



Mapping to ESCO

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ESCO 1.2 event, 22 May 2024

Mapping to ESCO

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SE classifications overview - Occupations

- SE national classification for occupations
- Distributed and updated by Arbetsförmedlingen (Swedish PES)
- SSYK 2012 - Swedish Standard Classification of Occupations
- Based on and linked to ISCO-08, adapted to the Swedish labour market
- Owned and managed by Statistics Sweden, follows ISCO update cycle
- 400 occupations groups, equivalent to ISCO level 4
- Ca 3600 occupations in occupation groups, equivalent to ISCO level 5
- No further hierarchy
- Ca 8000 jobtitles linked to occupations

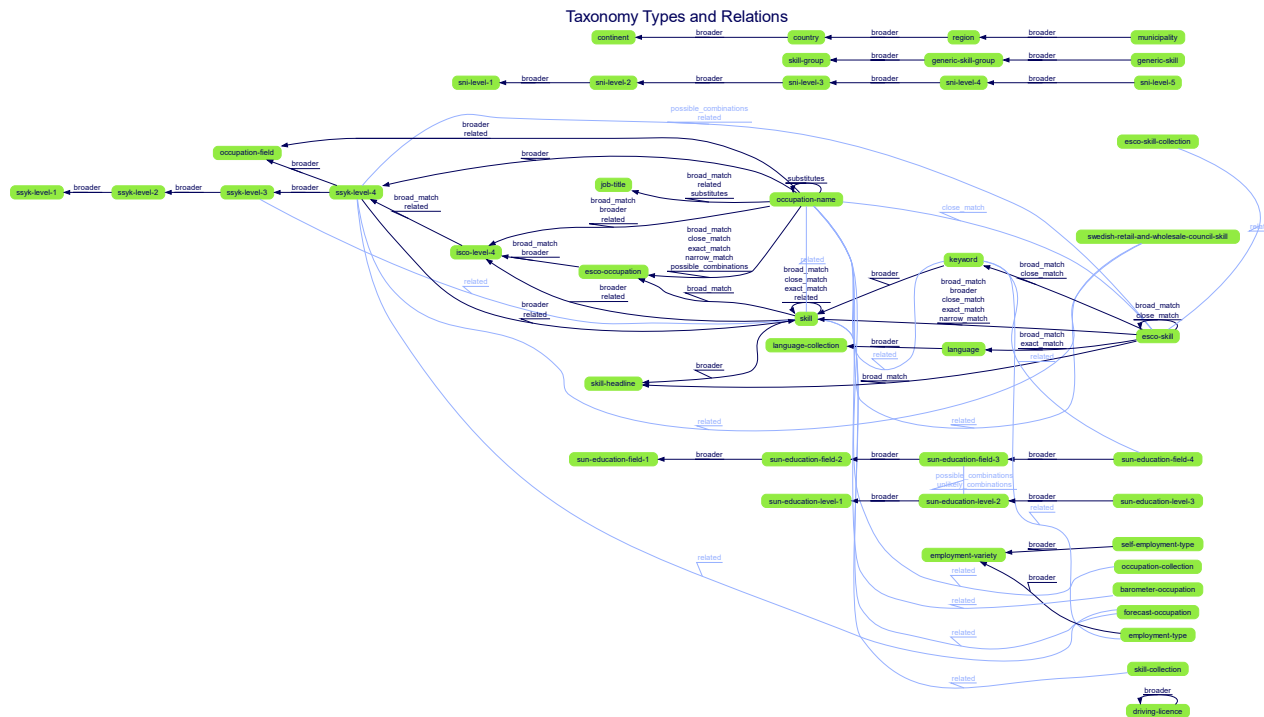
SE classifications overview - Skills

- Owned, distributed and updated by Arbetsförmedlingen (Swedish PES)
- Does not follow any standard hierarchy
- 55 skill groups with ca 6400 individual skill concepts
- A few skill collections
 - Green skills, Digital skills and more currently in the works
- Skills linked to one or more occupation groups (ISCO level 4)
- Skills not linked to occupations
 - Work in progress – identifying “essential” skills for the most common occupations

SE classifications – Data model

- Relational database - describes relations between concepts
- Broader – *occupation* has a **broad** relation to occupation group
- Narrower – *Occupation group* has a **narrow** relation to *occupation*
- Related – *skill* has a **related** relation to *occupation group*
- ESCO skos relation types for mappings

SE classifications – Data model cont.



SE classifications – Governance model

- Classifications and standards owned and updated by others
 - Education, Industry Index (NACE), forecast data, geography data, etc.
- Occupations and skills updated by Arbetsförmedlingen
- Team of four occupational analysts
- Ad hoc update process
 - User suggestions, legislation, search trends, media coverage, etc.
- Mostly manual process through stakeholder consultation
- Machine based tools offer insight and suggestions
- A three-level quality structure for concepts
 - Level 1 – concept is validated/requested by an agency, employer organisation, trade union committee
 - Level 2 – concept is validated/requested by a firm
 - Level 3 – concept is validated through in-house research

Mapping process – Methodology

- Done in-house by the taxonomy team of 3 – 4 occupational analysts
- Mapping made a priority and integrated as part of the daily work flow
- Relied heavily on the ESCO mapping manual
- Mostly manual process with AI-tools for mapping suggestions

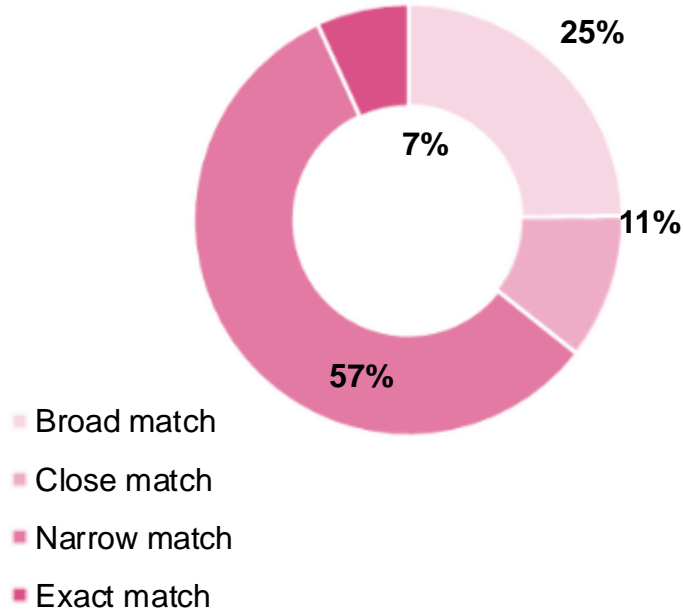
Time line	Mapping	Tools
2019 - 2020	SE occupations > ESCO occupations	ESCO mapping platform
2020 - 2021	ESCO occupations > SE occupations	ESCO mapping platform
2022	SE skills > ESCO skills	Excel, AI-tools
2022 – 2023	ESCO skills > SE skills	In-house taxonomy editor
2024 -	Continous mapping SE <> ESCO	In-house taxonomy editor, ESCO suggestions

Mapping process - Challenges

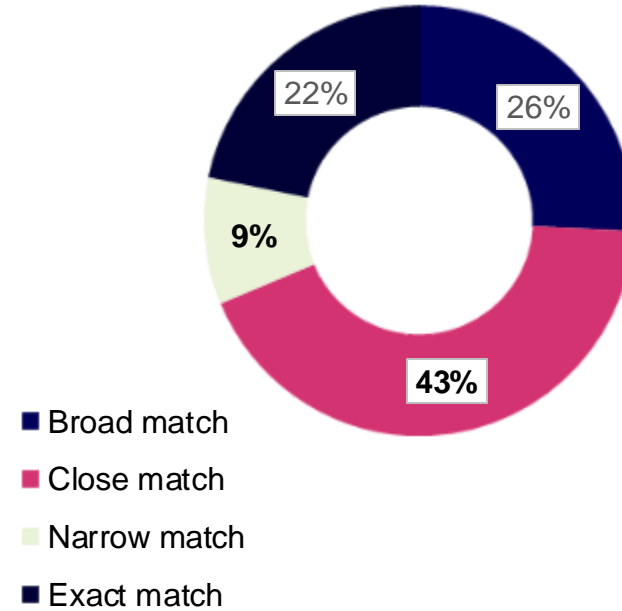
- Discrepancies between ESCO and national classifications
 - ISCO vs. SSYK, semantic granularity, number of concepts, occupational qualifications, prevalence of sectors
- Semantic granularity in ESCO
 - 'Phlebotomist', 'Footwear 3D developer', 'Aircraft interior technician'
 - Climb on railcars, Advise on childbirth, Assist tree identification
 - Knowledge concept 'economics' – essential for 38 occupations
- ESCO skills/competencies hierarchy could be less complex
 - Inconsistent essential links to occupations
 - Identical preferred labels
- Less satisfactory translations
 - Possible to propose suggestions – not enough resources to address all

Mapping process - Results

SE skills to ESCO



SE occupations to ESCO



Mappings maintenance

- All ESCO versions mapped to latest version of SE classifications
 - New ESCO versions imported to SE taxonomy database
 - Create mapping priority based on delta file
- New SE occupations and skills are mapped to ESCO
 - Every update of an SE concept entails reviewing its ESCO mappings
 - Reviewing mappings often lead to better mappings
- Dedicated endpoint for mappings to ESCO v.109
 - Mappings for EURES purposes according to EURES regulation
 - Other PES services incl. public taxonomy to be mapped to latest ESCO version

Mappings maintenance – Benefits of ESCO

- Rich (and free) source of labour market information
- An up-to-date classification
 - Mapping to highlights gaps in the national classification
 - Mapping to up-to-date ESCO often leads to updating national concepts
- ESCO green and digital skills collection
 - Mappings to ESCO green/digital skills – a green and digital skill collection for the Swedish labour market
 - Applicable in labour market analysis – for example national trends
- Feedback, consultation and support
 - ESCO is open to feedback and transparent in updates made
 - ESCO team is quick to respond and

Lessons learned

- If possible, do the mapping in-house
 - SE taxonomy team completed, updates and distributes ESCO mappings
- Allocate enough time and resources
 - Establishing quality mappings takes a long time and affects the national classifications significantly
- Adhere to relevant regulations and manuals
 - Keep revisiting the ESCO mapping manual
- Aske the ESCO team for assistance
 - ESCO team has been very forthcoming and quick to respond
- Map national classifications to new versions of ESCO
 - Greatly benefits the national classifications in quality and relevance

Resources

- SE in-house taxonomy editor for mapping
 - Open source code
- SE national classifications online - JobTech Atlas
 - <https://atlas.jobtechdev.se/page/taxonomy.html#>
- Working group on Taxonomies – SE chair
 - PES Network – forum for exchange and learning
- Contact me if you wish
 - petter.nygard@arbetsformedlingen.se

Thank you for listening

Questions?