

9th OJA Forum | 13 May 2025

Online Event, all times stated in CEST

Session 1 | Evolving Taxonomies: Approaches to Extension and Update

10:00 am **Welcome**

10:15 am **What to add, and what not to add – that is the question!**

Claudia Plaimauer - 3s Unternehmensberatung

The decision whether and how terms found in OJAs should be added to existing skills taxonomies depends on several fundamental factors like the usage context of the taxonomy, the pursued information policy and available technical possibilities. It also needs to be considered that curated vocabularies (like taxonomies) and natural language (as occurring in OJAs) pursue different objectives. Furthermore, OJAs are addressed at a specialist audience (potential applicants) and hence don't have to be generally intelligible. The role of the taxonomy manager is to review at least the more frequently occurring terms that seem to be missing, interpret, organise and structure these in view of above mentioned factors, content related necessities as well as taxonomy conventions. The presentation will illustrate this decision making process with examples taken from [ESCO](#) and the [Austrian PES' Competences taxonomy](#).

10:45 am **Data science solutions for ESCO developments**

Francesco Losappio – European Commission Directorate-General for Employment, Social Affairs and Inclusion

Jan Luts – NTT Data

The presentation will offer an overview of how the Commission applies data science techniques for the maintenance and further development of the ESCO classification.

11:15 am **Building and Evolving Green and AI Skill Taxonomies from Online Job Postings**

Mauro Pelucchi – Lightcast

In a fast-changing labour market, new skills constantly emerge,

particularly in areas like green technologies and artificial intelligence, posing a challenge to traditional taxonomies. This presentation will outline how Lightcast leverages large-scale data from online job postings to develop, maintain, and refine its Green and AI Skills Taxonomies. Drawing from over 3 billion global postings, we identify emerging competencies, evaluate whether they require new categories or can be integrated into existing frameworks, and reprocess historical data to track their evolution over time. The session will cover the full lifecycle of taxonomy development: from the definition and classification of new skills to the use of algorithmic detection and expert validation, and finally to the methodological decisions behind updates and reweighting. We will also share insights on how these evolving taxonomies are used in practice by policymakers, educators, and employers, to inform training design, workforce development, and strategic planning. The goal is to show how online data can complement traditional sources, making skills intelligence more agile, granular, and aligned with market needs.

11:45 am **Break**

Session 2 | Curricular and Candidate Alignment with Job Market Demand

01:00 pm **'Professional GPS'- Deploying a web app to provide labor market guidance to students**

Marina Muñoz Martínez/Federico Christmann – Universitat Oberta de Catalunya

The 'Professional GPS' is a web application designed to support students from the Open University of Catalonia (UOC) in their careers. Taking advantage of OJA data from Lightcast, curated OJA salary data from talentUp, and the ESCO taxonomy, students are provided with relevant information about their desired job. Moreover, students should go through a skill assessment to determine their actual skills, and with this information, they obtain a skill gap analysis based on current employers' demands. This information is vital to identify which skills should be assimilated for the students to improve their employability.

01:30 pm **Beyond Ad Matching: Using CareerBERT to Map Resumes to ESCO Job Categories via Semantic Embeddings**

Julian Rosenberger – University of Regensburg

This presentation introduces CareerBERT, a novel approach leveraging BERT embeddings to match unstructured resume data directly to standardized ESCO job classifications, moving beyond traditional matching to specific advertisements. We will discuss the creation of a shared semantic space using a hybrid corpus of ESCO taxonomy and

EURES job ad data, detail the model architecture, and present evaluation results including quantitative metrics and qualitative feedback from HR experts. Discover how this method can enhance career guidance by providing broader, semantically relevant job recommendations based on the holistic content of a resume.

02:00 pm **Trade-offs in AI-based Matching of Jobs to Resumes: Algorithms, Representations, and Regulation**

Vincent Slot/Kasper Kok – Bullhorn

This presentation outlines Bullhorn's technology for matching job ads with resumes and vice versa, focusing on two contrasts: (1) content-based versus outcome-based algorithms, and (2) explicit (code-based) versus implicit (vector-based) document representations. We examine how these choices influence the quality and relevance of matches, highlighting trade-offs in performance and interpretability. We also cover transparency challenges posed by the different approaches and their implications under evolving AI legislation.

02:30 pm **Farewell**

02:35 pm **End of Forum**