



Chatbot based Career Guidance

Blended CareerBot training for Career Guidance
Practitioner

Module 2 – Digital Competences needed in Career Guidance

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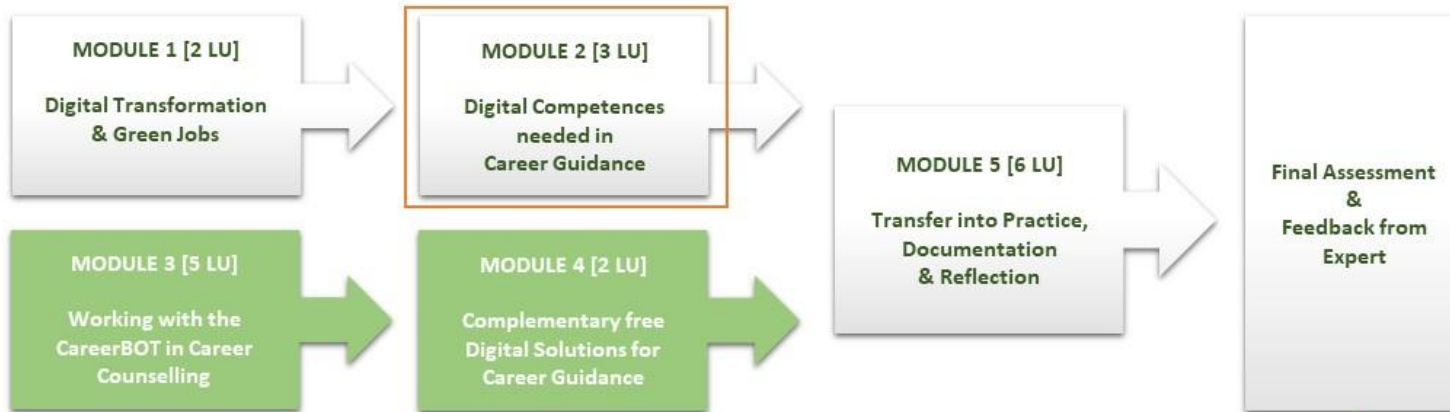
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Training plan – You are here

Blended CareerBOT Training for Practitioners



The CareerBOT training process at a glance:



MODULE:	A Module covers a thematic area and is divided into several Learning Units.
LEARNING UNIT [LU]:	One Learning Unit [1 LU] corresponds to a period of approx. 45 min.
GREY ELEMENTS:	Grey Modules are designed for Self-directed Learning and Transfer into practice.
GREEN ELEMENTS:	Green Modules are designed for Face-to-Face Training (or Webinar).

Aim and content of Module 2 – Digital Competences needed in Career Guidance

The CareerBot partnership seeks to improve the Digital Readiness of the Career Guidance sector. We want to put Career Guidance Practitioners at the centre and assist them – and their organisations - on the path of digitalisation so that they can advise their clients in the best possible way. This second module (of five) deals with digital competences needed in career guidance and is designed for self-directed learning. It comprises three Learning Units of minimum 45 minutes each.

Our aim is to offer practitioners information on digital career guidance, on digital competences and on labour market information needed in career guidance in order to prepare them for the face-to-face training in the following modules. The learning units cite some international sources but focus on examples from Europe and include a short country-specific content focusing here on digitalisation in **Austria**.

The first Learning Unit offers a definition and a short history of Career Guidance and Counselling, outlines what digitalisation means in our context and looks at recent digital trends, which got a boost through Artificial Intelligence (AI).

The second Learning Unit presents in more detail an European framework on digital competences – the Digital Competence Framework for Citizens (DigComp). Examples show the application of DigComp in European skills taxonomies like ESCO (explained in more detail in the Learning Unit 3) and encourages to take a self-assessment tool.

The third Learning Unit deals with the importance of Labour Market Data and Information and their outcomes in the form of Labour Market Intelligence (LMI). Two examples of LMI are presented (ESCO and Skills-OVATE).

All three Learning Units include an exercise to help practitioners apply what they have read and a checklist to evaluate what they have learned for themselves. The module is supplemented by an extensive collection of resources, links and a bibliography.

Module 2 is divided into the following Learning Units:

- LU 1: Digital Career Guidance and digital trends for practitioners
- LU 2: Digital literacy and digital skills assessment
- LU 3: Labour Market Intelligence and two examples

Learning Unit 1 – Digital Career Guidance and digital trends for practitioners

Career guidance can be defined as follows:

Career guidance describes the services intended to support individuals of any age to manage their careers and to make the educational, training and occupational choices that are meaningful for them. Career guidance helps people to reflect on their ambitions, interests, qualifications, skills and talents – and to relate this knowledge about who they are to who they might become in life and work. Individuals, families and communities differ in the extent to which they are able to visualise and plan their future. It is an important role of career guidance to address such differences and inequalities.

A Short history of Career Guidance and Counselling

The historical roots of what is today known as Career Guidance and Counselling reach back over one hundred years. Beginning with Frank Parsons “Vocational Guidance Movement”, career counselling helped individuals to answer changes in society. Beginning with placement services in an increasing urban and industrial society, counselling took the form of educational guidance in schools, colleges and universities. Career practitioners included psychological testing and other methods for their professional interventions, which were conducted in individual or group settings. The counselling offered advice and expertise about jobs, labour market, educational pathways and vocational training. Started from job placements, Career Guidance from the 1960s and 1970s increasingly aimed to give meaning to a person’s life, to empower clients and assist and improve individual decision making (Pope 1997).

Since the 1990s, society has changed rapidly from an industrial stage to an information phase, from a stable modern corporate age with linear careers to a post-modern digital age with new task-based jobs reflecting digitalisation and globalisation (Savickas 2019). Career counselling nowadays answers to individualisation and frequent job changes, with more emphasis on soft and digital skills to adapt to an accelerated labour market. Technologies like the internet, search engines, mobile devices and most recently artificial intelligence influence the work and life of all of us and of career practitioners and their clients.

There is no standard European training for professional career counsellors, with various courses or degree programs offered by VET providers, professional associations or universities in different countries. The title "career counsellor or career practitioner" is unregulated and there is also a lack of an international curriculum which includes digital skills for career advising.

Career guidance support is open to everybody and spans a wide field from supporting marginalized groups to enter the labour market to advanced career development for university graduates and highly qualified clients. Career counselling is historically and presently a service to combat social injustice and exclusion as well as a sophisticated tool to increase employability and attain high career goals.

Career guidance spans from individually using self-help resources over brief career-related advice by a non-specialist in a group up to specialised repeated personal counselling sessions by a professional career advisor. Similarly, career-related resources can be used autonomously, with little guidance or can only be offered and guided by a specialist (for example psychological testing).

Digitalisation of Career Guidance and Counselling

Digitalisation in the context of office work, education and career guidance refers to the replacement of former non-digital tasks and processes through activities, which use digital technologies, tools or platforms. This includes digital storage and processing of all sorts of data, information and digital content. Furthermore, it refers to digital communication, online collaboration, telework (home office), remote access to all kinds of information and increasingly the use of artificial intelligence. The motivation to live and work more digitally is to save time and money and to improve and accelerate tasks, processes and services. However, both online and offline methods have their advantages and limitations, and the effectiveness of each can vary based on specific circumstances. Using new tools always comes with a learning curve and in some situations, factors such as the client's digital literacy level, access to devices and an internet connection, the need for immediate human feedback and social interactions and even motivation levels can impact on the ability of going digital to speed up or make the process more effective and efficient. The effect of this change to the digital in professional and private lives has of course to be critically reflected.

Digital and distance tools are used to give information, to communicate and to automate interaction between the client and the advisor or other parties (employer, training institute, public employment service).

The International Labour Organization (ILO) list several tools and purposes when it comes to digitalisation in career counselling (ILO 2022a):

- Tools for evaluating attitudes and skills relating to specific career pathways.
- Online career assessments.
- Websites to explore occupational, educational and employment information.
- Online interviews with professionals.
- Databases for training and employment opportunities.
- Tools to maintain and update a CV and a career portfolio.
- Online-instructions in career decision making.

- Communication with service providers (public employment services, VET providers).
- communication with other persons making career decisions (through social networks like LinkedIn or others).

ILO further provides a directory with round-the-globe examples of digital career guidance technology including following topics and solutions (ILO 2022b):

- Remote and distance counselling services involving different communication channels (telephone, email, chatbot, video, Facebook, ...).
- Several “one-stop”-web portals offering information, personal portfolios, skills profiling, CV generation, dynamic job matching and training opportunities.
- Websites with information on jobs and labour market trends
- Computer games for exploring one's own skills.
- Industry powered Online career tools, which use AI to identify competences and match them with labour market trends and open positions.
- Online platform/course to simulate real-world work experience through completing tasks provided by companies.
- Tailored regional matching tools for special groups (young people, refugees, pre-arrival immigrants, ...).
- AI-powered reviews of CVs plus job matching and ranking of candidates as a service for employers.
- Blockchain based platform or “credit-cards” to securely store personal information, skills, work experience.

This shows how digitalisation has arrived in career counselling and what solutions are adopted in different sectors and countries. Using these tools and opportunities requires digital competences on all sides – on the side of companies and public administration as well as on the side of the individual person, which leads us to the question of classification of digital competences.

Cedefop points out that digitalisation also needs to address issues of service delivery quality, equal access, privacy, impartiality and potential ethical dilemmas, and insists on the central aspect that the career counsellor must be the ultimate expert on labour market developments and therefore recommends a blended approach for career advice (Cedefop 2021a):

While big data, artificial intelligence and innovative tools, such as chatbots, allow for dynamic, portable and flexible approaches to career support and self-directed learning, the provision of well-informed, holistic career guidance will always go beyond the machine and require skilful human intervention.

Present or emerging trends in Digital Career Guidance

In the rapidly evolving digital landscape, career guidance is also undergoing significant transformations. Digital technologies should make career counselling more accessible, personalised and more widely used, but digital tools should complement and not substitute the role of the personal counsellor.

Here are some emerging trends in digital career guidance:

Distance or Remote Career Coaching, online or virtual Mentoring

With the rise of remote work, career coaching and mentoring is also moving online. Virtual career coaching sessions allow individuals to receive guidance and support from experts regardless of their location, which is also a good exercise for job interviews, which are held more frequently online. Video conferencing, instant messaging, and email are commonly used mediums for remote career coaching and there are special online training courses, which help to acquire these competences (OCCAY - Online Career Counselling Academy)/

In the field of career development professionals can also more easily connect with mentors or career coaches remotely to receive guidance and benefit from their expertise.

Gamification simulations, virtual reality, augmented reality, 360 degree films

Gamification is the process of taking an already existing non-game item (e.g., website, application, online community) and integrating game mechanisms into it, in order to motivate and enhance participation and engagement. This can be applied to stimulate exploration of jobs, labour markets and awareness building.

Gamification techniques are being applied to career exploration to engage and motivate individuals in the career planning process. Through interactive games and simulations, individuals can explore different career options, understand the requirements and challenges of various professions, and make more informed decisions about their future.

Another approach is to create computer games to provide game-based career learning support to increase motivation to deal with career topics. (Hummel 2017)

Virtual reality (VR) uses VR-glasses to visit companies virtually to experience a visual impression of workplaces. A simpler possibility is 360 degree (panorama) films serving as a virtual tour through a factory, see for example:

<https://www.deinerstertag.de/beruf/anlagenmechanikerin-fuer-rohrsystemtechnik-nbb/>

Augmented reality (AR) technologies enrich the real world with virtual objects seen through glasses, tablets or smartphones and allow experts to create immersive career exploration scenarios facilitating experience in work environments or engagement in skill-building activities.



Virtual career fairs

Virtual career fairs have gained popularity as a convenient and cost-effective way for job seekers to connect with employers. These events, especially tech fairs, take place online, allowing participants to explore job opportunities, interact with recruiters through chat or video calls, submit a CV and attend virtual interviews.

Artificial intelligence (AI)

Chatbots are increasingly being developed and have matured from gimmicks to new conversational interfaces. With the advent of ChatGPT and other generative artificial intelligence software in November 2022 many applications were developed, some of them in the field of career counselling. The new chatbots can write CVs, motivational letters, can answer questions about jobs, companies and many other career-related questions.

But these answers cannot be fully trusted, as the results are sometimes made up and not correct. Generative text generation is not fact based but predicts most probable word orders. If the AI-chatbots become more trustworthy and are trained with career guidance data, they may give better answers.

For a general introduction on generative AI in education and research, UNESCO released a report as a base for policymaking and regulation of AI in institutions like schools, universities and VET centers (UNSECO, 2023). The report lists eight fields of controversy to consider around the use of generative AI (genAI):

- Worsening digital poverty
- Outpacing national regulation adaptation
- Use of content without consent
- Unexplainable models used to generate outputs
- AI-generated content polluting the Internet
- Lack of understanding of the real world
- Reducing the diversity of opinions and further marginalizing already marginalized voices
- Generating deeper deepfakes

Referring to career guidance such genAI Tools like ChatGPT (from OpenAI), Bard (Google) or Bing (Microsoft) can be asked career-related questions like this¹:

a. Job opportunities: "What are the job opportunities in the environmental conservation field for someone with my skillset?"

¹ From <https://www.griproom.com/fun/how-to-use-chatgpt-as-a-career-counselor> ; see also for example <https://www.linkedin.com/pulse/chatgpt-career-development-prompts-jason-schwass/>

b. Skill development: "What additional skills should I acquire to transition into a career in environmental conservation?"

c. Industry insight: "Can you provide an overview of the current trends in the environmental conservation industry?"

d. Networking: "How can I expand my professional network in the environmental conservation field?"

e. Job search strategies: "What are some effective job search strategies for transitioning into a career in environmental conservation?"

AI Chatbots can also be used as a partner to train for job interviews if you tell them through well-formulated prompting that they should act as an interviewer.

Among the new tools there are tools to correct and improve CVs, for example <https://resumecheck.net/>

Additionally, more APIs and open data repositories are becoming available.

One of the next steps will be that LMI related activities and data not only refer to existing databases and static taxonomies (like ESCO), but also use machine-learning like the new AI-Bots and therefore arrive at new descriptions and a wider and more dynamic output than present solutions.

In general, it can be concluded that digitalisation in every stage, in the same way as professionalisation, should be understood as a continuous process, which offers both opportunities and risks.

Exercise: My digital tools

Make a list of all the digital tools you use in your daily work as a career advisor and note the tools and applications which you have heard about but not used. Prepare yourself to discuss your list and your experience with a colleague, who also works in career counselling.

OR

Get an account on ChatGPT or Perplexity.ai and ask career guidance related questions to these chatbots. Note your questions and reaction to the results.

<https://chat.openai.com/> or <https://www.perplexity.ai/>

Checklist: Your learning outcomes

What do I know on digitalisation and Career Guidance?		
#	Theme/Question	Completed
1	History of Career Guidance and Counselling: Explain some developments from the historical development of Career Guidance and Counselling?	<input type="checkbox"/>
2	Digitalisation in Career Guidance and Counselling: List several processes and activities from your work as a career advisor, where you use digital tools and explain the advantages of the technology.	<input type="checkbox"/>
3	Trends in Digital Career Guidance and Counselling: List some present or emerging trends in digital career guidance and give examples.	<input type="checkbox"/>
4	Artificial Intelligence (AI) in Career Guidance: Explain possible scenarios of AI in Career Guidance and point out issues of concern.	<input type="checkbox"/>

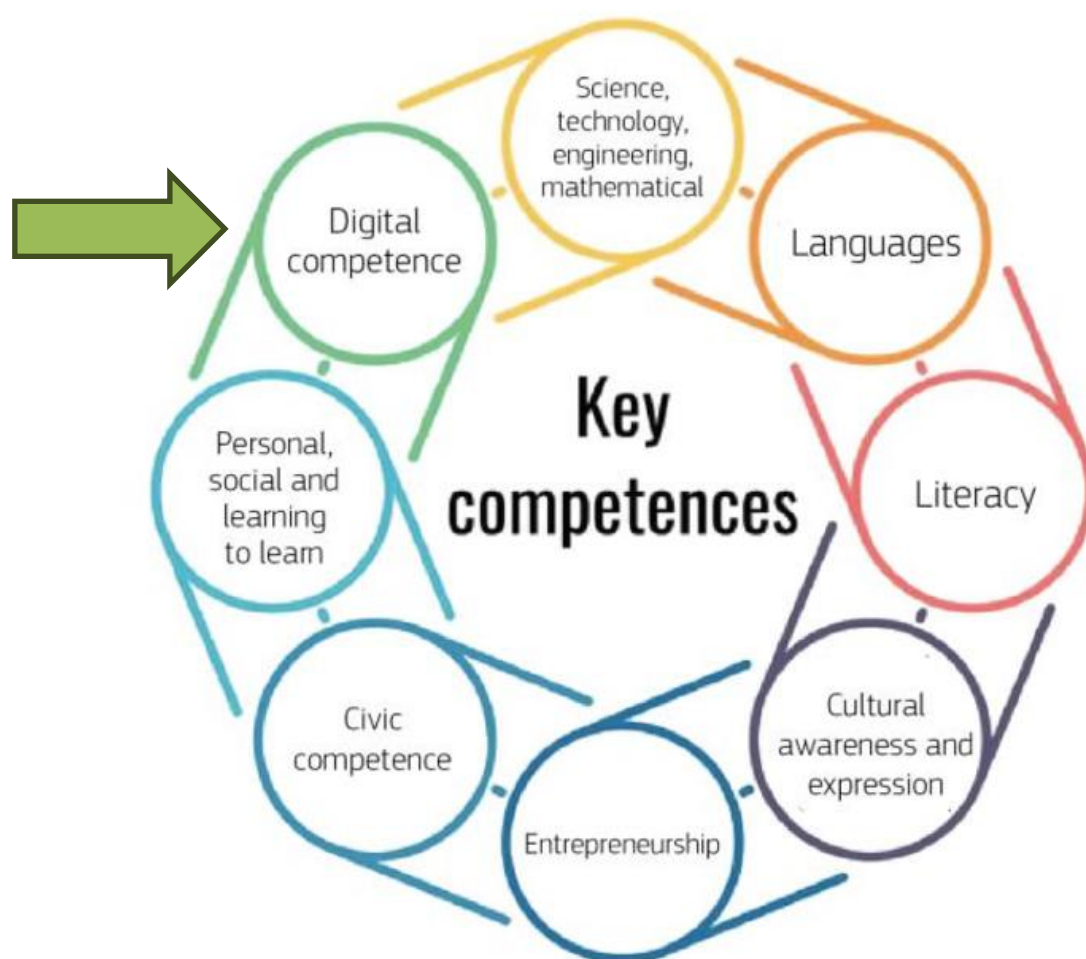
NOTE: These questions can help you and other learners assess their grasp of the key concepts and insights presented in the training content about digitalisation and career guidance.

Learning Unit 2 – Digital literacy and digital skills assessment

Digital Competence Framework for Citizens (DigComp)

To work successfully as career advisor in a digital work environment one needs beside counselling, professional, social and personal competences, up-to-date digital skills. The necessity of digital literacy applies to the career practitioner as well as to his or her client.

Please note that Digital competence is one of 8 key competences of the European Framework for Lifelong learning and it is interlinked with the other competences.



For specific occupations different sets of digital competences are necessary and therefore the European Union offers a sophisticated system for classifying competences: the Digital Competence Framework for Citizens (DigComp). DigComp 2.2 was updated in 2022 and the update includes examples of knowledge, skills and attitudes referring to Artificial Intelligence (AI). The other two newly included topics are Remote Working and Digital Accessibility.

One application of DigComp is to assess and reflect personal digital competences and document them as part of Europass CV. DigComp also serves as a basis for schools and VET providers to develop curricula and training programs.

DigComp consist of five dimensions or layers:

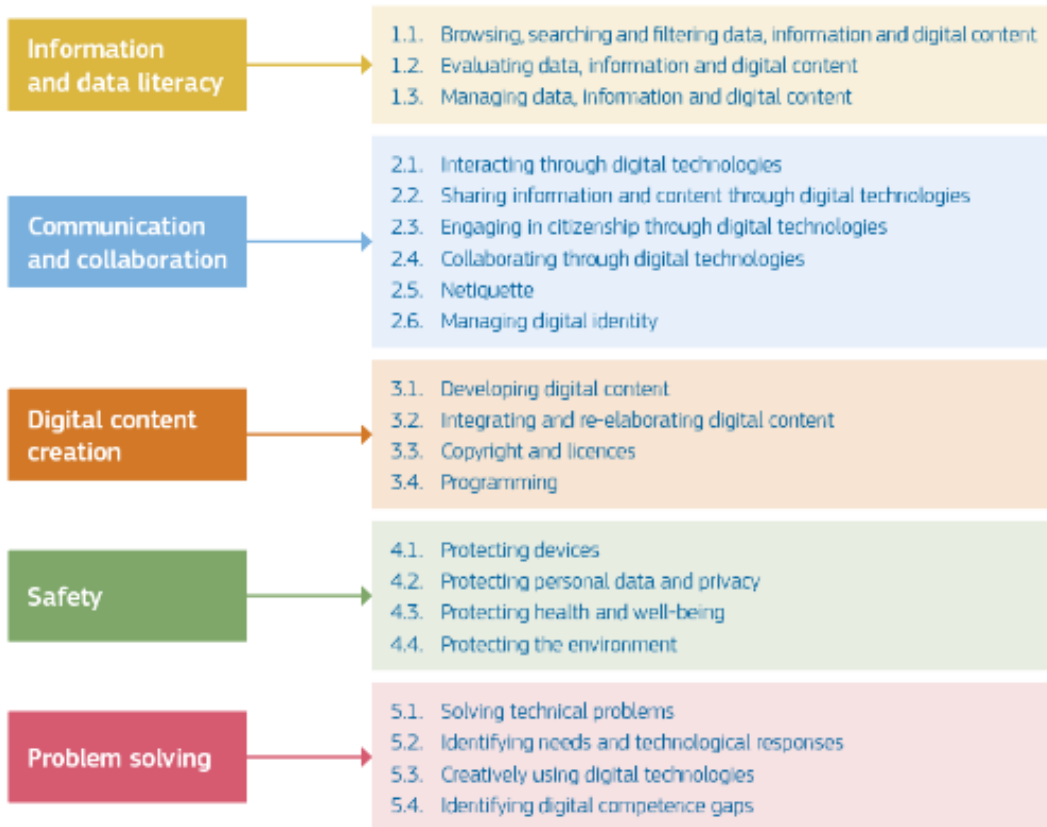
- Dimension 1 – **5 areas** of the digital competence
- Dimension 2 – **21 competences** belonging to each of the five areas
- Dimension 3 – **8 Levels of proficiency** for each competence
- Dimension 4 – **Examples** of the knowledge, skills and attitudes per competence
- Dimension 5 – **Use cases** in work and education for each competence

The five main competence areas are described:



1. **Information and data literacy:** To articulate information needs, to locate and retrieve digital data, information and content. To judge the relevance of the source and its content. To store, manage, and organise digital data, information and content.
2. **Communication and collaboration:** To interact, communicate and collaborate through digital technologies while being aware of cultural and generational diversity. To participate in society through public and private digital services and participatory citizenship. To manage one's digital presence, identity and reputation.
3. **Digital content creation:** To create and edit digital content To improve and integrate information and content into an existing body of knowledge while understanding how copyright and licences are to be applied. To know how to give understandable instructions for a computer system.
4. **Safety:** To protect devices, content, personal data and privacy in digital environments. To protect physical and psychological health, and to be aware of digital technologies for social well-being and social inclusion. To be aware of the environmental impact of digital technologies and their use.
5. **Problem solving:** To identify needs and problems, and to resolve conceptual problems and problem situations in digital environments. To use digital tools to innovate processes and products. To keep up-to-date with the digital evolution.

Within these five areas are 21 digital competences:



These DigComp competences are also integrated in the “skills pillar” of the ESCO dataset (see Learning Unit 3) and can be searched adding “DigComp” in the filter settings:

Skills & competences Select an ESCO version
ESCO dataset - v1.1.1

Search skills Find Hide filters ^

Filters Clear filters

Concept type Group, Knowledge, Skill
 Reusability level Cross-sectoral
 Status Released
 Labels DigComp
Apply

Hierarchy view

Search result

- interact through digital technologies

- develop digital content
manage digital identity

interact through digital technologies Download

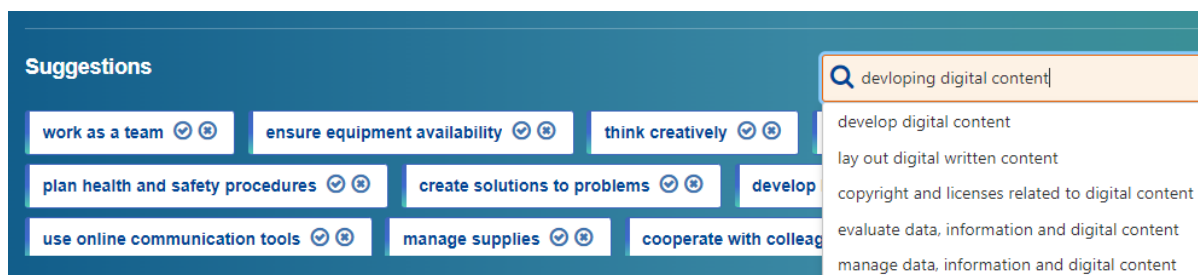
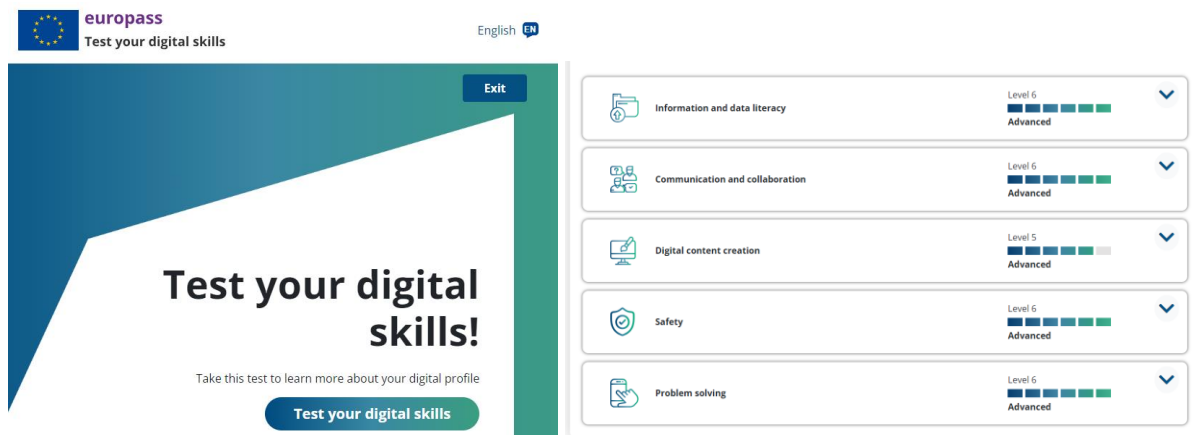
digital communication and collaboration >
 skills > working with computers >
 using digital tools for collaboration, content creation and problem solving >
 using digital tools for collaboration and productivity > interact through digital technologies >

https://esco.ec.europa.eu/en/classification/skill_main

Digital skills assessment

As the DigComp system is used to test digital skills and record in the Europass CV it is highly relevant for career counselling. This test is offered on two websites:

<https://europa.eu/europass/digitalskills/> or <https://digital-skills-jobs.europa.eu/digitalskills/>



Another assessment tool, MyDigiSkills, which is available in 11 languages and asks 82 statements grouped into the 5 areas before creating a personal report, lists personal strengths and weaknesses in the digital field.

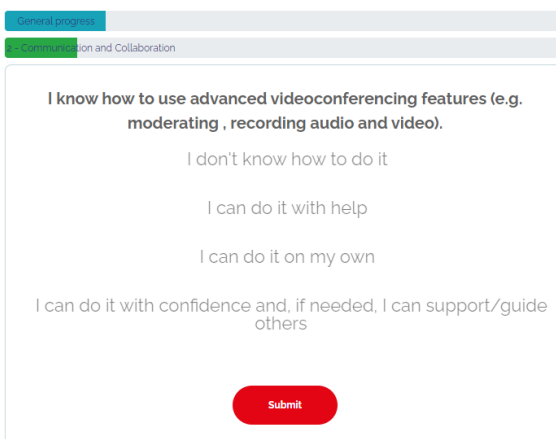
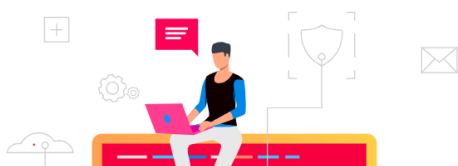
<https://mydigiskills.eu/>



MyDigiSkills helps you to better understand your level of digital skills based on knowledge, skills and attitude in each of the five areas of the European Digital Competence Framework for Citizens, known as DigComp. It should take you around 20 minutes to complete, and you will get a report on your levels of digital skills at the end.

[Read more below...](#)

[Let's get started!](#)



A further Online Self-Assessment Tool based on DigComp can be found at <https://www.digitalskillsaccelerator.eu/learning-portal/online-self-assessment-tool/>

The DigComp 2.2 update addresses Artificial Intelligence through including 80 new examples. Instead of focusing on technical knowledge about AI, the examples highlight what citizens need to know to interact critically and safely with AI systems. Here are some of the new examples of the digital competences needed to deal with Chatbots and AI systems:

To engage confidently, critically and safely with AI systems, examples include that a citizen is

- aware that AI systems can be used to automatically create digital content (e.g. texts, news, essays, tweets, music, images) using existing digital content as its source. Such content may be difficult to distinguish from human creations.
- aware that sensors used in many digital technologies and applications (e.g. facial tracking cameras, virtual assistants, wearable technologies, mobile phones, smart devices) automatically generate large amounts of data, including personal data, that can be used to train an AI system.
- aware that AI is a constantly-evolving field, whose development and impact is still very unclear.
- knows how to incorporate AI edited/manipulated digital content in one's own work (e.g. incorporate AI generated melodies in one's own musical composition). This use of AI can be controversial as it raises questions about the role of AI in artworks, and for example, who should be credited.
- aware that the data, on which AI depends, may include biases. If so, these biases can become automated and worsened by the use of AI. For example, search results about occupation may include stereotypes about male or female jobs (e.g. male bus drivers, female sales persons).

See full list of examples in annex; Source: DigComp 2.2: The Digital Competence Framework for Citizens

The DigComp framework further serves as the basis for several projects (courses, dictionaries, curricula, tests) in European countries and is therefore a well-known instrument of European standardization and cooperation. Experts and stakeholders from Member States meet regularly in two DigComp Communities of Practice.

Exercise: My digital skills

Test your digital skills with <https://europa.eu/europass/digitalskills/> or <https://digital-skills-jobs.europa.eu/digitalskills/>.

Checklist: Your learning outcomes

What do I know on digital competences?		
#	Theme/Question	Completed
1	Digital Competence Framework for Citizens (DigComp): Explain the structure of DigComp and give some examples of the five dimensions with corresponding examples.	<input type="checkbox"/>
2	Assessing digital skills: How can one assess one's digital skills? What is your own experience of the online assessments?	<input type="checkbox"/>

NOTE: These questions can help you and other learners assess their grasp of the key concepts and insights presented in the training content about digital competences.

Learning Unit 3 – Labour Market Intelligence and two examples

This Learning Unit deals with Labour Market data and describes two databases before focusing on the specific situation in Austria as a country example.

Note: To demonstrate the output of generative AI, some passages of this Learning Unit are produced by an AI Chatbot. The generated text is framed and the prompt for the text generation is given. We used the Chatbot www.perplexity.ai because this bot lists sources.

Labour Market Information and Labour Market Intelligence (LMI)

Labour Market Information is quantitative and qualitative data about employment, the work force, job opportunities, self-employment, occupations, salaries, required skills, open positions and the condition of the past, present and future labour market on a regional, national or transnational level. Data is gathered on local, national and European level by different agencies, governments and or other institutions including web platforms (e.g. LinkedIn) for different purposes. There is growing demand and a trend towards open data, which can be accessed by an API (Application Programming Interface) or downloaded and used and shared by anybody.

If this mass of statistics, descriptions and studies is analysed, interpreted and made available for a non-expert audience in an actionable way (e.g. visualisations), it turns into **Labour Market Intelligence (LMI)**.

LMI is a technical term to describe any type of information that helps to make data-based choices, plans and decisions about the labour market, the workplace or the economy. For career advisers LMI is a valuable source of knowledge as a basis for counselling their clients. LMI should be accurate, complete, up to-date and comparable.

Labour market information is complex, but LMI should be more readable and accessible. A career practitioner should assess on the source and quality of the underlying data through reflecting on following questions (see https://www.lmiforall.org.uk/explore_lmi/learning-units/):

- Who has produced the data for what purpose?
- Are there alternative sources for similar data?
- How was the data collected?
- How is the data disaggregated and classified?
- Is the data up to date?
- Is the data fit for my purpose?



A career adviser must keep in mind that the same data can sometimes be used to make an argument for different cases. If data shows that a certain sector (e.g. construction or cosmetics) is dominated by either men or women, then this can be used to see this fact as a promising (share of the less represented gender is rising) or disappointing (the gender balance has still not improved despite efforts) factor. Much depends on the personal perspective of the career advisor.

The career practitioner acts as translator between LMI and the individual client, whom he /she informs and guides in his or her career plans. As information overload is a common challenge when dealing with LMI, it is the responsibility of the career practitioner, when and how he or she gives LMI to the client to support the guidance process and concrete decision-making.

But as the structure of the labour market and the economy changes rapidly, access to LMI is crucial to make sense out of these changes and the Chatbot CareerBot is connected to LMI databases.

Examples of Labour Market Intelligence: ESCO, Skills-OVATE

The following two examples are of how LMI is managed, developed and regularly updated at a European level. ESCO is a directory of over 3000 occupations and almost 14000 skills, connected to these occupations. ESCO classifications are available in 28 languages and are offered by the European Commission, DG Employment, Social Affairs and Inclusion, located in Brussels.

ESCO is also supported by Cedefop, the European Centre for the Development of Vocational Training, located in Thessaloniki, which is one of the 44 decentralised agencies of the European Union. Cedefop, which was established in 1975 in order to support the development and implementation of European vocational education and training (VET) policies, also offers a range of LMI online Tools including Skills-OVATE, which based on online job advertisements in 28 European countries – provides information about jobs and skills presently in demand. OVATE is short for "Online Vacancy Analysis Tool for Europe" and Skills OVATE uses the ESCO classification.

The following description of ESCO and Skills OVATE is designed to deepen an understanding of LMI and is also a basis for better understanding the working of the CareerBOT Chatbot, which accesses these two datasets.

ESCO (European Skills, Competences, Qualifications and Occupations)

The following text was generated by AI Chatbot www.perplexity.ai using the prompt: "What is ESCO (European Skills, Competences, Qualifications and Occupations)"

ESCO (European Skills, Competences, Qualifications and Occupations) is a multilingual classification system developed by the European Commission since 2010[4]. It identifies and categorizes skills, competences, qualifications, and occupations relevant for the EU labour market and education and training [1][2][6]. ESCO works like a dictionary, describing, identifying, and classifying professional occupations and skills relevant for the EU labour market and education and training area and systematically showing the relations between those occupations and skills [1]. It provides a common reference terminology that helps make the European labour market more effective and integrated, and allows the worlds of work and education/training to communicate more effectively with each other [1]. ESCO is available in 27 languages (24 EU languages, plus Icelandic, Norwegian, and Arabic) and is composed of two pillars: occupations and skills/competences linked to relevant international classifications and frameworks [1]. ESCO provides descriptions of 3008 occupations and 13,890 skills linked to these occupations, translated into 28 languages (all official EU languages plus Icelandic, Norwegian, Ukrainian, and Arabic) [2]. The aim of ESCO is to support job mobility across Europe and therefore a more integrated and efficient labour market, by offering a “common language” on occupations and skills that can be understood by electronic systems [2]. ESCO can be used by different online platforms to offer services like matching job seekers to jobs on the basis of their skills, suggesting training to people who want to reskill or upskill, and more [2]. ESCO is published in an open IT format, is available for use free of charge by everyone, and can be accessed through an online portal [6].

Citations:

[1] <https://ec.europa.eu/social/main.jsp?catId=1326&langId=en>

[2] <https://esco.ec.europa.eu/en/about-esco/what-esco>

[3] https://www.engineerseurope.com/sites/default/files/Background%20note_ESCO.pdf

[4] https://en.wikipedia.org/wiki/European_Skills,_Competences,_Qualifications_and_Occupations

[5] <https://eurofamnet.eu/agencies-skill-standards/european-commission-european-skills-competencesqualifications-and>

[6] <https://www.epea.org/esco-european-skills-competences-qualifications-and-occupations/>

The following text was generated by AI Chatbot www.perplexity.ai using the prompt:

"How can career advisors integrate ESCO into their work"

Career advisors can integrate ESCO into their work in the following ways:

1. Guidance services: Career advisors can use ESCO to provide guidance services to individuals seeking career advice [2]. They can utilize ESCO to recommend suitable training and educational pathways based on the individual's skills set and career aspirations [2].
2. Occupational profiles: ESCO provides occupational profiles that show the relationships between occupations, skills, competences, and qualifications [4]. Career advisors can use these profiles to help individuals understand the requirements and characteristics of different occupations, assisting them in making informed career decisions.



3. Skills assessment: Career advisors can use ESCO to assess the skills and competences of individuals [2]. By comparing an individual's skills with the skills required for specific occupations, career advisors can provide tailored advice on career paths and opportunities for skills development.

4. Labor market analysis: ESCO offers insights into the labour market, including trends and demands for specific skills and occupations [1]. Career advisors can leverage this information to provide up-to-date and relevant advice to job seekers, helping them align their career goals with market needs.

5. Curriculum development: ESCO can be used by career advisors involved in curriculum development for educational and training programs [1]. By referring to ESCO's classification of skills and competences, career advisors can ensure that the curriculum aligns with the needs of the labour market, enhancing the employability of students.

In summary, career advisors can integrate ESCO into their work by utilizing its guidance services, occupational profiles, skills assessment capabilities, labour market analysis, and curriculum development resources. This integration enables career advisors to provide more accurate and tailored guidance to individuals seeking career advice.

Citations:

[1]

<https://books.google.com/books?dq=integrating+esco+into+career+advising&hl=en&id=iqZJEAAAQBAJ&lpg=PA257&ots=3YuAC-5jVS&pg=PA257&sa=X&sig=ACfU3U0vtXzuriflUCstluShe2mTlj4rDw&source=bl&ved=2ahUKEwj37uOa3v-AAxXcKUQIHxo7CS0Q6AF6BAgFEAE>

[2] <https://esco.ec.europa.eu/en/classification/qualifications>

[3]

<https://www.etown.edu/offices/advising/files/Integrating%20Career%20Advising%20into%20Academic%20Advising.pdf>

[4] <https://www.epea.org/esco-european-skills-competences-qualifications-and-occupations/>

[5] <https://nacada.ksu.edu/Resources/Clearinghouse/View-Articles/Integrating-career-and-academic-advising.aspx>

[6] <https://ec.europa.eu/social/main.jsp?catId=1326&langId=en>

ESCO provides a large scale, multilingual mapping which is already used for innovative applications like skills-matching in cooperation between ESCO, Google, LinkedIn and the Dutch company SkillsLab (www.skilllab.io)

ESCO is also mapped to different classifications in European countries² and is one of the databases accessed by the CareerBOT Chatbot.

² <https://esco.ec.europa.eu/en/news/eures-countries-mapping-tables-are-now-available-esco-webpage>

Skills-OVATE

The following text was generated by AI Chatbot www.perplexity.ai using the prompt:

"What are the features of Skills-OVATE database by Cedefop?"

The features of the Skills-OVATE database by Cedefop include:

1. Online Vacancy Analysis: Skills-OVATE is an online tool that analyses job vacancies gathered from online job portals and classifieds [3][6]. It provides detailed information on the skills and qualifications demanded by employers based on online job advertisements (OJAs) in 28 European countries [6].
2. Real-time Data: The database offers up-to-date and real-time data on job vacancies and skills demand [6]. This ensures that users have access to the latest information on the labour market.
3. User-friendly Interface: Skills-OVATE provides a user-friendly interface that allows users to easily access and explore the data [1][4]. The tool offers customizable search options, enabling users to filter and refine the data based on their specific criteria.
4. Insights and Analysis: Skills-OVATE offers insights into the labour market, including skills demand, occupational trends, regional analysis, and industry analysis [1][5]. It uses algorithms and statistical methods to analyse the collected data and present it in a clear and understandable format.
5. Free Access: The Skills-OVATE database is available for free to anyone who wants to use it [5]. This allows users to access valuable labour market information without any cost.

In summary, the Skills-OVATE database by Cedefop provides online vacancy analysis, real-time data, a user-friendly interface, insights and analysis on skills demand, and free access to the database. It serves as a valuable resource for understanding the labour market and making informed decisions about careers and training.

Citations:

[1] <https://www.cedefop.europa.eu/en/videos/skills-ovate-database-presentation>

[2] <https://youtube.com/watch?v=QLpoxIgfWTY>

[3] <https://files.eric.ed.gov/fulltext/ED613872.pdf>

[4] https://youtube.com/watch?v=kxwd5Ed_dLA

[5] <https://www.cedefop.europa.eu/en/videos/skills-ovate-online-vacancy-analysis-tool-europe>

[6] <https://itprofessionalism.org/cedefop-launches-analytical-tool-for-jobs-and-skills-demand/>

The following text was generated by AI Chatbot www.perplexity.ai using the prompt:

"How can career advisors use the Skills-OVATE database in counselling clients, who look for education pathways or a job?"



Career advisors can use the Skills-OVATE database in counseling clients who are looking for education pathways or a job in the following ways:

1. Identifying skills demand: Career advisors can use Skills-OVATE to identify the skills that are in demand in different regions and industries [1][3]. This information can help clients understand the skills they need to acquire to be more competitive in the labor market.
2. Providing career guidance: Career advisors can use Skills-OVATE to provide career guidance to clients based on the insights and analysis provided by the tool [1][4]. They can help clients understand the labor market trends, identify job opportunities, and make informed decisions about their career paths.
3. Recommending training and education pathways: Career advisors can use Skills-OVATE to recommend suitable training and education pathways based on the skills and qualifications required for different jobs [2][4]. This can help clients acquire the skills and qualifications they need to pursue their desired career paths.
4. Customizing search: Career advisors can customize their search on Skills-OVATE based on various criteria, such as occupation, location, and skills [1][3]. This allows them to filter and refine the data to match their clients' specific interests and needs.
5. Providing up-to-date information: Skills-OVATE provides up-to-date and real-time data on job vacancies and skills demand [3][5]. This ensures that career advisors have access to the latest information on the labor market, which they can use to provide accurate and relevant advice to their clients.

In summary, career advisors can use the Skills-OVATE database to identify skills demand, provide career guidance, recommend training and education pathways, customize search, and provide up-to-date information to clients. These features can help career advisors provide more accurate and tailored guidance to clients seeking education pathways or a job.

Citations:

[1] https://www.researchgate.net/figure/Basic-data-structure-of-Cedefops-Skills-OVATE-database_tbl3_368772467

[2]

<https://www.etown.edu/offices/advising/files/Integrating%20Career%20Advising%20into%20Academic%20Advising.pdf>

[3] <https://www.cedefop.europa.eu/en/tools/skills-online-vacancies>

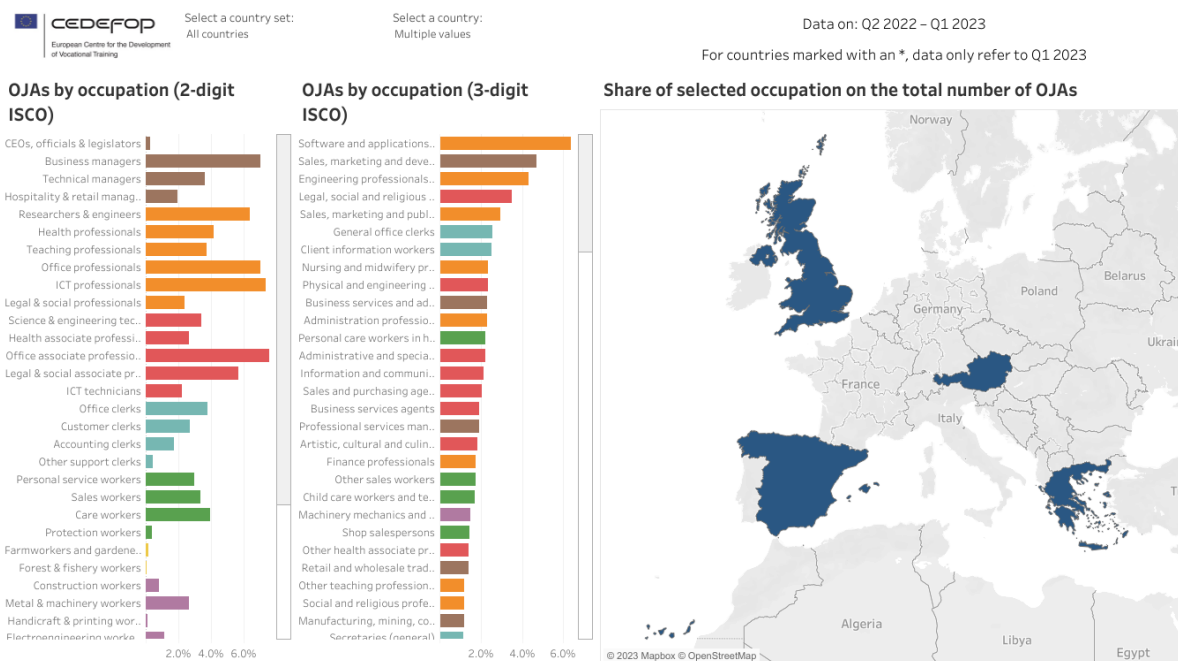
[4] <https://cif.org/just-transition-toolkit/example/online-vacancy-analysis-tool-europe-skills-ovate>

[5] <https://digital-skills-jobs.europa.eu/en/inspiration/resources/skills-ovate-skills-online-vacancy-analysis-tool-europe>

[6] <https://www.cedefop.europa.eu/en/videos/skills-ovate-database-presentation>



Skills-OVATE transforms the raw information from online job advertisements (OJAs) into visualized Labour Market Intelligence and groups the output into insights into skills, occupation, sector and region. A career practitioner can customize the query by country or region or occupation and can access the graphic output.



Example: share of a selected occupation in the total number of OJAs in four countries.

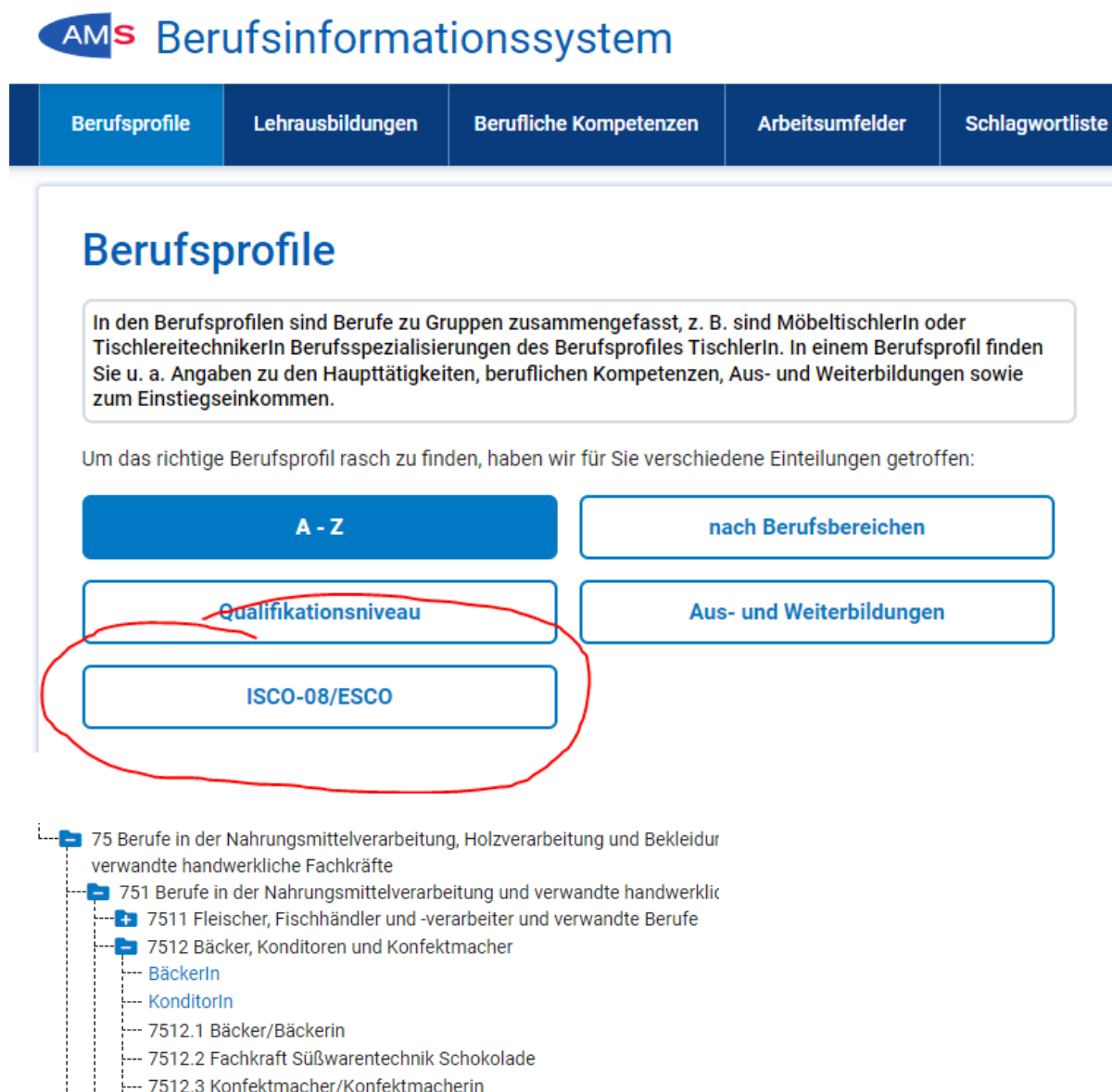
As Cedefop doesn't offer an API to access these data, selected visualisations are integrated in the CareerBOT chatbot.

Besides Skills-OVATE Cedefop offers a wide range of other Online tools at <https://www.cedefop.europa.eu/en/online-tools>

FOCUS Austria: ESCO and DigComp integration, digital literacy in schools, new national strategies

Austria translated the ESCO classification of Jobs into German and integrated or mapped it the main Austrian resource on jobdescriptions and competences, the AMS

Berufsinformationssystem (<https://bis.ams.or.at>):



AMS Berufsinformationssystem

Berufsprofile Lehrausbildungen Berufliche Kompetenzen Arbeitsumfelder Schlagwortliste

Berufsprofile

In den Berufsprofilen sind Berufe zu Gruppen zusammengefasst, z. B. sind MöbeltischlerIn oder TischlereitechnikerIn Berufsspezialisierungen des Berufsprofils TischlerIn. In einem Berufsprofil finden Sie u. a. Angaben zu den Haupttätigkeiten, beruflichen Kompetenzen, Aus- und Weiterbildungen sowie zum Einstiegseinkommen.

Um das richtige Berufsprofil rasch zu finden, haben wir für Sie verschiedene Einteilungen getroffen:

A - Z nach Berufsbereichen

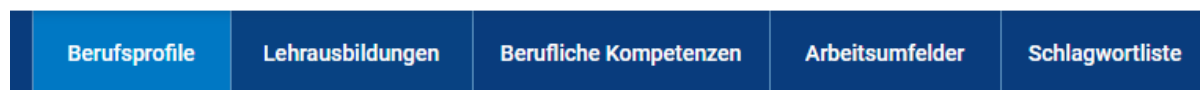
Qualifikationsniveau Aus- und Weiterbildungen

ISCO-08/ESCO

- 75 Berufe in der Nahrungsmittelverarbeitung, Holzverarbeitung und Bekleidur verwandte handwerkliche Fachkräfte
 - 751 Berufe in der Nahrungsmittelverarbeitung und verwandte handwerklic
 - 7511 Fleischer, Fischhändler und -verarbeiter und verwandte Berufe
 - 7512 Bäcker, Konditoren und Konfektmacher
 - BäckerIn
 - KonditorIn
 - 7512.1 Bäcker/Bäckerin
 - 7512.2 Fachkraft Süßwarentechnik Schokolade
 - 7512.3 Konfektmacher/Konfektmacherin

People from other European countries can browse the ESCO catalogue and find links to the AMS *Berufsinformationssystem* (BIS) Austrian job descriptions, which contains extensive information in DigComp format on specific jobs including required digital competences:

<https://bis.ams.or.at/bis/beruf/78-B%C3%A4ckerIn>



BäckerIn

Haupttätigkeiten

BäckerInnen sind für die Herstellung sämtlicher Backwarenarten (z.B. Brot, Feingebäck) zuständig. Dazu mischen sie den Teig (Teigherstellung), geben diesem eine bestimmte Form (Tafelarbeit) und backen ihn (Ofenarbeit). In größeren Betrieben sind BäckerInnen als MischerInnen, TafelarbeiterInnen oder OfenarbeiterInnen oft nur in einem bestimmten Aufgabenbereich tätig, in Kleinbetrieben führen sie alle Arbeiten aus.



Beschäftigungsmöglichkeiten

BäckerInnen arbeiten hauptsächlich in Klein- und Mittelbetrieben. Zusätzliche Beschäftigungsmöglichkeiten existieren auch in Großbetrieben der Brotindustrie.

Aktuelle Stellenangebote

... in der online-Stellenvermittlung des AMS (eJob-Room): **205** [zum AMS-eJob-Room](#)

Österreich-Karte der offenen Stellen



Hier klicken, um die Österreichkarte der offenen Stellen anzuzeigen

In Inseraten gefragte berufliche Kompetenzen

Gefragte Kompetenzen und Fähigkeiten im Beruf BäckerIn sind:

Abfüllen und Abpacken von Lebensmitteln	Ofenarbeit
Arbeit nach Lebensmittel-Rezepturen	Rezepturen entwickeln
Bedienung von Produktionsbacköfen	Rezepturenverwaltung

An automatic translation of this information into Turkish, Farsi, and Ukrainian is available.

Austria has adapted the DigComp Framework and has transferred and translated the DigComp 2.1 into an Austrian version (DigComp 2.2 AT) adding a sixth area (numbered as area 0 to keep in line with the European numbering) and four additional competences. These are:

- 0. Foundations and access
- 0.1 Understanding the concepts of digitalisation
- 0.2 Handling digital devices

0.3. Using and providing inclusive forms of access to digital content


2.2 Using digital technologies to share data and information and to cooperate

2.4 Carrying out purchases and sales (DigComp 2.2 AT)

4.4 Protecting oneself and others against fraud and consumer rights abuse (DigComp 2.2 AT)


Austria has announced the adaption of DigComp 2.2 into DigComp 2.3 AT.

These are the digital competences for a baker as shown in the above mentioned AMS "Berufsinformationssystem (BIS)":

Digitale Kompetenzen nach DigComp 

1 Grundlegend	2 Selbstständig	3 Fortgeschritten	4 Hoch spezialisiert
Beschreibung: BäckerInnen müssen in der Lage sein berufsspezifische digitale Anwendungen und Geräte zur Kommunikation, Zusammenarbeit und Dokumentation im Betrieb zu nutzen. Komplexere betriebsspezifische digitale Geräte, Maschinen und Anlagen bedienen sie selbstständig. Sie erkennen Fehler und Probleme und können standardisierte Lösungen anwenden. Außerdem kennen sie die betrieblichen Datensicherheitsvorschriften und halten diese ein.			

- Detailinfos zu den digitalen Kompetenzen

Kompetenzbereich 	Kompetenzstufe(n) von ... bis ...								Beschreibung
0 - Grundlagen und Zugang	1	2	3	4	5	6	7	8	BäckerInnen verstehen die Funktion von berufs- und betriebsspezifischen digitalen Anwendungen, Geräten und Maschinen und können sie selbstständig bedienen.
1 - Umgang mit Informationen und Daten	1	2	3	4	5	6	7	8	BäckerInnen können arbeitsrelevante Daten und Informationen recherchieren, vergleichen, beurteilen und für die eigen Arbeit anwenden.
2 - Kommunikation und Zusammenarbeit	1	2	3	4	5	6	7	8	BäckerInnen können alltägliche und betriebsspezifische digitale Geräte in komplexen Arbeitssituationen zur Kommunikation, Zusammenarbeit und Dokumentation im Betrieb einsetzen.
3 - Kreative digitale Inhalte gestalten	1	2	3	4	5	6	7	8	BäckerInnen können standardisierte arbeitsrelevante Daten und Informationen selbstständig in bestehenden digitalen Anwendungen erfassen und dokumentieren.
4 - Sicherheit	1	2	3	4	5	6	7	8	BäckerInnen sind sich der Bedeutung des Datenschutzes und der Datensicherheit bewusst, kennen die relevanten betrieblichen Regeln und halten sie ein.
5 - Problemlösen & Weiterlernen	1	2	3	4	5	6	7	8	BäckerInnen erkennen technische Probleme, können einfache klar definierte Probleme selbstständig lösen bzw. die erforderlichen Schritte für die Problemlösung einleiten.

Austria has a homepage for open data which increasingly provides AMS data:

<https://www.data.gv.at/auftritte/?organisation=ams>

Austria further responded to the need for digital competences by introducing a new mandatory subject called "Digital Literacy" in the first three grades of lower secondary schools (AHS) and middle schools beginning with the school year 2022/2023. This complements the provision of affordable devices (laptops or tablets) to students. The curriculum includes the use of search engines (1st grade), the capture, filtering, sorting, interpreting, and presentation of data, critical reflection of "social media" and IT-security (2nd and 3rd grade).



<https://www.bmbwf.gv.at/Themen/schule/zrp/dibi/dgb.html>; <https://digikomp.at/>

On government level digitalisation strategies are coordinated by a State Secretary and communicated on the homepage www.digitalaustria.gv.at. One new initiative is especially focused on the strengthening of (basic) digital competences for the general population:

<https://www.digitalaustria.gv.at/Strategien/DKO-Digitale-Kompetenzoffensive.html>

The stated goal is

By 2030, as many people as possible in Austria should have basic digital skills. The share of IT professionals and especially of female IT professionals should be increased and digital talents should be promoted in order to meet the economy's need for skilled workers, to be able to make the best possible use of the growth potential of digitalisation, to expand innovative research and development and also to be able to anticipate current opportunities and challenges, such as artificial intelligence.

<https://www.digitalaustria.gv.at/dam/jcr:e84a42c3-f2e7-4642-9ca0-76d7e8c61216/Strategie-Digitale-Kompetenzen-Oesterreich-PDF-UA-1.pdf>

Exercise: Labour Market Information (LMI)

Go to the Website LMI for all and read two of the listed Learning Units to deepen your knowledge: https://www.lmiforall.org.uk/explore_lmi/learning-units/

Checklist: Your Learning Outcomes

What do I know on labour market data useful for in Career guidance?		
#	Theme/Question	completed
1	Labour Market Information and Labour Market Intelligence: Explain the difference between Labour Market Information (data) and Labour Market Intelligence (processed data).	<input type="checkbox"/>
2	Quality of labour market related data: What are important to know about the source and quality of labour market data?	<input type="checkbox"/>
3	ESCO (European Skills, Competences, Qualifications and Occupations): How would you explain some of the advantages or applications of the ESCO classifications to a colleague?	<input type="checkbox"/>
4	The European agency Cedefop: What is the mission and task of Cedefop (European Centre for the Development of Vocational Training) and where is it located? Check their website.	<input type="checkbox"/>
5	Skills-OVATE database: What kind of LMI is accessible and visualised through the Skills-OVATE database?	<input type="checkbox"/>

NOTE: These questions can help you and other learners assess their grasp of the key concepts and insights presented in the training content about labour market data.

Links & videos & other resources (LU1 - 3)

European & international

<https://digital-strategy.ec.europa.eu/en>

https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age_en

<https://education.ec.europa.eu/focus-topics/digital-education>

<https://eufordigital.eu/thematic-area/eskills/>

<https://www.europarl.europa.eu/thinktank/infographics/lifelonglearning/vocational>

<https://www.ilo.org/global/topics/skills-knowledge-and-employability/lang--en/index.htm>

<https://www.etf.europa.eu/en/what-we-do/career-guidance-0>

<https://www.etf.europa.eu/en/what-we-do/digital-skills-and-learning>

<https://digital-skills-jobs.europa.eu/en>

https://joint-research-centre.ec.europa.eu/digcomp_en

<https://europa.eu/europass/digitalskills/>

<https://digital-skills-jobs.europa.eu/digitalskills/>

<https://mydigiskills.eu/>

https://www.lmiforall.org.uk/explore_lmi/learning-units/

<https://esco.ec.europa.eu/>

<https://audiovisual.ec.europa.eu/en/video/I-175412> Video: ESCO and the Digital Labour Market:

<https://skilllab.io/>

https://www.business-standard.com/world-news/linkedin-bets-on-skills-over-degrees-as-future-labour-market-s-currency-123060901122_1.html LinkedIn bets on skills over degrees as future labour market's currency

<https://www.cedefop.europa.eu/>

<https://www.cedefop.europa.eu/en/online-tools>

<https://occay.eu/> Online Career Counselling Academy (OCCAY)



<https://www.oecd.org/stories/odicy/> Observatory on Digital technologies in Career guidance for Youth

<https://www.linkedin.com/>

<https://www.griproom.com/fun/how-to-use-chatgpt-as-a-career-counselor>

National (Austria)

<https://www.ams.at/>

<https://bis.ams.or.at/>

<https://www.karrierekompass.at/>

<https://www.beruflexikon.at/>

<https://www.berufskompass.at/>

<https://bic.at/>

<https://www.ams-forschungsnetzwerk.at/>

<https://www.digitaustria.gv.at/>

<https://www.fit4internet.at/view/verstehen-das-modell>

<https://digikomp.at/>

<https://www.whatchado.com/de/stories>

<https://www.karriere.at/>

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