against which ECDL solutions can be mapped in order to understand these solutions using a common “language” and to compare solutions (ECDL to DigComp and ECDL to others). Therefore, the idea is to look at detailed competences sets in the ECDL syllabus one by one - to match this to the description of the proficiency levels for the DigComp reference competences. This is probably the only method available to map the DigComp framework

with any existing specific competences, as a lot of specific competences can fit one reference competence in the DigComp framework. This is most evident for the Digital Content Creation area where, for the reference competence 3.1 Developing digital content, there is a large number of content types (text, spreadsheet, presentation, database, webpage, digital image, video, project and so on). For each content type there are a lot of software tools (for example for digital image development Adobe Photoshop, Adobe Lightroom, Adobe Illustrator, Affinity Photo, Pixlr, Sumopaint, PicMonkey, Splashup, Picfull, Fotor, GIMP and so on). Therefore, for this one reference competence there are hundreds of specific competences.

USEFUL LINKS

Tables showing ECDL modules/DigComp mapping and all ECDL Profile DigComp certificates (in Polish)

TINYURL.COM/YA3B82FM



 ACKNOWLEDGEMENTS & CONTACTS
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• SPAIN

EXTREMADURA DIGITAL LITERACY TRAINING PROGRAMME

The Extremadura digital literacy-training programme, promoted by the regional Employment Service and managed by AUPEX, is implemented in over 80 NCCs (acronym in Spanish for New Knowledge Centres). Each centre is run by an e-facilitator who promotes a responsible and effective ICT use by providing different workshops and training actions for citizens, usually mapped to DigComp categories. DigComp areas, descriptors and proficiency levels are

used as useful references to define the content of the roadmaps that e-facilitators use for training actions. These also consider the regional digital strategy and specific needs of citizens, paying special attention to improve employability and digital inclusion.

In late 2017, the digital literacy programme of Extremadura made available an online interactive translation in Spanish of DigComp 2.1 main content.

 USEFUL LINKS

Website of the initiative (in Spanish)
NCCEXTREMADURA.ORG
DigComp 2.1 translation in Spanish
TINYURL.COM/Y6USGZ32



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• SPAIN

DIGITAL COMPETENCE SELF-DIAGNOSIS TOOL OF THE ANDALUSIA REGIONAL GOVERNMENT

The digital competence self-assessment tool is available on the Andalusian Digital Portal and is provided by the Ministry of Employment, Enterprise and Commerce of the Andalusian Government in Spain. The tool requires the user to go through different types of questions and simple tests about their knowledge or behaviour concerning all 21 DigComp competencies. As a result, the user gets a final assessment report of their proficiency for each of the 5 DigComp areas

and 21 competencies, measured as basic, intermediate or advanced. The user can then download the report as a pdf file and ask for training itinerary proposals to enhance their proficiency. Training itineraries are designed following two available options for the user: to deepen knowledge in one of the 5 DigComp areas and/or to gain higher proficiency across all areas.

 USEFUL LINKS

Access page to the self-diagnosis test
DIGCOMP.ANDALUCIAESDIGITAL.ES



 ACKNOWLEDGEMENTS & CONTACTS
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• INTERNATIONAL

UNESCO-PEARSON INITIATIVE FOR LITERACY: IMPROVED LIVELIHOODS IN A DIGITAL WORLD

With the aim to inform digital solution providers, development partners and governments, and in support of the SDGs, the initiative examined how inclusive digital solutions can help people with low skills and low literacy use technology in a way that supports skills development and, ultimately, improves livelihoods.

The report Digital Design for Low-skilled and Low-literate People: A Landscape Review presents 32 projects from both

rural and urban contexts in different countries. DigComp 2.1 was applied to categorize the minimum digital competences and proficiency levels required to use each digital solution within a project, hence to understand the proficiency level expected of users. Interestingly, most digital solutions reviewed require intermediate digital competences, not only foundational ones, despite being aimed at low skilled and low literate users.

 USEFUL LINKS

Initiative's website
[TINYURL.COM/HAB5LGV](https://tinyurl.com/HAB5LGV)



 ACKNOWLEDGEMENTS & CONTACTS
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• GERMANY

BILDUNG IN DER DIGITALEN WELT. A STRATEGY TO EMBED DIGITAL COMPETENCE IN THE SCHOOL CURRICULUM

In 2016, the Standing Conference of the Länder Ministers of Education and Cultural Affairs (KMK) in Germany presented the "Education in the Digital World" strategy. It covers 6 main axes: from (1) changes in teaching and curricular developments, (2) the training of educators and teachers, to (6) changes in legal framework. The strategy is split in two parts: schools and vocational education, and institutions of higher education.

In this context, DigComp was used along with other frameworks first to develop the "Competences in the Digital World" framework (with 6 competence areas), then to agree upon digital competence development targets for students and their teachers in all levels and types of schools and to start, in 2017, the long-term process of embedding digital competence learning in the education disciplinary curricula.

 USEFUL LINKS

Competences in the Digital World framework (in German)
[TINYURL.COM/Y978VVRM](https://tinyurl.com/Y978VVRM)

The strategy website (in German)
[TINYURL.COM/Y7285QKC](https://tinyurl.com/Y7285QKC)

Short summary of the strategy in English
[TINYURL.COM/Y7AP59FW](https://tinyurl.com/Y7AP59FW)



 ACKNOWLEDGEMENTS & CONTACTS
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• SPAIN

TRAINING CIVIL SERVANTS IN SPAIN WITH DIGCOMP BASED E-LEARNING COURSES

In 2016 Grupo Euroformac, a training company in Spain, were awarded by the National Institute of Public Administration (INAP in Spanish) for the delivery of a training program in digital competences based on the DigComp 2.0 framework. They trained more than 1,300 public employees with eLearning courses classified in the five DigComp areas, at 3 proficiency levels, with a duration of 15 hours each. Through a self-diagnostic test, students be-

gan their training in a specific domain, corresponding to one of DigComp 2.1 specific competences. The student was then suggested a possible subsequent training itinerary already with a higher teaching load. This training model was disseminated by INAP to other Spanish Autonomous Communities (regional administrations), and has since been replicated elsewhere.

 USEFUL LINKS

Euroformac web site:
GRUPOEUROFORMAC.COM



 ACKNOWLEDGEMENTS & CONTACTS
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• PORTUGAL

PORTUGAL INCODE.2030: AN INITIATIVE TO ENHANCE DIGITAL COMPETENCE

In April 2017, the Portuguese Government launched the strategy “National Digital Competences Initiative e.2030-INCoDe.2030”. A working group was set up to produce an adapted Digital Competence Framework for the Portuguese context (DigComp_PT), by making a few changes to DigComp, and submitting it for validation by different stakeholders. The framework will shape the activities for the development of digital competence in 5 axes: Inclusion,

Education, Qualification, Specialisation and Research.

The initiative aims to enhance the population’s digital literacy and inclusion for the full exercise of citizenship, to stimulate greater business specialisation in digital technologies and their application for the qualification of the workforce towards a higher value-added economy. The development of an online tool for assessing digital competence is foreseen.

 USEFUL LINKS

Initiative’s website
TINYURL.COM/YDHUQYLR



 ACKNOWLEDGEMENTS & CONTACTS

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• BULGARIA • LATVIA • IRELAND • NORWAY • SLOVENIA • SPAIN • UK

DIGITAL INNOVATIONS FOR GROWTH ACADEMY: TRAINING ENTERPRISE TRAINERS AND EDUCATORS

The Digital Innovations for Growth Academy (DIGA) Learning Programme has been developed by a European partnership with support from Erasmus+ 2014-2017, in response to the widely recognised policy imperatives to enhance the digital skills and competencies of entrepreneurs and Enterprise Trainers and Educators (ETEs).

Following extensive research, the DIGA Learning Programme was developed in line with and incorporating the DigComp

framework. The interactive and practical learning (e.g. DigComp self-evaluation, video case studies, Business Model Canvas) provide tools to better understand when, where, what digital tools to use and how to apply them across enterprise functions. The mix of knowledge transmission, peer learning and practical experiential learning activities achieved the simultaneous benefits of acquiring digital knowledge and applying it in an entrepreneurial context.

 USEFUL LINKS

Main page of DIGA project
DIGAPROJECT.EU

Access page to DIGA courses
TINYURL.COM/YBSAAT6W



 ACKNOWLEDGEMENTS & CONTACTS

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• INTERNATIONAL

DEFINING DIGITAL COMPETENCE TRAINING NEEDS FOR YOUTH WORK

The expert group on digitalisation and youth, set up under the European Union Work Plan for Youth 2016-2018, looked at knowledge, skills and attitudes needed to ensure an engaging and meaningful digital youth work experience. After considering various competence frameworks for digital skills and for youth work, and focusing on what is expected from every youth worker, DigComp was adopted and adapted: by adding two areas –'Digitalisation' (of society)

and 'Planning, designing and evaluating digital youth work'- and by customising competence descriptors to the youth work context. The defined training needs ('competences') can be used to inform training programmes and develop new training methodology and issues, assess individual and collective competencies and identify training needs.

 USEFUL LINKS

Publication "Developing Digital Youth Work"
PUBLICATIONS.EUROPA.EU/S/FOUJ



• UNITED KINGDOM

ANGLIA RUSKIN UNIVERSITY: FIVE DAYS OF DIGITAL LITERACY (5DODL)

Bite-sized continuous professional development in digital literacy: 5 minutes per day, for 5 days in the first week of 5 months. Content aligned to Anglia Ruskin University's digital literacy framework

ACKNOWLEDGEMENTS & CONTACTS

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1. FINDING, USING AND MANAGING INFORMATION

Information search, management, authenticity

Day 1 • Google – Advanced Search
Day 2 • Feedly – create your own newspaper!
Day 3 • Blogs
Day 4 • Google Scholar
Day 5 • Accessible Documents

2. WORKING IN THE DIGITAL AGE

Communication, messaging others, collaboration, networking, digital persona

Day 1 • Working in the digital age (quiz with scenarios)
Day 2 • Skype for Business
Day 3 • Google Drive
Day 4 • LinkedIn
Day 5 • Your digital identity

3. CREATING DIGITAL CONTENT

Artefact creation, intellectual property, data protection

Day 1 • Open Educational Resources
Day 2 • How to search for a Creative Commons image
Day 3 • Classroom recording and data protection
Day 4 • Using mobile phones for Podcasts via My-Player
Day 5 • University copyright policy and VLE

4. DIGITAL RESPONSIBILITIES

Device security sustainability, health and wellbeing

Day 1 • What are digital responsibilities?
Day 2 • Mobile crime stats
Day 3 • Mobile phone security
Day 4 • Electricity consumption
Day 5 • 5 ways to stay healthy online

5. PROBLEM-SOLVING IN THE DIGITAL WORLD

Troubleshooting, creativity, self-sufficiency

Day 1 • Which ARU resources do you use?
Day 2 • Incorporating Twitter into a Module – Com4comms
Day 3 • What do you do if a technology isn't working?
Day 4 • Reddit.com
Day 5 • Lynda.com

This online course was developed and run at ARU as part of its strategy to enhance staff digital literacy. Designed for teachers and other university staff, it can be used by any learner wishing to develop their digital competencies. The course had 468 registered users from ARU and 1,905 total followers including from outside ARU. The table illustrates the course content and its correlation to ARU's Digital Literacy Framework, which is based on DigComp. The course ran for five days during the first weeks of October, November, December 2016, February and March 2017. Every day during that week, a new blog post was released to participants who were asked to read the post and complete an activity that took no more than five minutes. The activity could be completed at any time and anyone could join and catch up on previous posts. All of the course's blog posts can be navigated backwards from: 5DAYSOFDIGITAL-LITERACY.COM. Everyone who completed all 5 activities from any one month on the course received a digital badge for 'Participation' in the five categories of digital literacy. Badges were issued using the digital credential platform, Credly (CREDLY.COM). The digital badges can be added to any LinkedIn profile, Facebook page, CV etc. to demonstrate continuous professional development.

Based on feedback, review and reflection of the course, the revised version 2017-2018 is now underway.

RELATED ITEMS



ANGLIA RUSKIN UNIVERSITY

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USEFUL LINKS

Course description
TINYURL.COM/YA2HYMGR

Full course (Version 2016-2017)
5DAYSOFDIGITALLITERACY.COM



- SPAIN

IKANOS - SELF ASSESSMENT TEST

Ikanos self-assessment test helps users to define a personal digital profile. The test considers eight areas that make up an individual's digital profile, including DigComp's five competences areas

ACKNOWLEDGEMENTS & CONTACTS

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Ikanos self-assessment tool v2 has been designed to provide a personal digital profile to any user. The test considers three areas that make up an individual's digital profile:

- The potential to develop digital competence (available ICT equipment, Internet access and how they are used)
- Past ICT training and certification experiences
- Level of digital competence according to the DigComp model's five competences areas: Information, Communication, Digital content creation, Safety and Problem Solving.

The test asks different types of questions (yes/no, single or multiple choice, scoring etc.) for a total of about 32 questions. Going through the whole questionnaire should require 20-25 minutes. The test produces a personalised "Digital profile report" with user's name and date, and gives the overall assessment score (basic, intermediate, advanced); also visualises the results of the three components of the competence development potential, gives the aggregate result for each one of DigComp's 5 areas of competence and shows the results for each one of DigComp's 21 digital competences.

The main features include the following:

- Registration of user with password

- Multi-session: test can be completed in several sessions
- Suitable for Mobile devices
- Send reports by email

The test also includes an annex for the interpretation of results. The user's digital profile is presented based on the organisational structure of the DigComp. The self-assessment tool is depicted in the image above.

RELATED ITEMS



USEFUL LINKS

Access page to the Ikanos test in English (available also in Spanish and Euskara, Basque language)

First version

IKANOS.ENCUESTA.EUSKADI.NET

New version

TINYURL.COM/Y8VJSKDG



• SPAIN

IKANOS - PROFESSIONAL DIGITAL COMPETENCE PROFILES

These competence profiles specify knowledge and skills that a professional must possess to perform tasks requiring ICT use in a range of occupations in different organisations

ACKNOWLEDGEMENTS & CONTACTS

Ana Vitorica

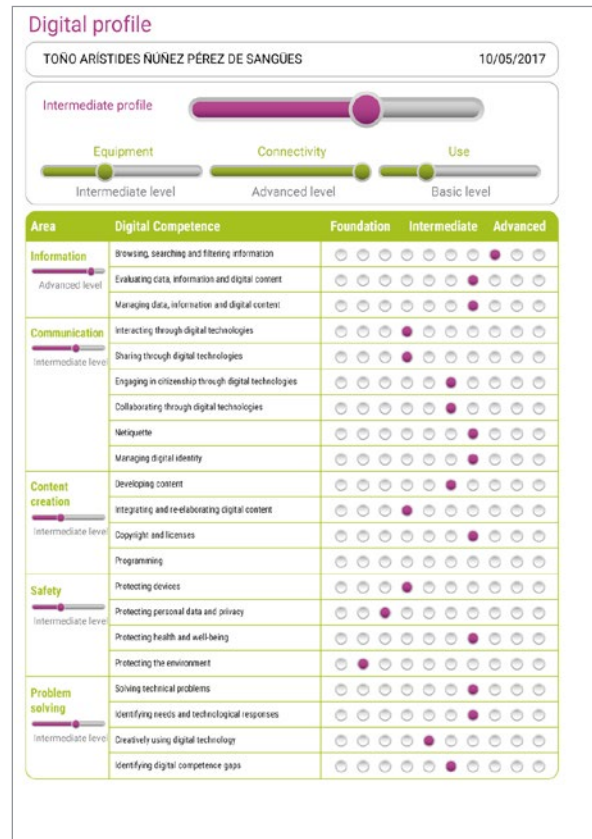
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A “professional competence profile” is the definition of a set of behaviours, skills, and abilities defining job performance in an occupation, which can be used to evaluate the potential of a professional and their suitability to the requirements of an occupation, to detect needs and manage training plans as well as to evaluate performance. The “Ikanos digital profile” spec-

ifies the digital knowledge, skills and attitudes that a professional must possess in order to adequately perform the tasks that require the use of ICT in a range of equivalent occupations in different organisations. The structure of the Ikanos digital profiles establishes three types of competencies:

- **Core digital competences:** ICT skills essential for this occupation
- **Complementary digital competences:** ICT skills needed in the sector
- **Transversal digital skills:** necessary in any work using ICTs

Not all DigComp competencies are necessary in all professional profiles; therefore, some competencies may be excluded. Some profiles consist of several competencies; because the job requires a variety of tasks and skills, while in other profiles the digital competency can be very specific (for a maintenance technician, their core competency will be 5.1 Technical problem solving). For each competence is established the appropriate level of performance and the type of knowledge and skills necessary for the specific digital profile are described.

The descriptions for each competency are specific to each job profile so that the same competency may have different descriptions, as it covers different tasks. When the tasks of a job affect a small area of a DigComp competence, in Ikanos sub-competences are discussed, which is a group of professional tasks / operations depicting specific and detailed aspects of a main competence, and which acquires great relevance for a specific professional field. Sub-competences make it possible to define more precisely the tasks of any occupation. A



digital professional profile based on sub-competencies, is going to be more useful for personnel selection and human resources management. Sub-competences help to maintain the integrity of the DigComp framework and the inter-operability among different competences assessments. In the work carried out so far, “industrial digital sub-competencies” have been identified in the following areas:

- monitoring of technological advances linked to life-long learning and Personal Learning Environments
- information management methodologies such as “Digital 5S”
- 3D design aspects for advanced CNC and Additive Manufacturing
- installation and configuration of industrial networks and electronics linked to machinery
- solving technical problems in the operation of Additive Manufacturing machines

Digital profiles are created by interviewing experts and workers belonging to the identified occupations to establish the digital aspects of their professional tasks as well as the content of their digital competences. The occupations selected in 2017 belong to the Industrial and ICT sectors, strategic in the development of the Basque Country economy: Industry 4.0, Automation, CAD/CAM, Additive manufacturing, etc. The digital professional profiles that have been designed during the year 2017 include:

- Advanced Industry maintenance technician
- 3D designer for additive manufacturing
- Collaborative Robotics technician
- Additive Manufacturing machinery operator

- SME Digital Transformation Manager
- Computer numerical control technician

In the industrial area, the Ikanos model focuses on defining digital competency profiles for positions based on company activity, creating a tool to evaluate the digital competency level of the employees and that makes explicit existing gaps, and generating a tool ensuring consolidation of the digital competency profile.

Some type of dynamic management of digital competences is required, because jobs are changing fast as digital technologies are incorporated. Digital competences required by the occupation can vary in a very short time because engineering departments assign new tasks to jobs, which require new skills. Therefore, a Digital Competence Management Tool is needed that can respond to these requirements made by companies to the Ikanos test:

- Edit questions to suit business processes and operations.
- Create annual and level versions of test.
- Carry out an annual review of profiles.
- Supervisor can assess the competence level of each worker and enters the data on the tool

Usually, companies have their own scales for assessing tasks that affect digital competency levels:

1. Nothing,
2. Only theoretical,
3. Knows how to do it with supervision,
4. Knows how to do it but cannot help,
5. Can teach others.

RELATED ITEMS



IKANOS - NIRE
GAITASUN DIGITALAK
/ MIS COMPETENCIAS
DIGITALES

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USEFUL LINKS

**Info of the project
in the Basque Government website**

WWW.IKANOS.EUS



- SPAIN

IKANOS - THE NEW DIGITAL COMPETENCE EVALUATION SYSTEM

Ikanos is revising the ICT competence certification system IT Txartela by introducing validation methods and related certification procedures coherent with DigComp

ACKNOWLEDGEMENTS & CONTACTS

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Ikanos is about to launch the revision of the existing ICT competence certification system in the Basque country. Over the last 10 years, the old system IT Txartela issued about 250,000 certificates (80,000 users 500,000 exams), following the traditional approach to ICT skills development and certification focused on operational and application-related skills. More specifically IT Txartela used to certify knowledge in computer solutions (+ of 50 different certifications): Microsoft and Open Office, Web browsers, operating systems, Internet, email, etc. as well as certifications of the Basque Institute of Public Administration (IVAP).

Ikanos is revising the system to introduce digital competence validation methods (e.g. with the use of simulations) and related certification procedures coherent

with the DigComp model. Citizens will be able to use KZgunea telecentre sites and assistance to undertake the free tests required for the certification. The new system, called BAIT, is aligned with the strategic directives defined in the European Digital Agenda, where key components of the digital competence are identified in terms of knowledge, skills and attitudes (see image).

Timeline for the development of the system:

- New platform development (v1.0) based on DigComp and integration with IT Txartela - 2016
- Content development: more than 700 questions and exercises (knowledge, skills and attitude) - 2016
- Feedback meetings with Basque Country stakeholders: Osakidetza, IVAP, SPRI, KZgunea - 2016



- New platform version (v2.0) - 2017
- Assessment items improvement per competence – 2017
- 8 digital competences aligned with IVAP needs and working hard with Mondragon University – 2017
- digital competences assessment in real environment with public workers – 2018
- digital competences assessment in real environment with public workers - 2018

The development of a model and a platform for evaluation, certification and recognition of digital competence, has been provided with the following characteristics.

Performance-based assessment following DigComp framework structure:

- Evaluation based on the user's performance on a wide variety of digital challenges that have to be solved.
- Assessment is aligned with the competence descriptors of the European digital competence framework DigComp.

Exercises and real situations:

- The evaluation reflects real situations that users will face in a professional context. Real tools (word processor, spreadsheets) have to be used to resolve assessment tasks.

Summative Evaluation and Certification:

- The test is carried out in a limited time, using the KZ-gunea telecenter network and other approved centres associated to the service. Tests are taken under supervision to ensure compliance with regulations.
- As a result, the user obtains digitally signed certifi-

cate that is automatically sent to MetaPosta service.

Evaluation with technological support:

The tests are carried out through a web platform consisting of:

- A web page for users to manage their registration in the tests.
- A web page for tests, where the tests are performed.
- An administration web, to manage the certification platform.

Users automatically receive the results during the test, being able to visualise their progress. Moreover, user history is updated automatically after the test is completed. Users interact with a series of programmes during tests such as office packages, browsers, etc. The test items can be solved without a specific knowledge of a particular tool.

Evaluation Analytics:

- The information gathered from tests is used to improve the system itself.

Adaptive Assessment:

- Test implementation is designed to provide the same precision in the results with a shorter test to avoid boredom / frustration and reducing the time.

IMS GLOBAL Learning Consortium Interoperability standards (Caliper, QTI, etc.):

- All the standards implemented in the platform to standardise the interoperability between the services accessed during the tests.

RELATED ITEMS



IKANOS - NIRE
GAITASUN DIGITALAK
/ MIS COMPETENCIAS
DIGITALES

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USEFUL LINKS

**Info of the project
in the Basque Government website**

WWW.IKANOS.EUS



• SPAIN

TEACHERS IN SPAIN: MOOCS, EDUPILLS AND OTHER TRAINING RE- SOURCES

A range of online tools such as MOOCs and online instructed courses, EduPills and open badges and other solutions offered by INTEF for teacher digital competence development and recognition

ACKNOWLEDGEMENTS & CONTACTS

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INTEF MOOC

INTEF MOOC is a new Teacher Training model more focused on the development of competences, especially those related to collaboration through the net, management of autonomous learning and participation in educational communities. This new model of Teacher Training offered by INTEF intends to develop massive training processes based on open and social learning through activities that generate interaction, aggregated production, shared knowledge and the building of professional networks. In this sense, the MOOC experience presented here is designed as a social event for teachers who wish to share their learning experience. The design of every MOOC created by INTEF will allow us to achieve the objectives initially planned through a combination of tasks, activities and content to be addressed in an established time frame. The goal of the INTEF MOOC is for every user to be able to develop self-sufficiency regarding digital environments, connect with professional communities and generate and share valuable content for his or her own community regarding the different topics covered in each MOOC.

The completion of a MOOC will help teachers reach a specific digital competence level and develop/acquire/improve their digital competence in one or more areas of the 2017 Spanish Common Digital Competence Framework for Teachers, which as has been previously mentioned, is an adaptation of DigComp to the teaching profession.

INTEF NOOC

A NANO Open Learning Experience in Collaboration, INTEF NOOC, gives participants the opportunity to explore, learn and be evaluated on a key element of a competence, skill, or area of knowledge in a period of

time that can vary from a minimum of 1 hour, to a maximum of 20 hours of estimated effort. A NOOC, run by INTEF, focuses on working on a specific digital competence of The Common Digital Competence Framework for Teachers, and achieve a single objective that can be evidenced in a single digital product, whose design contributes to the participant achieving a specific level of digital competence. In this way we hope to get participants to concentrate on achieving a single objective, to prove that they have achieved it through a significant and measureable digital product, and to hold a very specific digital open badge. The completion of several NOOCs run by INTEF may lead to the issue of a digital micro-credential that endorses the level of digital teaching competence that the participants have achieved following the recommended training roadmap, according to the Common Digital Competence Framework for Teachers, by INTEF.

INTEF SPOOC

SPOOC stands for Self-Paced Open Online Course. INTEF SPOOC is an initiative of self-training oriented to the development of professional skills, such as the autonomous management of learning. Each SPOOC created by INTEF has an instructional design focused on allowing participants to reach, at their own pace, the proposed learning objectives; to develop their autonomy as apprentices in digital contexts, to improve their digital competence and to demonstrate this through a worthwhile digital product for the educational community. INTEF SPOOCs are open and free (anyone can access and participate, regardless of geographic location and professional profile). All that is needed is access to a computer with an updated browser, an Internet connection, and, of course, the desire to learn.



INTEF Online Instructed Courses

The online instructed courses run by INTEF are part of the Digital Culture Plan in Schools and transversally contribute to the development of the Digital Competence of Teachers.

EduPills

EduPills is a micro-learning app for teachers, aimed at enabling teachers to acquire and / or develop digital skills and competencies in a simple and fast way. The educational modules are categorised according to the Areas of the 2017 Spanish Common Digital Competence Framework for Teachers, which as has been previously mentioned, is an adaptation of DigComp to the teaching profession. You can download the EduPills free app on your tablet or mobile and start using it anywhere. Each educational module you complete is an achievement you can share on your social networks. You can bookmark educational self-training modules on the topics that interest you most and access them quickly.

Open Badge Backpack “EducaLAB Insignias”

Manage, store and show your digital badges. EducaLAB Open Badge Backpack is automatically connected to various digital learning management systems. Additionally, you can export and import your digital badges across other open backpacks. Share your badges on social networks (Twitter, Google+, Facebook, LinkedIn) or show them on LinkedIn to complete your profile in this professional social network. It is currently used by several institutions, as well as INTEF, to issue professional open badges that endorse their holders’ digital competencies.

RELATED ITEMS



TEACHERS IN SPAIN:
THE NEW DIGITAL
COMPETENCE COMMON
FRAMEWORK

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USEFUL LINKS

Current Spanish Framework
[APRENDE.EDUCALAB.ES/MCCDD](https://aprende.educalab.es/mccdd)

Digital Competence Portfolio Teachers
[PORTFOLIO.EDUCALAB.ES](https://portfolio.educalab.es)

INTEF MOOC
[MOOC.EDUCALAB.ES](https://mooc.educalab.es)

INTEF NOOC
[NOOC.EDUCALAB.ES](https://nooc.educalab.es)

INTEF SPOOC
[SPOOC.EDUCALAB.ES](https://spoooc.educalab.es)

INTEF Online Instructed Courses
[FORMACION.EDUCALAB.ES](https://formacion.educalab.es)

EduPills
[EDUPILLS.EDUCALAB.ES](https://edupills.educalab.es)

Open Badge Backpack “EducaLAB Insignias”
[INSIGNIAS.EDUCALAB.ES](https://insignias.educalab.es)



• SPAIN

TEACHERS IN SPAIN: THE DIGITAL COMPETENCE PORTFOLIO

Digital Competence Portfolio is designed to assess and improve teachers' digital competence through continuous self-assessment and up-to-date recording of teaching, learning and training experiences

ACKNOWLEDGEMENTS & CONTACTS

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The Digital Competence Portfolio for Teachers is designed to acknowledge and improve the digital competence of teachers through continuous self-assessment and the up-to-date recording of teaching, learning and training experiences. It is developed by the National Institute of Educational Technologies and Teacher Training promotes the acquisition, development and improvement of digital competence of teachers. This Portfolio has the following structure:

- Biography: personal and professional data;
- Self-assessment: Self-assess your level in the 5 areas of the Common Digital Competence Framework for Teachers by INTEF (Adaptation from DigComp);
- Dossier: The dossier offers the teacher the opportunity to organise evidence

of professional works which illustrate and substantiate their digital competence. For example, badges, labels, certificates, degrees, projects, experiences inside and outside school with students and by students, prizes, awards, digital artifacts, OER, publications, etc.;

- Passport: The Digital Competence Passport shows the level of digital competence teachers have achieved and provides an overall perspective of the evidences that endorse it, according to those they have included in their dossier. As they update their biography and dossier, their Digital Competence Passport will also be updated.

Users can make it public and share it on social networks. In addition, users can download it in a printable format: the most recent update date will be included.

RELATED ITEMS



TEACHERS IN
SPAIN

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USEFUL LINKS

Current Spanish Framework
[APRENDE.EDUCALAB.ES/MCCDD](https://aprende.educalab.es/mccdd)

Digital Competence Portfolio Teachers
[PORTFOLIO.EDUCALAB.ES](https://portfolio.educalab.es)



• BELGIUM

WEBSITE OF THE ADULT EDUCATION IN FLANDERS: THE NEW ICT PROGRAMMES

Crowdsourced online resources to support ICT teachers in adult education make the transition from traditional ICT training to competence-based training

ACKNOWLEDGEMENTS & CONTACTS

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Set up in a collaboration between four pedagogical counseling services and the Flemish Support Center for Adult Education (vzw Vocvo), this website aims to facilitate the implementation of the 9 new ICT programmes based on DigComp.

The ICT programmes are made of 55 modules, addressing over 365 basic digital competences extracted from DigComp (see **C5**). The home page highlights the “Start to ICT” programme (2 modules, 60 hours each), common to all other 8 programmes on: ICT and office work, social media, in an educational context, and creativity, web content, app development, ICT operating systems and networks, and programming.

The website has two main types of content:

1. presentations and detailed descriptions of each programme and module;
2. contributions by teachers of so called “completions” and “authentic tasks”. All IT teachers in adult education were called from the start to help completing the interpretation of basic competences and enriching the web site with concrete examples of authentic tasks they use in their lessons.

Each programme’s presentation (online and in attached pdf files) contains: description of the training; visualisation of the sequence of the modules including the duration of each module and the total; further vocational training facilitated by the programme; a list of basic competences segmented by DigComp’s 5 main areas to be developed by the programme and a list of basic competences to be developed by each module. Each module’s presentation, in turn,

contains: entry requirements for the module, basic competences to be developed, recommended duration (depending on the student’s learning speed, starting point and aims), links to current “completions” of the module and to current authentic learning tasks shared by other teachers.

“Completions” are additional interpretations of /specific learning contents suggested for a given basic competence. For instance, the basic competence “can create simple content in different shapes” can be associated with different word processors (Word, Google Docs, Writer, Pages etc.) or also mean using simple calculations, formatting and graphs in a spreadsheet.

The examples collected from teachers are presented as not binding and intended as inspiration for other teachers. The message to other teachers is: “Which learning content you will use yourself will always depend on the target group for whom you will give the module”. Contributions on “completions” and authentic tasks are collected with ad hoc templates, which must be tagged by course, module and specific competence.

The website also presents the refresher courses for teachers, e.g. on competence-oriented education based on the 4C/ID-model ([TINYURL.COM/YAHGDSUL](http://tinyurl.com/yahgdsul)) and other resources (newsletter, FAQ etc.).

RELATED ITEMS



ADULT
EDUCATION
IN FLANDERS

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USEFUL LINKS

Website for supporting teachers in adult education on the new ICT education programmes

[SVWO.BE](http://svwo.be)



• INTERNATIONAL

HAPPY ONLIFE TOOLKIT

Happy Onlife is a game to build and develop safety and knowledge on Internet use, overuse and abuse

ACKNOWLEDGEMENTS & CONTACTS

**Rosanna Di Gioia, Monica Gemo
Stéphane Chaudron**
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Joint Research Centre - European
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The Happy Onlife is a hands-on toolkit developed by JRC, which seeks to empower children, families and schools in the attempt to promote a safe and healthy life online and help prevent cyber-bullying amongst teens. It includes a project booklet with a collection of 17 educational activities promoting digital competences development and shared experiences of the digital world among teachers, parents and children aged 8-12. It includes a board game that takes about 20 minutes inspired by the traditional 'Snakes and Ladder game'. The toolkit activities and the game quiz questions are designed to prompt discussion and allow the moderator to drive the actors towards a responsible and safe way of using digital media. The toolkit is available both as paper version and an online application. This toolkit opens a path to empower teachers and parents in actively guiding children to become smarter, responsible, and respectful when using media and help them understand the ethical consequences behind the decisions they make online. Healthy digital children learn better and become healthy digital adults enabling them to reach their potential.

What is needed

- At least one group of 3 to 5 children.
- One Happy Onlife game per group – each game includes a game board, a die, pawns, question cards and 'anti-virus' cards.
- An adult, a teacher or a parent, who will be the moderator and read the questions.

How to

The game can be played in the classroom or at home. It has simple rules and is easy to play. Its dynamic is based on well-known games: snakes and ladders and multiple-choice quizzes. Having an adult as the moderator of the game, although not essential, helps achieve the activity's objectives of awareness and inter-generational exchange. Apart from these points, simply follow the rules and enjoy learning.

Suggestions

- Adults – play the game among yourselves first. You might be surprised by the questions.
- Inviting parents into the classroom to take part in the game has the potential to both help the teacher during the activity (for example if there are many pupils) and promote exchange between teachers and parents on the game's themes.
- For an outdoor school activity, it is possible to create a giant version of this game, using the players as the pawns.
- The children will most likely ask to play a second time or maybe even more! Feel free to enrich the game by writing your own questions.

RELATED ITEMS



HAPPY
ONLIFE

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USEFUL LINKS

Happy Onlife on EC website

WEB.JRC.EC.EUROPA.EU/HAPPYONLIFE



• EU + ES • FR • INT • IT • TR

TASK TOOL: AN ONLINE SYSTEM FOR ASSESSING KEY COMPETENCES IN SECONDARY SCHOOLS

Developed by the TASK project it helps students in secondary school assess their key competences with teacher support

ACKNOWLEDGEMENTS & CONTACTS

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TASK helps a student supported by a teacher to assess his/her level in digital competence (and others). The performance and observation of execution of authentic tasks are the basis of the assessment procedure.

Authentic assessment asks students to analyse, synthesise and apply what they have learned in a substantial manner, by suggesting tasks such as making inquiries, writing, reviewing, debating, analysing, collaborating etc. It then verifies if the student is able to produce artifacts, to answer and act consciously, thoroughly and credibly. Authentic evaluation fits well with competence evaluation, as competence is “knowledge in action”.

The TASK system offers the following step-by-step guided path:

- 1. Choose the key competence to be assessed** (communication in the mother tongue or in a foreign language or digital competence).
- 2. Choose the mastery level** that you think you have in that competence, by reading the descriptions associated with levels A, B, C, and D carefully.
- 3. Choose the domain** (each competence is divided into 5 domains) from which to start the assessment and read its description.
- 4. Read and perform the task** proposed by the system. The teacher will

give detailed instructions about how and when to perform the task, and will observe the performance.

5. Assess your performance once finished the task, assess the quality of performance by answering a set of questions on the screen.

6. Done! the system gives feedback on the competence level assessed in that domain

RELATED ITEMS



TASK

P. 98

USEFUL LINKS

TASK tool (in English, Italian, French, Spanish and Turkish)
TINYURL.COM/Y9FFXMOZ



• ITALY

PANE E INTERNET CURRICULUM AND LEARNING RESOURCES FOR BASIC DIGITAL LITERACY

Regione Emilia-Romagna used DigComp to re-design its digital literacy courses and produce a set of learning resources organised into Books and Guided Practices

ACKNOWLEDGEMENTS & CONTACTS

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Within the Pane e Internet (PeI) digital literacy and inclusion project, in 2014 the Emilia-Romagna Region overhauled its existing training offer and designed two new digital literacy courses level 1 and level 2, based on DigComp 1.0.

In the course of re-design process, DigComp was used:

- to map all previous PeI training activities and learning goals onto DigComp's 5 areas and 21 competences in order to identify matching and overlooked aspects of digital competence;
- to decide the essential skills to enable citizens first to access the Internet and its main services, and then to become more autonomous in using technology;
- to design and describe specific learning outcomes and contents of each learning unit;
- to design and categorise the learning resources produced for the citizens.

The result is shown in the figure on the right which highlights how the topics of PeI level 1 course (red bubbles) and those of level 2 course (blue bubbles) map onto DigComp's 21 specific competences (rows) and three proficiency levels (A= basic, B= intermediate, C= advanced, columns on the right). The resulting partial coverage of DigComp's full spectrum reflects two main factors: course duration constraints (about 20 hours) and what could be reasonably expected from PEI's main target participants (adults and seniors with no or very limited digital experience).

To support the deployment of the new courses, RER produced **methodological documentation** about the digital literacy courses including:

- The "Digital literacy project - Level 1 PC_TABLET"

- The "Digital literacy project - Level 2 PC_TABLET"
- The "Participant's Guide to the course" (for level 1 and 2)

• The "Mini Guide to the digital literacy resources"
These resources are in Italian and can be downloaded from the PeI website here ([TINYURL.COM/YCNSNMGY](https://tinyurl.com/ycnsnwgry))

RER also produced a set of **learning resources** based on DigComp organised into:

- Books which introduce trainees to new concepts and terms. They are aimed at increasing trainee knowledge and are valid for both PC and Tablet users. In level 2 courses, along with Books, trainees are recommended to look at service provider user guides and video learning materials;
- Guided Practices which lead trainees in carrying out specific operations with a PC or Tablet. Guided practices are available only for level 1 courses.

These learning resources are written in Italian, they are printable and downloadable for free here: [TINYURL.COM/Y84LCCEX](https://tinyurl.com/y84lccex)



DIGCOMP AREAS	DIGCOMP COMPETENCIES	PROFICIENCY LEVELS
INFORMATION	1.1. browsing, searching and filtering information	A B C
	1.2. evaluating information	A B C
	1.3. storing and retrieving information	A B C
COMMUNICATION	2.1. interacting through technology	A B
	2.2. sharing information and content	A B
	2.3. engaging in online citizenship	A B
	2.4. collaborating through digital channels	A B
	2.5. netiquette	A B
	2.6. managing digital identity	A B
CONTENT CREATION	3.1. developing content	A
	3.2. integrating and re-elaborating	
	3.3. copyright and licenses	A B C
	3.4. programming	
SAFETY	4.1. protecting devices	A B
	4.2. protecting personal data	A B
	4.3. protecting health	A B
	4.4. protecting the environment	A B
PROBLEM SOLVING	5.1. solving technical problems	
	5.2. identifying needs and technological responses	A
	5.3. innovating and creatively using technology	
	5.4. identifying digital competence gap	

Digital Literacy competencies - Level 1
 Digital Literacy competencies - Level 2

RELATED ITEMS



PANE E INTERNET: THE DIGITAL LITERACY AND INCLUSION PROJECT IN EMILIA ROMAGNA

P. 102

USEFUL LINKS

DigComp use to re-design PeI courses (presentation in English)

[TINYURL.COM/Y9YR69MT](https://tinyurl.com/Y9YR69MT)

PeI digital literacy courses - methodological resources (in Italian)

[TINYURL.COM/YCNSNWGY](https://tinyurl.com/YCNSNWGY)

Learning resources for digital literacy courses level 1 and 2 (in Italian)

[TINYURL.COM/Y84LCCEX](https://tinyurl.com/Y84LCCEX)



• BELGIUM • FINLAND • FRANCE • GERMANY
• GREECE • ITALY • POLAND • SPAIN • UK

ELENE4WORK ORIENTATION GUIDE FOR JOB SEEKERS

Tool helping learners discover (digital) soft skills demanded by employers, browse most inspiring MOOCs selected by project partners, and learn how to study online and get the most out of the experience

ACKNOWLEDGEMENTS & CONTACTS

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eLene4work Orientation Guide is a tool helping learners discover (digital) soft skills wanted by employers, browse most inspiring MOOCs selected by project partners, and learn how to study online and how to get the most out of the experience.

The tool can be used in the following ways:

- Users can use this Orientation Guide independently or as part of the overall process.
- If the users already know which (digital) soft skills they want to develop or highlight, then the user can jump straight in and follow the next steps.
- If the user wants to evaluate (digital) soft skills first, and then either identify what to work on further or what to include in the CV, ePortfolio or letter of appli-

cation, then they should first use the self-assessment tool (see also T17). Users can come back to this guide at any point and consult the different sections freely.

Concerning the **main features**:

- The section Studying online vs face-face gives an insight into what it's like to study online and some useful tips from other students to help get organised.
- The power of MOOCs helps you understand what MOOCs are, and how they can help users to develop (digital) soft skills, whether it's through the content, the activities or both.
- The OER option explains what Open Educational Resources are and how these can also help users develop certain soft skills.
- Browse by MOOC or skill enables users to select the MOOC(s) they want to follow, access a short summary via an ID card, and link straight to the MOOC on the platform which hosts it.

- Here is a list of soft skills and digital soft skills users might want to develop and/or highlight in job applications.

Social skills (inter-personal)

- Communication. The ability to transmit ideas, information and opinions clearly and convincingly both verbally and in writing, while listening and being receptive to the proposals of others.
- Teamwork. The ability to build relationships of participation and cooperation with other people. It involves sharing resources and knowledge, harmonising interests and contributing actively to reach the objectives of the organisation.
- Conflict Management. The ability to manage conflict,



which means stimulating, regulating or resolving conflict between two or more parties.

- Negotiation. The ability to argue clearly and coherently and conciliate different opinions to reach an agreement that satisfies everyone with the aim of achieving the proposed goals.

Personal skills (intra-personal)

- Leadership. The ability to motivate and guide others to get them to contribute effectively and adequately to the attainment of the objectives.
- Self-Evaluation. The ability to look at one's progress, development and learning to determine one's strengths and which areas need improvement.

- Adaptability and Flexibility. The ability to redirect the course of action to meet the goals in a new situation

Methodological skills

- Learning to learn. The ability to provide a self-assessment of the knowledge needs (theoretical or practical) and take measures to acquire and implement this knowledge, while maintaining a flexible and open attitude towards learning throughout the professional life.
- Analytical Skills. The ability to draw conclusions and forecasts for the future by getting information from different sources and establishing cause and effect relationships.
- Creativity and innovation. The ability to contribute with new ideas to develop improvements in the products or services of the organisation as well as in the activities performed in the job, with the aim of responding to the needs of evolution of the organisation.
- Problem solving. The ability to work through details of a problem to reach a solution. It may include math-

ematical or systematic operations and can be a gauge of an individual's critical thinking skills.

Digital skills

- Information and data processing. The ability to identify, locate, retrieve, store, organise and analyse digital information, judging its relevance and purpose.
- (Digital) Communication. The ability to communicate in digital environments, share resources through online tools, link with others and collaborate through digital tools, interact with and participate in communities and networks, cross-cultural awareness.
- (Digital) Content creation. The ability to create and edit new content (from word processing to images and video); integrate and re-elaborate previous knowledge and content; produce creative expressions, media outputs and programming; deal with and apply intellectual property rights and licences.
- (Digital) Problem solving. The ability to identify digital needs and resources, make informed decisions on most appropriate digital tools according to the purpose or need, solve conceptual problems through digital means, creatively use technologies, solve technical problems, update your own competences and those of others.

For each skill online training content can be browsed.

The image on the left depicts the soft skills framework.

RELATED ITEMS



ELENE4WORK: MAPPING
SOFT DIGITAL SKILLS OF
STUDENTS AND YOUNG
WORKERS

P. 104

USEFUL LINKS

Orientation guide (EN, FR)

OG.ELENE4WORK.EU



• BELGIUM • FINLAND • FRANCE
• GERMANY • GREECE • ITALY
• POLAND • SPAIN • UK

ELENE4WORK SELF-ASSESSMENT TOOL FOR DIGITAL SOFT SKILLS IDENTIFICATION

The tool helps learners identify their soft skills and digital soft skills, set their own learning agenda by identifying their strengths and areas for improvement, and decide what gaps to fill

ACKNOWLEDGEMENTS & CONTACTS

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The self-assessment tool aims to help young learners (students prior to entering the job market / young workers) identify their soft skills and digital soft skills, set their own learning agenda by identifying their strengths and areas for improvement, and decide what gaps to fill in their skills profile. This self-assessment is the first step in the eLene4work learning pathway.

How does it work?

- After rating their own level of soft skills via a declarative questionnaire, the user decides which areas are the most important.
 - Then the user can then set his/her own learning agenda by analysing the results of the questionnaire. At the end of this process a pdf document can be created in order to have a trace of this initial self-assessment in later stages.
 - Once the user has decided which soft skills to work on, he/she can use the Orientation Guide to select MOOCs or other learning solutions
 - The user is also strongly advised to keep a personal journal of his/her learning and to do the self-assessment a second time to check progress.
- Skills are decomposed in 4 different areas:

Social

1. Communication
2. Teamwork
3. Conflict Management
4. Negotiation

Personal

5. Leadership
6. Self-Evaluation

7. Adaptability and Flexibility

Methodological

8. Learning to Learn
9. Analytical Skills
10. Creativity and Innovation
11. Problem Solving

Digital

12. Information and Data Processing
13. (Digital) Communication
14. Digital Content Creation
15. Digital Problem Solving

For each skill, there is a set of corresponding statements that can be rated in terms of proficiency, while the overall skill can be rated in terms of importance.

Taking for instance Information and Data Processing, the statements are as follows:

- I adapt search strategies to a specific search engine, application or device
- I search for words that limit the number of hits
- I follow information presented in a hyper-linked and non-linear form
- I recognise the usefulness, timeliness, accuracy and integrity of the information
- I compare, contrast, and integrate information from different sources
- I distinguish reliable information from unreliable sources
- I select the information on the basis of my searching aims

The system finally provides a self-assessment.

RELATED ITEMS



ELENE-4WORK

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USEFUL LINKS

Self-assessment tool

[TINYURL.COM/Y9AFJBL2](https://tinyurl.com/Y9AFJBL2)



 ACKNOWLEDGEMENTS & CONTACTS

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• SPAIN

DIGITAL COMPETENCE SELF-DIAGNOSIS TOOL OF THE ANDALUSIA REGIONAL GOVERNMENT

The digital competence self-assessment tool is available on the Andalusian Digital Portal and is provided by the Ministry of Employment, Enterprise and Commerce of the Andalusian Government in Spain. The tool requires the user to go through different types of questions and simple tests about their knowledge or behaviour concerning all 21 DigComp competencies. As a result, the user gets a final assessment report of their proficiency for each of the 5 DigComp areas

and 21 competencies, measured as basic, intermediate or advanced. The user can then download the report as a pdf file and ask for training itineraries proposals to enhance their proficiency. Training itineraries are designed following two available options for the user: to deepen knowledge in one of the 5 DigComp areas and/or to gain higher proficiency across all areas.

 USEFUL LINKS

Access page to the self-diagnosis test
DIGCOMP.ANDALUCIAESDIGITAL.ES



 ACKNOWLEDGEMENTS & CONTACTS

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• ITALY

ABC DIGITALE: SELF-ASSESSMENT TEST AND DIGITAL LEARNING OPPORTUNITIES

Open Group is the largest social cooperative in Bologna (IT). ABC Digitale is OG's main educational initiative on digital competence, targeting people of all ages, especially children, youth and their parents. OG offers over 20 digital learning experiences, from workshops for adults to labs with younger people. In 2015, OG mapped these experience onto DigComp, and presents them clustered accordingly on its website. It also designed a simple online self-assess-

ment test, with 20 questions in 5 sections, corresponding to DigComp's main areas. Users can only give one answer to the multiple-choice questions. Some answers are wrong, others reflect different digital proficiency levels.

Both developments aim to enhance the website users' awareness of digital competence and DigComp and to highlight the coherence of OG's digital initiatives with them.

 USEFUL LINKS

ABC Digitale website
ABC-DIGITALE.IT

Self-assessment test in Italian
TINYURL.COM/YC73X52A



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 • SLOVENIA

THE STUDENTS COMPETENCE FRAMEWORK BY THE SLOVENIAN EDUCATION INSTITUTE

ZRSS supports teachers in the definition of students' digital competence development from kindergarten to high school by mean of indicators helping teachers plan activities to develop digital competence. All 21 digital competencies from DigComp model are used to prepare indicators. Team of teachers that work in one class can use indicators to coordinate who will develop which of the competence in DigComp model and

to what level, therefore the framework helps teachers to realize which digital competencies should have students in particular class, and moreover each school can adapt the indicators to their special situation. Next step is to start a project with schools where teachers support students' digital competence every year in every subject.

 • INTERNATIONAL

SKILLAGE: ONLINE SELF-ASSESSMENT TOOL ON DIGITAL SKILLS FOR THE JOB MARKET

Skillage is an online test developed in 2012 by Telecentre Europe (now All Digital) to assess young people's understanding and readiness for ICT skills in the workplace. Available in over 20 languages, the test consists of 15 questions randomly chosen from a set of 100. Each question has several possible answers that explore a given IT skill from different angles. Immediate feedback tells if the answer is correct, explains why and discusses the

other options, making it a formative experience about digital technology in the workplace. At the end of the test, users receive an overall score on ICT skills level. Skillage questions fall into 5 competence areas, originally identified in an employability perspective. In 2014, questions were increased from 40 to 100 and aligned to DigComp. The 5 five original competence areas remained unchanged, to guarantee longitudinal comparability of collected data.

 USEFUL LINKS

Indicators describing individual
digital competences

[TINYURL.COM/Y7UGVMN6](https://tinyurl.com/y7UGVMN6)

 USEFUL LINKS

Test website (multilanguage)

[SKILLAGE.EU](https://skillage.eu)

Telecentre Europe DigComp
Guidelines

[TINYURL.COM/YCWSE9NH](https://tinyurl.com/yCWSE9NH)



 ACKNOWLEDGEMENTS & CONTACTS

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• SPAIN

TUCERTICYL: THE NEW DIGITAL COMPETENCE CERTIFICATION SYSTEM IN CASTILLA LEON

The new certification service TuCertiCyL is based on DigComp 2.1 and offers two certifications of digital competences for citizenship, at basic and intermediate level. Both are certified by the Ministry of Development and Environment of the Junta de Castilla y León in Spain.

The certification tests can be booked online by any citizen and are held in the Espacios CyL Digital (Digital spaces of Castilla y León), run by the regional government in each provincial capital city,

and in other recognised centres. The test involves randomly generated multiple-choice questions, simulations and challenges to assess the user's knowledge and skills in different DigComp competence areas and proficiency levels.

 USEFUL LINKS

Access to digital competences
certification tool

TUCERTICYL.ES



 ACKNOWLEDGEMENTS & CONTACTS

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• GERMANY

DIGITAL SKILLS SELF-ASSESSMENT TOOL FOR EMPLOYEES AND MANAGERS OF THE DACH REGION

The Forum "Digitale, interaktive Didaktik" is implementing a self-assessment tool based on DigComp 2.1. for employees and managers in companies and organisations of the DACH region. In 2017 the tool is open to member companies, while in 2018, the tool will be open for all interested companies in the DACH region.

How does it work? The 21 DigComp competences are rated by every participant at the click of a mouse.

In addition, the demographic data of all participants are recorded. Each participant then receives a short report on the results at the level of the five DigComp 2.1 competence areas. Then participants can carry out an online evaluation of the DigComp tool based on 11 open and closed questions. So far, the Forum has developed a Self-Assessment Tool DigComp 2.1, and an Evaluation of DigComp tool.

 USEFUL LINKS

Forum

FORUM-DID.DE

Tool "DigComp 2.1" (in German)

FORUM-DID.DE/DIGCOMP



 ACKNOWLEDGEMENTS & CONTACTS

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• ITALY

SAFE ONLINE: A BOOK TO TRAIN THE NEW DIGITAL CITIZENS AT SCHOOL

Sicuri online: Formare i nuovi cittadini (in Italian only) is the first teaching aid and exercise book for students in first-level secondary school that was published in Italy and entirely based on DigComp. The author, Sandra Troia, is a teacher who knows DigComp as she promoted it widely and uses it herself at school. The first part of the book presents safety as a digital competence, DigComp, the ongoing Digital School National Plan and

the importance of authentic and meaningful learning experiences at school, to develop digital citizenship. Then 6 learning paths are suggested, each one with starting and final self-assessment tests, reflection questions, tasks to perform etc. The paths illustrate and address issues drawn from DigComp's main areas, e.g. digital footprints, online safety and privacy, digital content production and others.

 USEFUL LINKS

Presentation of the book
[TINYURL.COM/YCP4223N](https://tinyurl.com/YCP4223N)



 ACKNOWLEDGEMENTS & CONTACTS

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• NORWAY

NORWEGIAN PROFESSIONAL DIGITAL COMPETENCE FRAMEWORK FOR TEACHERS

The Norwegian Centre for ICT in Education (under the Norwegian Ministry of Education and Research) used DigComp and other frameworks in a structured design process that involved: a literature review and meta-analysis of over 40 national and international documents on digital competence to gain insight into objectives, approaches, implementation strategies and extract best practice to be adapted to the Norwegian context; the grouping of these elements as the basis for a first framework draft,

defining competence boundaries and content; matching with national steering documents and discussion with stakeholders to adapt it to the national context. The resulting framework, launched in May 2017, aims to provide a point of reference and further guidance for policy developers, heads of department, teacher educators, teachers, student teachers and others in their work on improving the quality of teacher education and continuing professional development.

 USEFUL LINKS

The framework for teachers
[TINYURL.COM/Y7CL3DFW](https://tinyurl.com/Y7CL3DFW)

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