Member States Working Group on ESCO

State of play of the revamp of the ESCO skills clusters

12 November 2025, Brussels

European Commission,
DG Employment, Social Affairs and Inclusion

European Commission

Agenda

- Skills clusters workshop July 2025
- Next steps of the skills clustering exercise

Skills clusters workshop July 2025

Experts:

- PES Denmark
- PES Sweeden
- University of Olomouc
- DG HR
- Lightcast
- VDAB (PES Flanders)

Feedback: positives

Sector based classification is more useful for use cases

Interoperability with other classification systems make it easier to integrate with external data

Co-occurrence identifies real world relations between skills, sectors and occupations

Deep hierarchy useful for mapping

Co-occurrence separate from hierarchy helps advanced use cases such as recommender systems and upskilling

Categories in the top level architecture relevant for finding similar skills

New structure is more comprehensive of the labour market

Feedback: identified challenges

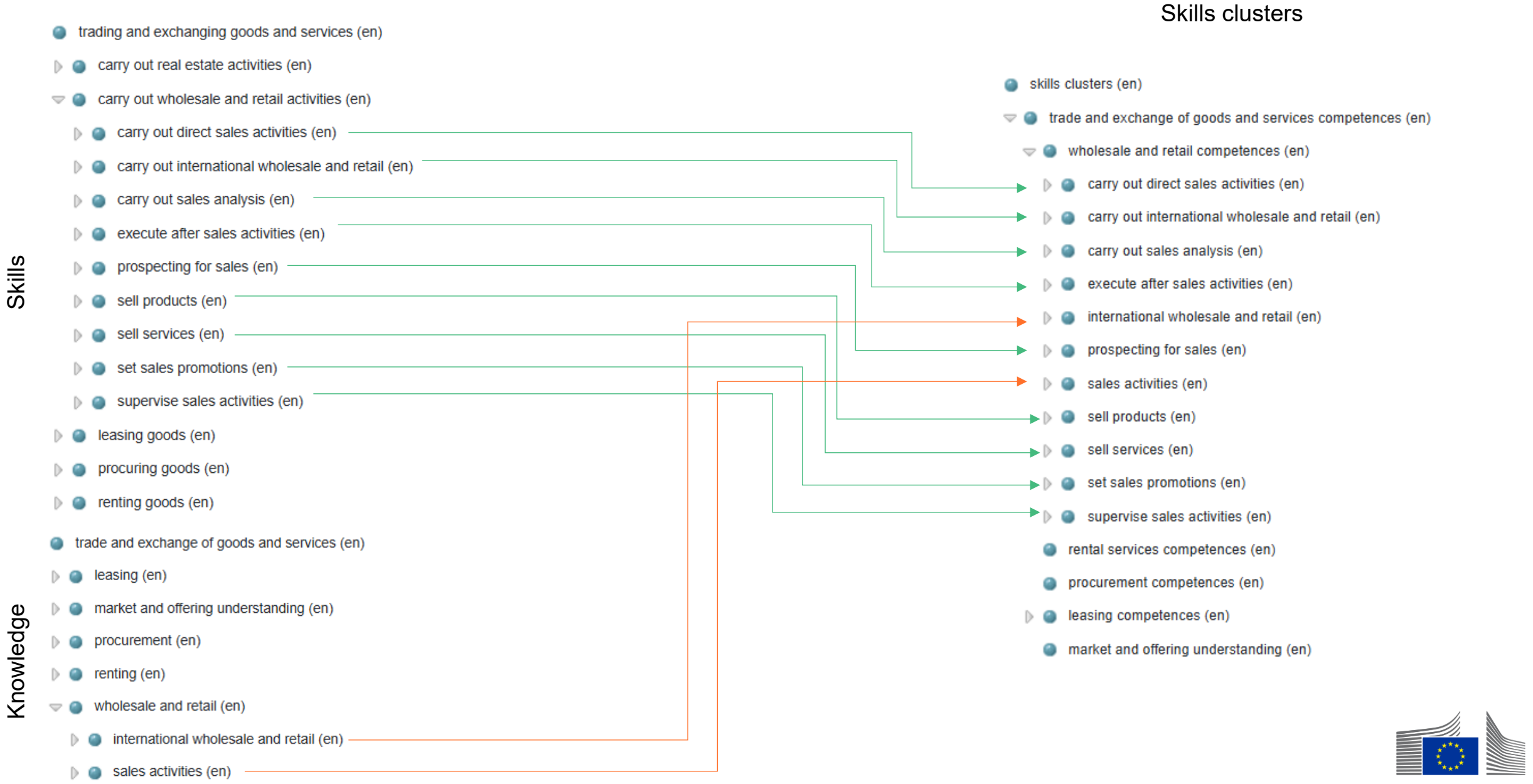
- Semantically arrangement of taxonomy sibling categories
- Further development of general / soft skills (building of a hierarchy / adding new concepts)
- Decisions around skill allocation are not clear
- Inconsistent levels of granularity of concepts assigned to groups
- Quality of the ESCO concepts and their suitability to represent a given sector
- Industry based classification might be too rigid, at the expense of a cross sectoral / inter-disciplinary representation
- Overly deep hierarchy
- From skills co-occurrence to ontological relations

Next steps: Top level architecture

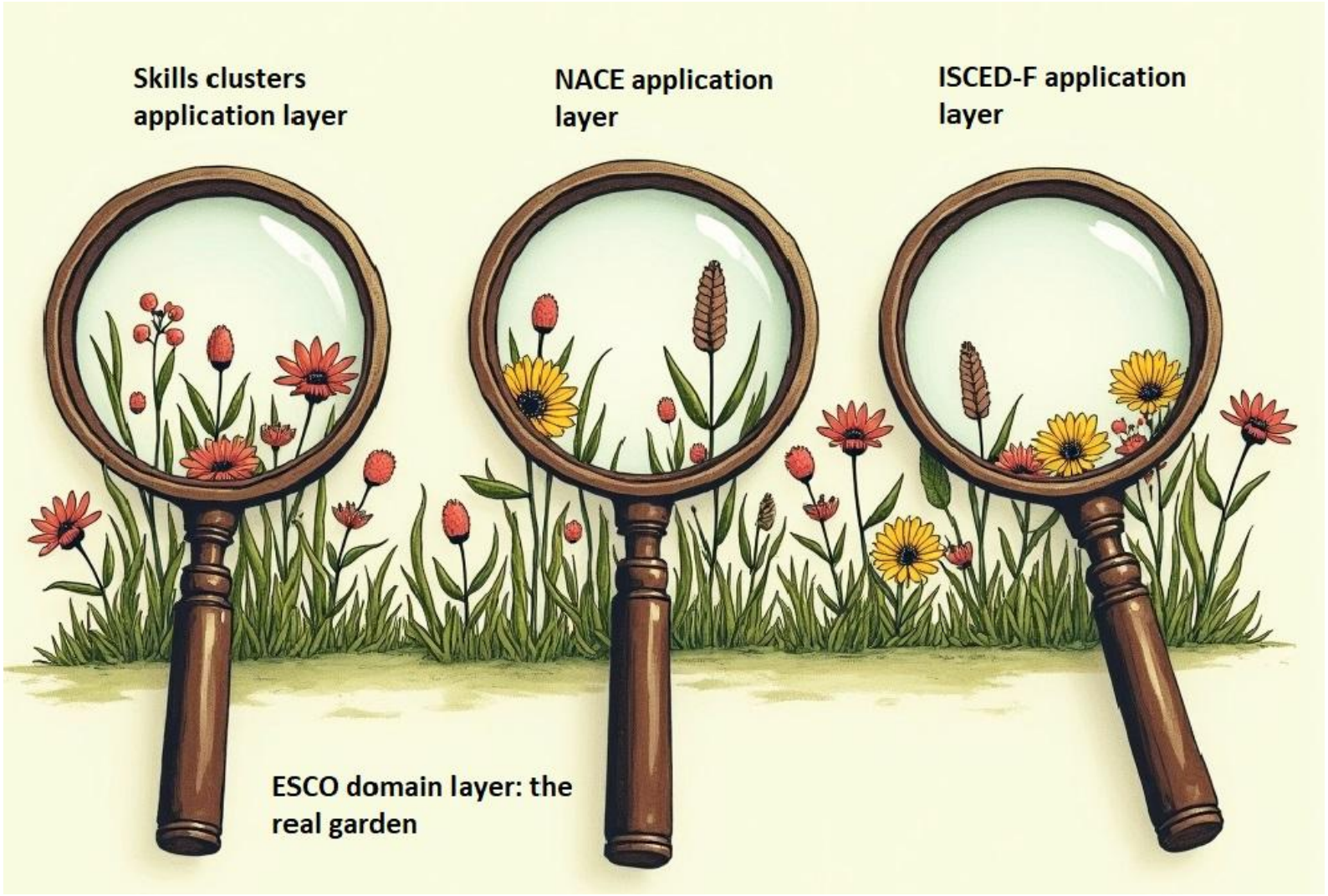
- skills clusters layer
  - academic and scientific research and development cluster
  - accommodation, tourism and food services cluster
  - agriculture, forestry, fisheries and veterinary cluster
  - architecture, planning and engineering cluster
  - arts, entertainment and recreation cluster
  - business operations, administration and auditing cluster
  - construction cluster
  - education and training cluster
  - health cluster
  - information and communication technologies cluster
  - legal sector, finance and accounting cluster
  - libraries, archives, museums and other cultural sectors cluster
  - manufacturing and retail cluster
  - mining and quarrying cluster
  - public services and social work cluster
  - transportation, logistics and storage cluster
  - utilities cluster
  - wellbeing and personal services cluster

- knowledge
  - academic and scientific research and development knowledge
  - accommodation, tourism and food services knowledge
  - agriculture, forestry, fisheries and veterinary knowledge
  - architecture, planning and engineering knowledge
  - arts, entertainment and recreation knowledge
  - business operations, administration and auditing knowledge
  - construction knowledge
  - education and training knowledge
  - health knowledge
  - information and communication technologies knowledge
  - legal sector, finance and accounting knowledge
  - libraries, archives, museums and other cultural sectors knowledge
  - manufacturing and retail knowledge
  - mining and quarrying knowledge
  - public services and social work knowledge
  - transportation, logistics and storage knowledge
  - utilities knowledge
  - wellbeing and personal services knowledge
- language skills and knowledge
- skills
  - academic and scientific research and development skills
  - accommodation, tourism and food services skills
  - agriculture, forestry, fisheries and veterinary skills
  - architecture, planning and engineering skills
  - arts, entertainment and recreation skills
  - business operations, administration and auditing skills
  - construction skills
  - education and training skills
  - health related skills
  - information and communication technologies related skills
  - legal sector, finance and accounting skills
  - libraries, archives, museums and other cultural skills

Next steps: domain layer vs skills clusters



Next steps: Top level architecture



Next steps: Skill-skill co-occurrence links

- Recompute scores for ESCO v1.2.X
- Data: Extend sample of OJAs and potentially include CV data
- Transparency: Report about underlying data statistics and models
- Investigate score computation variants
  - Asymmetric versus symmetric score
  - Correct for skill frequency to boost *over-expressed* skills

study human population	statistics	0.397530864
	demography	0.392592593

- Investigate extrapolation to cluster level

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