



Brussels, 20 December 2022

Member States Working Group on ESCO

Second meeting

Brussels (online), 8 December 2022

Minutes

1. Approval of the agenda

The agenda was adopted with no further changes. The point about the usage of ESCO in Europass, included in the first version of the draft agenda, was removed from the final agenda since it partially overlapped with point 3.6.

2. Nature of the meeting

The second meeting of the Member States Working Group on ESCO (MSWG) was attended by:

- representatives of 18 Member States' (MS) authorities on labour market and education and training (BE, BG, DE, DK, EL, FI, FR, HR, HU, LT, LU, NL, PL, PT, RO, SK, SE, SL).
- representatives of one observer country (IS),
- representatives from SME United
- Commission, CEDEFOP, ELA, and ETF services.

Italy and Austria informed the Commission of their absence due to national public holiday.

The Commission (COM) chaired and opened the meeting.

The main goals of the meeting were: a) to report on the main outcomes of the first two focus meetings b) to inform the Group on the work planned for the next major version of ESCO, c) to discuss the preliminary findings of the informal evaluation of ESCO.

The minutes of the first meeting of the ESCO Member States Working Group were shared with the Group in June 2022 and approved without further comments.

The meeting was held online, and recorded for internal purposes.

3. List of points discussed

3.1 Information point on recent developments in the European cooperation for employment, education and training

A note on the most recent developments in the area of employment, education and training was shared with the Group prior to the meeting. No comments or questions were raised by the participants.

3.2 Recap of the first two ESCO MSWG focus meetings on skills and occupations clustering and skills relevance

COM reported on the takeaways of the first two focus meetings on skills and occupations clustering and skills relevance.

On the subject of skills clustering, COM reported how the discussion with the technical experts led to a consensus on an approach combining semantic similarity and co-occurrence of skills in online job vacancies, supported by human validation to ensure quality of the results. COM informed the Group about the intention to pilot this approach with a subset of ESCO skills in 2023.

On occupations clustering, COM informed the Group that a mapping between ESCO occupations and NACE will be published in 2023.

On skills relevance, COM stressed how matrix tables can be considered as a starting point for displaying relevance of skills in occupations. In the longer term, COM will investigate how language models can inform the relevance of skills in occupations and improve the essential/optional system currently used in ESCO.

COM invited Member States to provide data on skills relevance available at national level.

Detailed minutes of the two focus meetings were shared with the Group prior to the meeting.

During the subsequent discussion, members made the following comments:

- Members asked about the timeline for the publication of the work on alternative skills clustering on the ESCO portal.

COM explained that an alternative clustering of skills based on labour market data should be seen as a complementary tool to the existing hierarchies and confirmed that the alternative clustering will be made available on the ESCO portal.

3.3 Towards ESCO version 1.2

COM presented the scope of the next major version of ESCO, version 1.2.

ESCO 1.2 will address identified quality improvements and will update the list of occupations and skills, following the effects of the twin transitions on the labour market.

In terms of quality review, COM will undertake a full review of knowledge concepts to ensure consistency with the ESCO terminological guidelines. It will work on improving occupations-skills relations by focusing in particular on occupations with less than 5 or more than 70 linked skills. It will also address the issue of duplicate skills, defined as “skills that refer to the same activity within the same or a very similar working context”. 150 skills will be made obsolete as a result of this exercise. Machine learning models will be applied in each of these work strands to support the maintenance work.

For the content update, COM is working with domain experts such as social partners, sectoral organisations, Blueprints for Sectoral Cooperation on skills and other projects addressing skills shortages in targeted sectors, education and training providers and other Commission services and agencies to identify emerging occupations and skills. The content update will focus on the digital and green transitions in areas such as agriculture and bio economy, advanced ICT applications, cybersecurity and defence, renewables, social economy and the cultural sector.

Together with this expert-driven work, COM will apply data science techniques to leverage existing data such as the mapping tables between national classifications and ESCO, EURES vacancies, Europass CVs and qualifications, to identify emerging skills and occupations and improve the list of non-preferred terms in all ESCO languages.

The Group will be consulted on the draft EN version in April 2023. The consultation will end in May 2023 and the translation in all ESCO languages will start right after. The consultation will be carried out through exchanges of excel files, and the EN draft version will be made available on the test environment of the ESCO portal. Version 1.2 will be published in December 2023.

During the subsequent discussion, members made the following comments/questions:

- How data science and artificial intelligence improvements are included in a formal update process.
- How COM can find a balance between the need to have a rich vocabulary of contextualised skills and the use of a limited set of skills for matching purposes.

COM explained that data science and experts-driven updates run in parallel within the formal update cycle, resulting in the draft EN version submitted to the MSWG.

COM underlined how addressing skills contextualisation requires a comprehensive review of the ESCO skills pillar and eventually also of the ESCO data model. A dedicated focus meeting on this subject will be organised in 2023.

3.4 ESCO in EURES

COM reported on the state of play of the mapping/adoption process in the context of the implementation of ESCO in EURES.

21 countries have completed the mapping of their national classifications of occupations to ESCO, while 4 countries have adopted the ESCO occupation pillar. CH, CY, FR, LIE, LT have not finalised the mapping: COM stressed how mapping tables shall comply with the technical standards provided by Commission Implementing Decision (EU) 2018/1021.

In terms of skills, 5 countries have mapped their national classifications to ESCO while 4 countries have adopted ESCO as their skills classification.

COM provided an update on the state of play of the encoding of job vacancies and CVs with ESCO codes. While the numbers of vacancies and CVs including at least one ESCO occupation or skill URI is improving over time, the large majority of countries is not yet complying with this obligation. COM will discuss the matter within the EURES governance.

During the subsequent discussion, members made the following comments:

- Members asked COM whether it intends to propose an update of the mapping tables based on new ESCO versions.
- Members asked for more information on how skills are used in EURES.
- Members asked whether a reflection will be made on the topic of regulated professions and whether information on qualifications required at national level will be included in the occupational profiles.

COM explained how currently the focus is on ensuring qualitative mappings to ESCO v1.0. A future update of the mapping tables would be based on ESCO version 1.2. COM will inform Member States about the intention to update the mapping obligation 6 to 9 months before proposing it.

COM will get back on the topic of skills in EURES after consulting the European Labour Authority.

COM stressed that a link to the database of regulated profession is available in the occupational blueprints, and that regulated professions are a small fraction of the occupational landscape.

3.5 Data Science in ESCO: labelling of digital skills and mapping to ONET

COM presented two examples of how data science is used in ESCO: the labelling of digital skills and the ESCO-ONET crosswalk.

COM presented the methodology for labelling digital skills, which follows a three-step approach: manual labelling of ESCO concepts based on an agreed definition of digital skills, build-up of a machine learning classifier using a training dataset based on phrases from EURES vacancies, and comparison and manual validation of the two sets of digital skills obtained in the previous steps.

For the purposes of this exercise, COM referred to the definition of digital competences ⁽¹⁾ set in the Council Recommendation on Key Competences for Lifelong Learning. This exercise resulted in the labelling of 1201 ESCO concepts: 701 digital skills, 475 digital knowledge and 7 digital transversal skills. The list of digital skills is available for download in the ESCO portal and can be accessed from the ESCO API. COM invites the feedback of Member States and ESCO implementers on the proposed list.

COM introduced the mapping of O*NET occupations to the ESCO occupations pillar, done in collaboration with the US Department of Labor.

The methodology used for this crosswalk combines human validation and the use of artificial intelligence. A fine-tuned BERT model was used to suggest 10 ESCO occupations for each ONET occupation. The ESCO Secretariat validated these results by establishing mapping relations based on the rules applied to the mapping of national classifications of occupations to ESCO, and the mappings were further validated by the US Department of Labor. The crosswalk was done in three batches to allow for subsequent learning of the model. The ESCO-ONET crosswalk is available on the ESCO portal.

During the subsequent discussion, members made the following comments:

- Looking at the share of digital skills in occupations can inform the analysis of the digitalisation of an occupation, thus leading to the update of the relevant training content.
- Members asked about future plans to map ESCO digital skills to the DigComp framework.
- Members asked about possible mappings of ESCO skills to ONET.
- Members asked whether there is information on the share of most used digital skills in the market.

COM confirmed that a mapping with DigComp is technically feasible should it be interesting for ESCO implementers. A mapping of ESCO skills to ONET is currently not planned but could be scoped for the future.

⁽¹⁾ Digital competence involves the confident, critical and responsible use of, and engagement with, digital technologies for learning, at work, and for participation in society. It includes information and data literacy, communication and collaboration, media literacy, digital content creation (including programming), safety (including digital well-being and competences related to cybersecurity), intellectual property related questions, problem solving and critical thinking. (Council Recommendation on Key Competences for Lifelong Learning, 22 May 2018, ST 9009 2018 INIT)

COM explained how EURES, CEDEFOP and EUROPASS data could be leveraged to provide information on the most used digital skills and how this information could also be relevant for the maintenance of ESCO.

CEDEFOP informed members about a pilot exercise to investigate the use of ESCO occupations in the Skills OVATE project.

3.6 Uptake of ESCO: results from the monitoring exercise

COM presented the findings of an informal monitoring exercise to evaluate the uptake of ESCO in the labour market, 5 years since the launch of ESCO version 1.0. COM presented the objectives of the evaluation and the methodology applied: the goal of this exercise is to provide an objective judgement on ESCO's role and results based on the evidence available.

The internal evaluation was implemented based on the criteria set out in the Better Regulation Guidelines ⁽²⁾: relevance, effectiveness, EU-added value, coherence and efficiency. It was conducted through surveys, targeted case interviews and internal data. It allowed to draw important lessons on the use of ESCO in different use cases and elaborate recommendations at policy level, on how to improve the services offered by ESCO, on the methodology to improve ESCO and on the content of the classification.

During the subsequent discussion, members made the following comments:

- Members asked whether ESCO can be used by citizens to identify job characteristics related to national labour markets.

COM explained that organisations can adapt ESCO and tailor it to the local context of the labour market.

3.7 2023 Work Programme and calendar of meetings

The 2023 calendar of meetings was shared with the Group prior to the meeting. No comments were made by the participants.

⁽²⁾ https://commission.europa.eu/law/law-making-process/planning-and-proposing-law/better-regulation/better-regulation-guidelines-and-toolbox_en

4. Next steps

COM closed the meeting and thanked the participants for their active participation. The next plenary meeting is tentatively scheduled for 14 March 2023.