

Enhancing labour mobility for EU enlargement economies: the role of ESCO - 25 June 2025, Turin

BIG DATA FOR LABOUR MARKET INTELLIGENCE IN ETF PARTNER COUNTRIES

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Importance of online job vacancies for skills anticipation

ETF generates information on qualitative and quantitative aspects of skills demand through different data collection instruments in our Partner countries

OJVs are a vital source of real-time labour market intelligence for **tracking fast-evolving labour market trends**

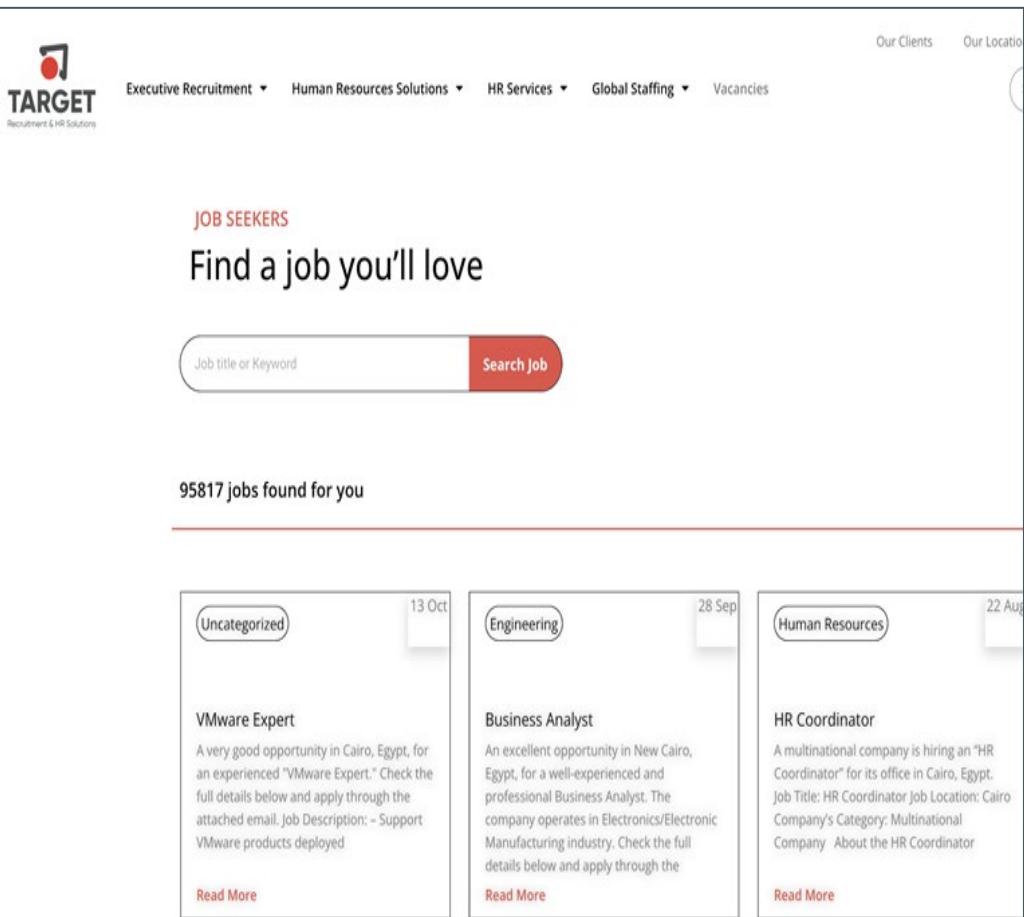
OJVs **enhance evidence-based decision-making**

When integrated with ESCO, OJV analysis **enables cross-country comparability**

ETF'S ONLINE JOB VACANCIES PROJECT



ONLINE JOB VACANCIES (OJVs)

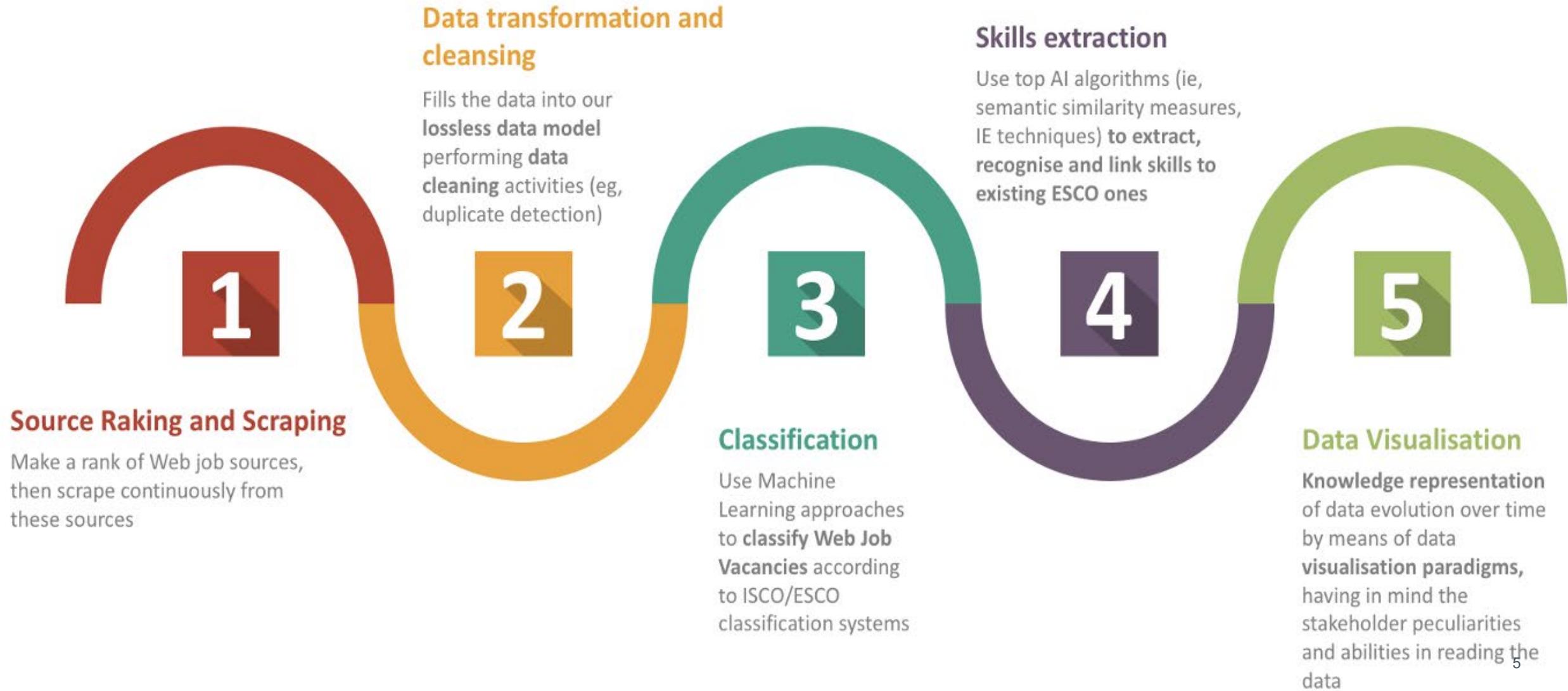


The screenshot shows a job search interface for 'TARGET Recruitment & HR Solutions'. The top navigation bar includes links for Executive Recruitment, Human Resources Solutions, HR Services, Global Staffing, Vacancies, Our Clients, and Our Locations. Below the navigation is a search bar with 'Job title or Keyword' and a 'Search Job' button. The main content area is titled 'JOB SEEKERS' with the sub-instruction 'Find a job you'll love'. It displays 95817 jobs found for you. Three job listings are shown in a grid:

- Uncategorized** VMware Expert (13 Oct) - A very good opportunity in Cairo, Egypt, for an experienced "VMware Expert." Check the full details below and apply through the attached email. Job Description: - Support VMware products deployed. [Read More](#)
- Engineering** Business Analyst (28 Sep) - An excellent opportunity in New Cairo, Egypt, for a well-experienced and professional Business Analyst. The company operates in Electronics/Electronic Manufacturing industry. Check the full details below and apply through the attached email. Job Description: - Support VMware products deployed. [Read More](#)
- Human Resources** HR Coordinator (22 Aug) - A multinational company is hiring an "HR Coordinator" for its office in Cairo, Egypt. Job Title: HR Coordinator Job Location: Cairo Company's Category: Multinational Company [About the HR Coordinator](#) [Read More](#)

- OJVs refer to job postings or job advertisements on the internet, their volume is growing
- OJVs usually include data on the characteristics of the job (e.g. occupation and location), characteristics of the employer (e.g. economic activity) and requirements (e.g. education/skills)
- Part of this information is available only as natural language textual data
- This type of big data is often unstructured and requires specific methodologies for processing and analysis
- It provides much more detailed information (compared to alternative data sources), enables early spotting of emerging skills

OJV ANALYSIS: METHODOLOGY(I)



OJV ANALYSIS: METHODOLOGY(II)

- Public OJV data collected from different web sources, based on specific criteria (landscaping)
- Updated on a monthly basis
- **Data classification:** OJV data is collected, stored, processed and **classified** using international taxonomies:
 - **ISCO 4 digits, ESCO 5 digits** –for Occupations
 - **ESCO 1.1.1** –for Skills
 - **NACE**–for economic activities
 - **ISCED-2011**–for levels of education
- Similar methodology as Skills-OVATE | CEDEFOP: covering 28 European countries to ensure comparability of data

OJV UKRAINE: VARIABLES OVERVIEW



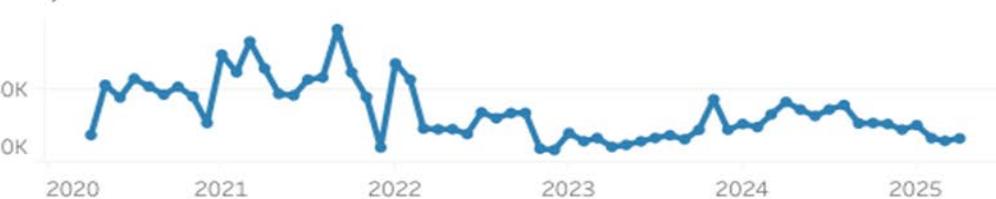
If you want, you can filter by occupation family:

Select Release Date
April 2020 to April 2025
and Null values

Select the Occupation that you want to Analyze (then select it again to reset your choice)

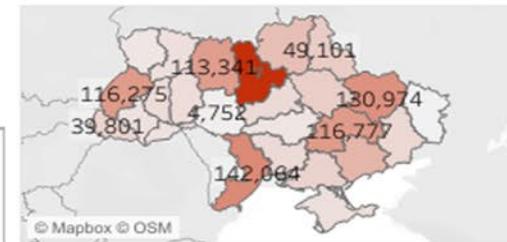


Distribution by Release Date (date of publication of the OJV)



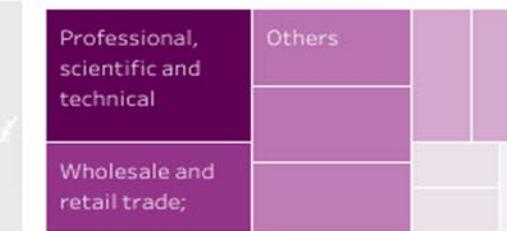
ESCO (Level 1)
All

Location



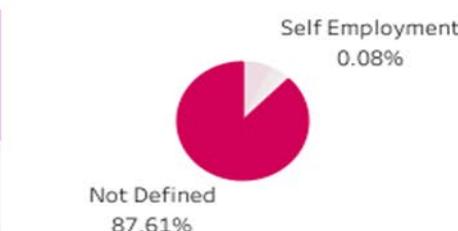
ESCO (Level 2)
All

Industry (level 1 NACE)

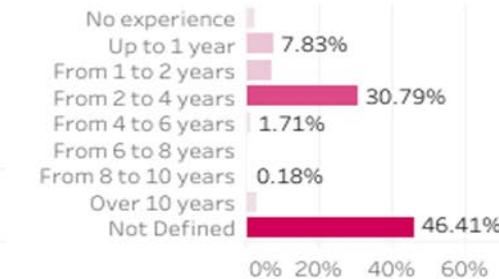


ESCO (Level 3)
All

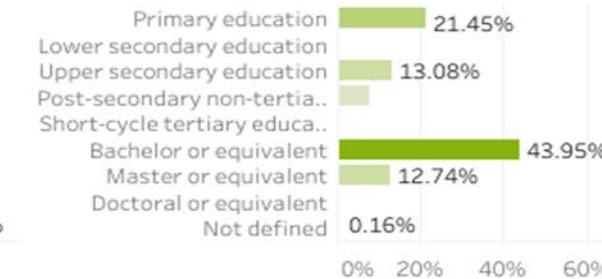
Contract



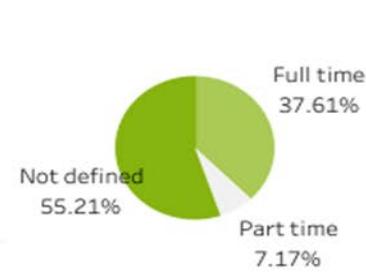
Experience



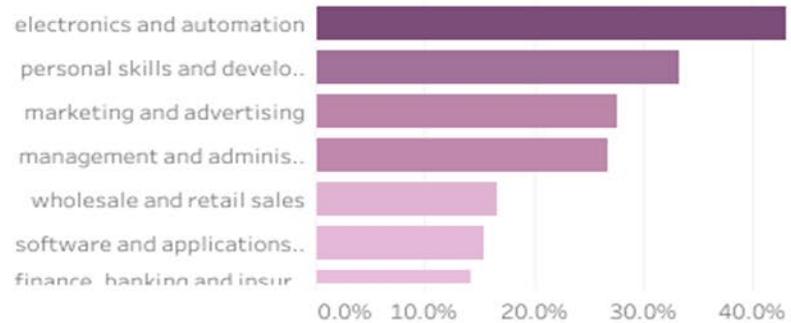
Education



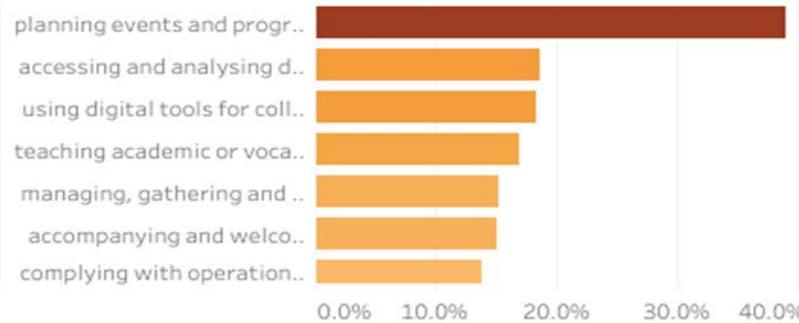
Working hours



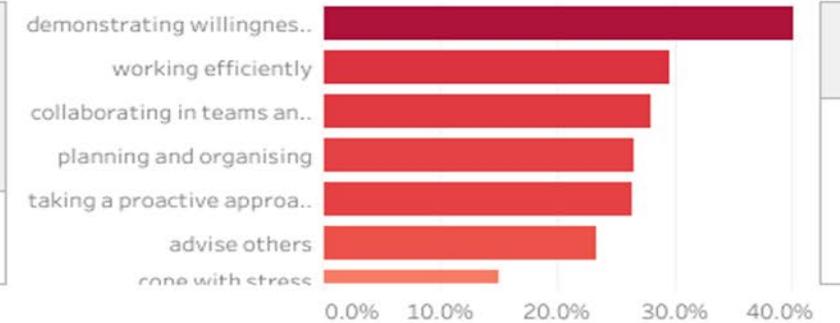
Knowledge



Skills



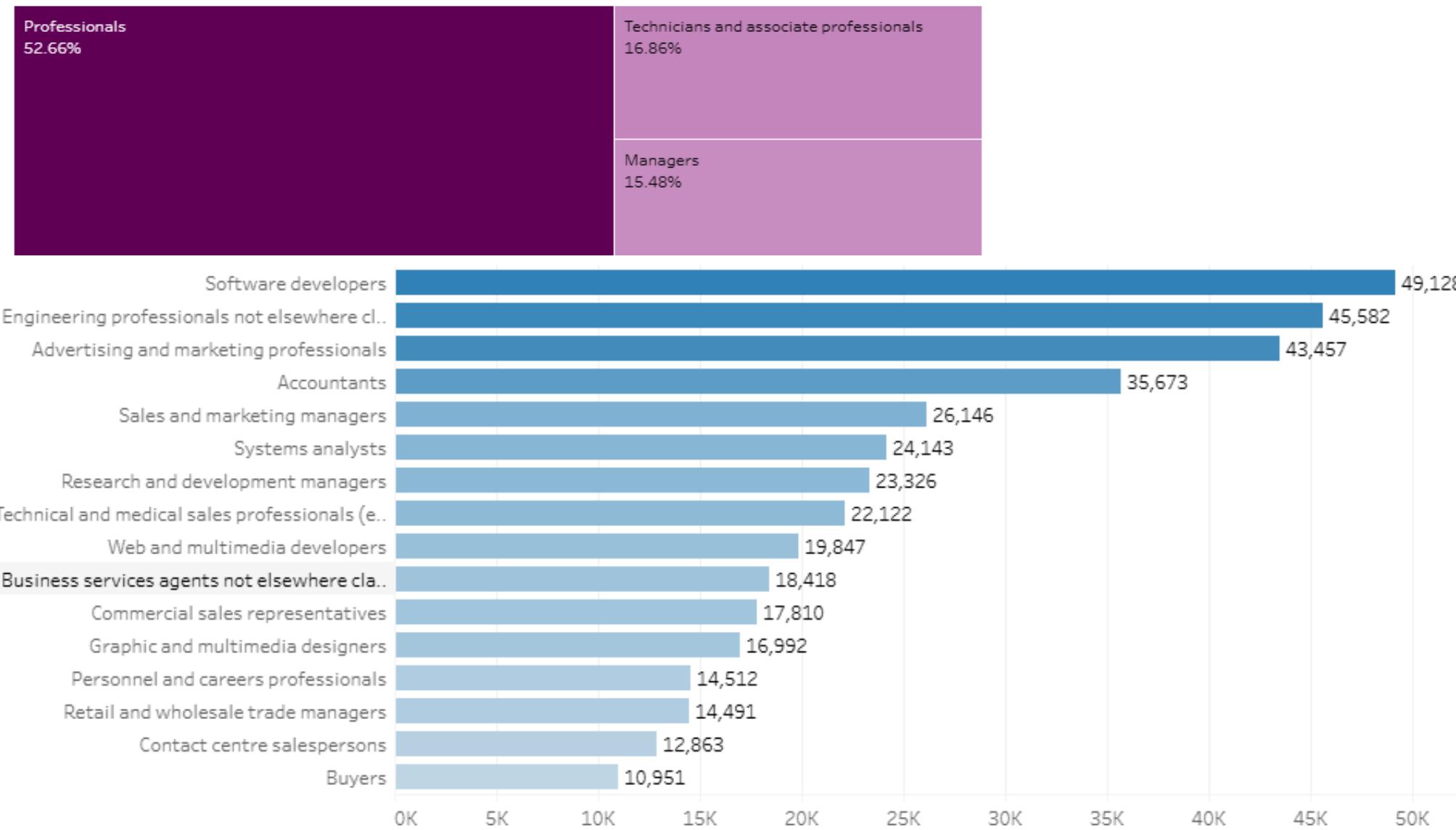
Transversal Skills and Competences



Skill data refer to Online Job Vacancies published in the last 12 months available for analysis

ETF's OJV ANALYSIS INSIGHTS

Occupation (level 1)

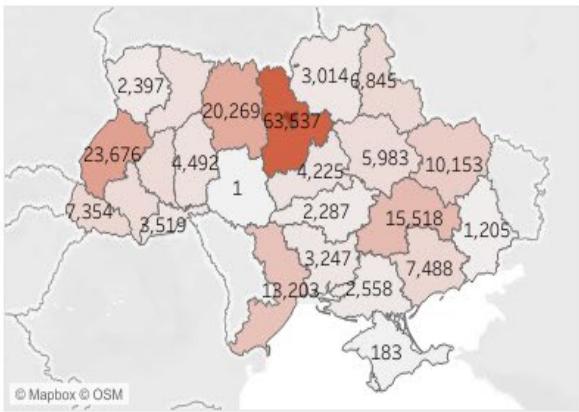


ETF's OJV ANALYSIS INSIGHTS

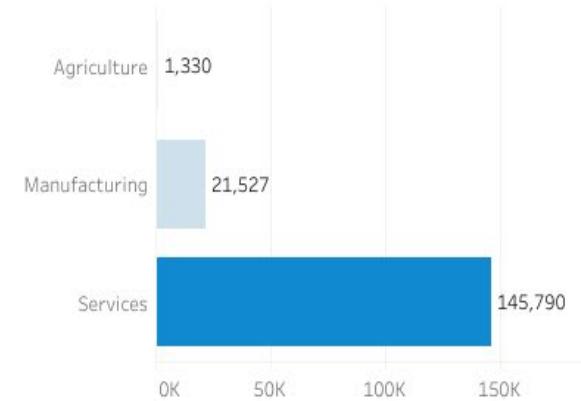


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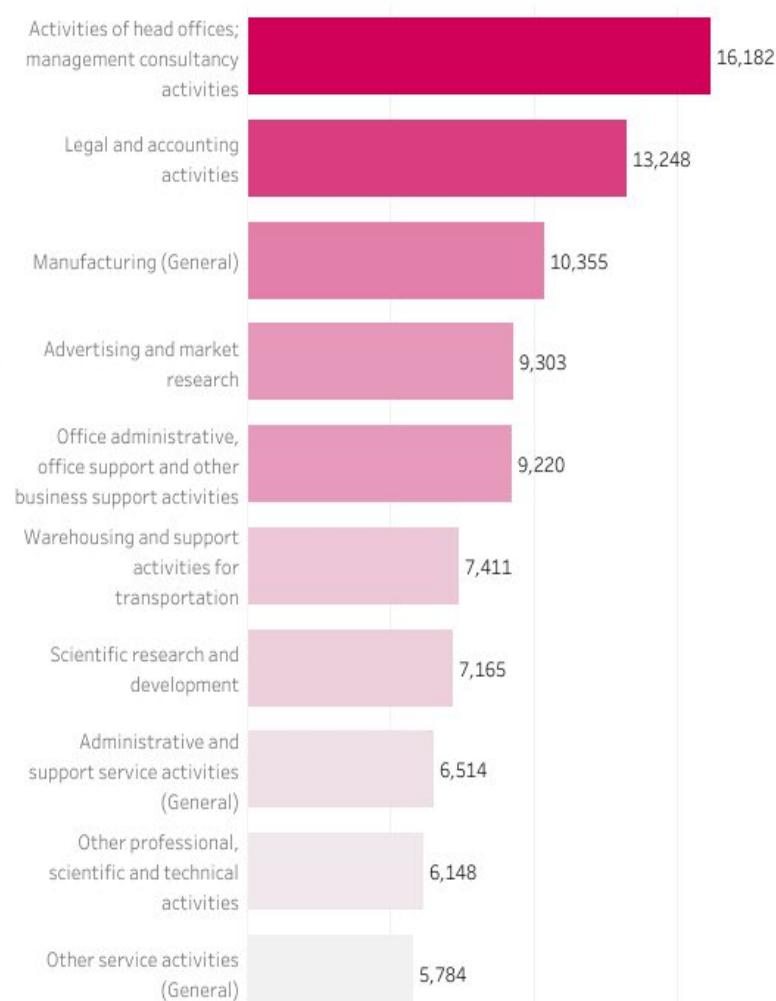
Location



Industry (Macro level)



Top 10 Industries (level 2)



Occupational demand in sectors (NACE-based): Ukraine

ETF's OJV ANALYSIS INSIGHTS



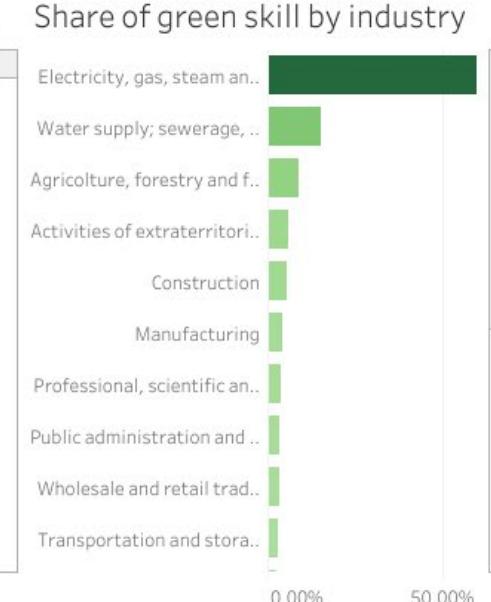
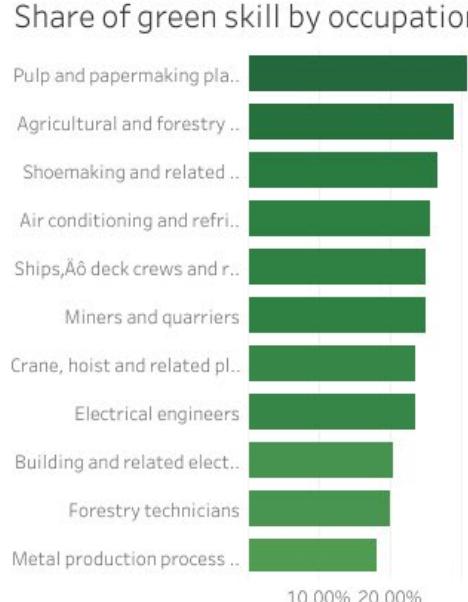
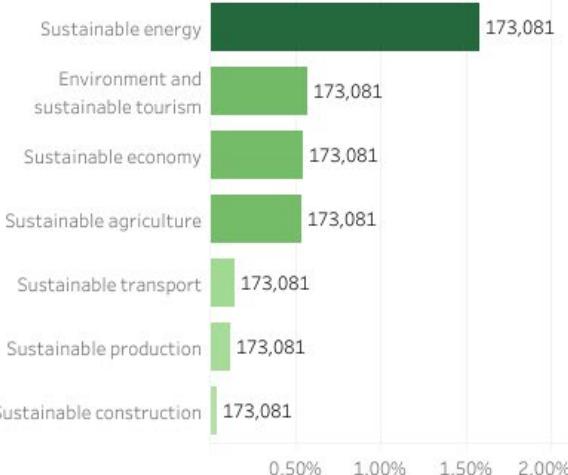
Select Release Date

April 2024 to April 2025

Green Share

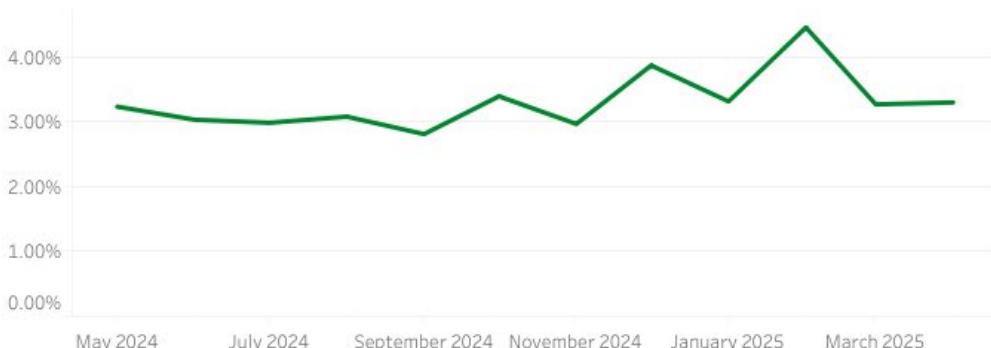
3.25%

Select the Green skill family that you want to Analyze (then select it again to reset your choose)



Green skills demand (ESCO & ETF skills): Kenya

Share of green skill by release date



Most requested green skill

```
graph LR; RE[renewable energy] --- A[agroforestry]; RE --- SA[sustainable agriculture]; RE --- EP[environmental protection]; RE --- CE[circular economy]; RE --- GE[green energy]; RE --- SS[solar systems]; RE --- GB[green business]; RE --- SE[sustainable energy]; A --- H[hydroponics]; SA --- EP; EP --- SFM[sustainable forest management]; CE --- SM[sustainable mobility]; SM --- ST[sustainable transport]; SFM --- ST; GE --- SE; SS --- GE; GB --- SE; SE --- AE[solar equipment];
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ETF's OJV ANALYSIS INSIGHTS



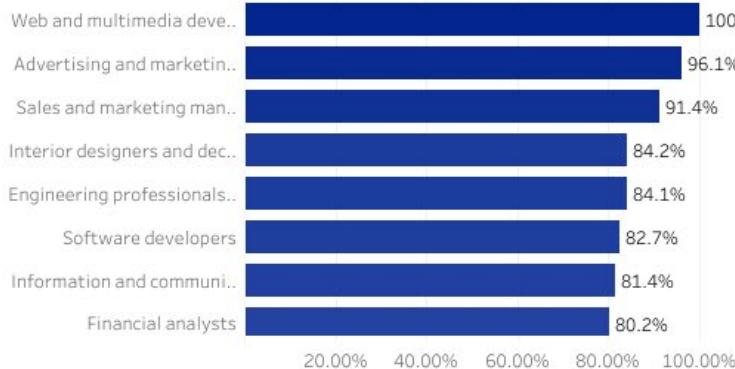
Select Release Date
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Digital Share

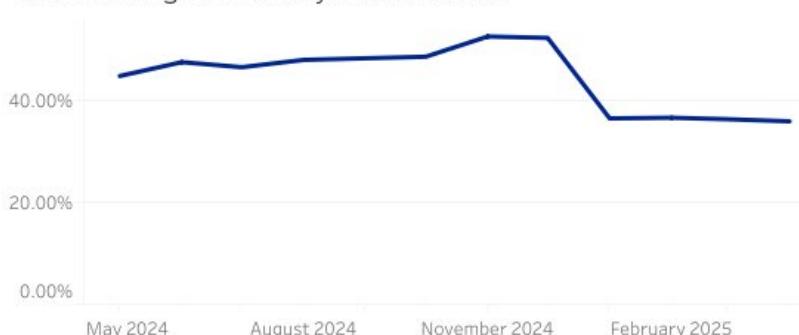
43.97%

Select the Occupation that you want to Analyze (then select it again to reset your choice)

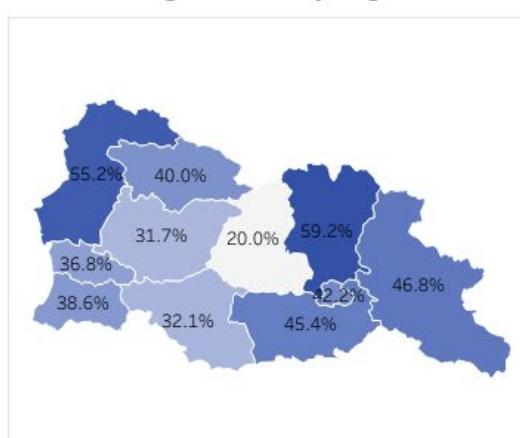
Select the Occupation that you want to Analyze (then select it again to reset your choice)



Share of digital skill by release date

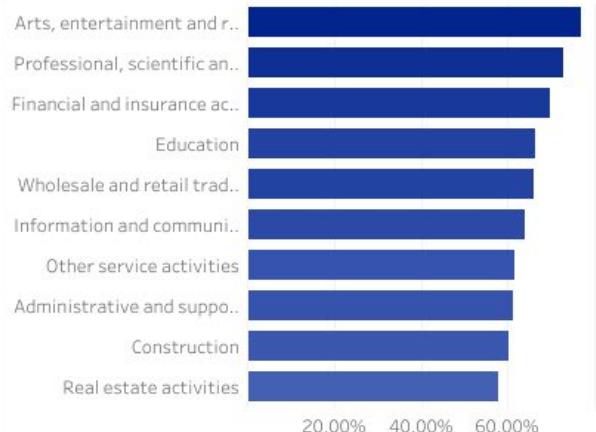


Share of digital skill by region



Most requested digital skill

Share of digital skill by industry



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graph TD; A[have computer literacy] --> B[office software]; A --> C[geographic information systems]; A --> D[CSS]; A --> E[database]; A --> F[use microsoft office]; A --> G[use spreadsheets software]; A --> H[interpret automatic call distribution data]; B --> I[use Microsoft Office]; B --> J[use scripting programming]; B --> K[integrated development environment software]; B --> L[digital marketing techniques]; B --> M[business ICT systems]; B --> N[use content management system software]; B --> O[ABAP]; B --> P[use shorthand computer program]; B --> Q[use markup languages]; B --> R[Java (computer programming)]; B --> S[create AutoCAD drawings]; B --> T[use machine tools]; C --> U[use presentation software]; C --> V[use technical drawing software]; C --> W[use CAD software]; C --> X[implement front-end website design]; C --> Y[use query languages]; C --> Z[computer programming]; C --> AA[use object-oriented programming]; D --> BB[use presentation software]; D --> CC[use technical drawing software]; D --> DD[use CAD software]; D --> EE[implement front-end website design]; D --> FF[use query languages]; D --> GG[computer programming]; D --> HH[use object-oriented programming]; E --> II[use Microsoft Office]; E --> JJ[use scripting programming]; E --> KK[integrated development environment software]; E --> LL[digital marketing techniques]; E --> MM[business ICT systems]; E --> NN[use content management system software]; E --> OO[ABAP]; E --> PP[use shorthand computer program]; E --> QQ[use markup languages]; E --> RR[Java (computer programming)]; E --> SS[create AutoCAD drawings]; E --> TT[use machine tools]; F --> III[use Microsoft Office]; F --> JJJ[use scripting programming]; F --> KKK[integrated development environment software]; F --> LLL[digital marketing techniques]; F --> MMM[business ICT systems]; F --> NNN[use content management system software]; F --> OOO[ABAP]; F --> PPP[use shorthand computer program]; F --> QQQ[use markup languages]; F --> RRR[Java (computer programming)]; F --> SSS[create AutoCAD drawings]; F --> TTT[use machine tools]; G --> VV[use presentation software]; G --> WW[use technical drawing software]; G --> XX[use CAD software]; G --> XXX[implement front-end website design]; G --> YYY[use query languages]; G --> ZZZ[computer programming]; G --> AAA[use object-oriented programming]; H --> VV; H --> WW; H --> XX; H --> XXX; H --> YYY; H --> ZZZ; H --> AAA;
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Digital skills demand (ESCO skills): Georgia

ETF's OJV ANALYSIS INSIGHTS



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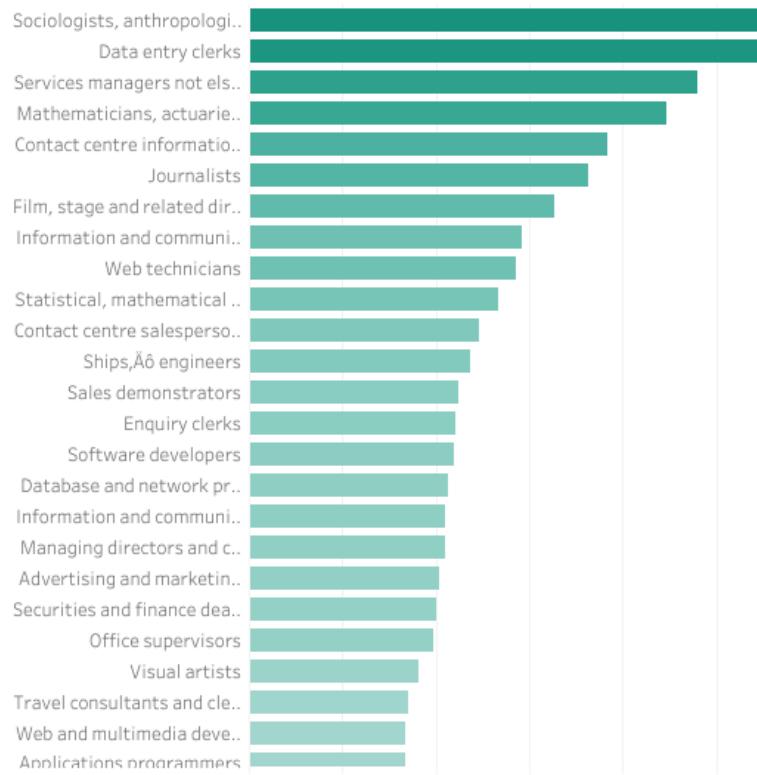
Remote Work Share

4.60%

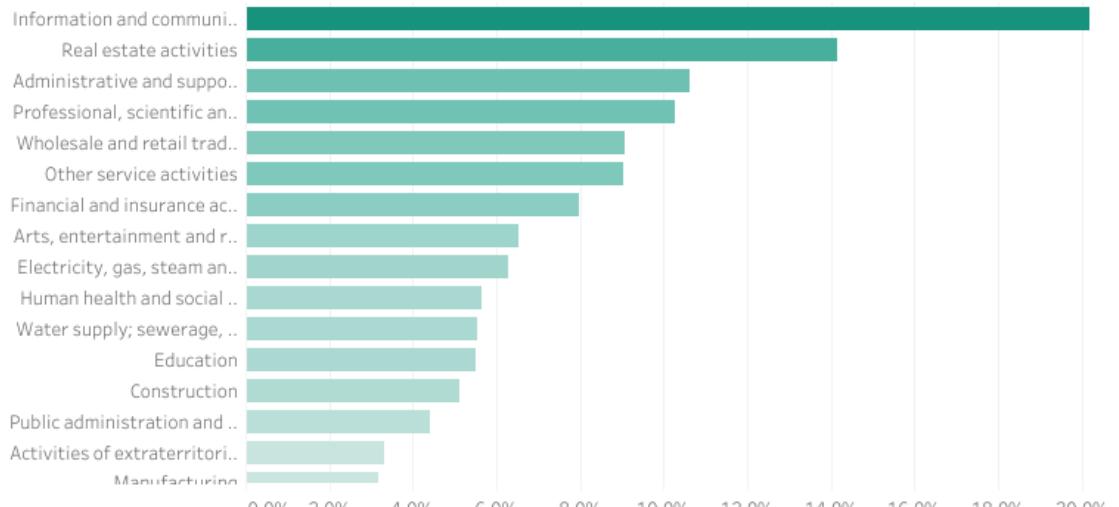
Number of remote work OJV

10,460

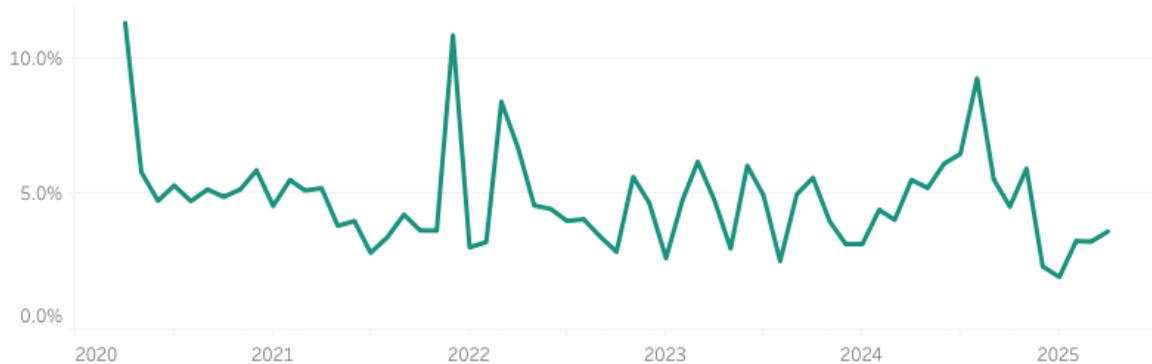
Select the Occupation that you want to Analyze (then select it again to reset your choice)



Share of remote work by industry



Share of remote work by release date



Remote work :
Ukraine

Benefits of using ESCO for big data analysis



structured vocabulary used to tag and categorize job titles, required skills, and qualifications from OJVs & enhance accuracy of natural language processing (NLP) tools used in big data pipelines



structured and standardised approach to define skill requirements across various sectors



allows comparison of the same job across different countries & better granularity

Harmonization of job vacancy data, making it possible to compare labour market trends across borders and align them with EU-wide data (CEDEFOP Skills OVATE)

OJVs BENEFITS AND LIMITATIONS

BENEFITS

- No implementation lag, almost real time data
- Higher granularity, with more detailed information
- Spotting emerging trends in occupational and skills dynamics
- Complementarity with conventional statistical data (ISCO, ESCO)

LIMITATIONS

- Sampling: information posted on the web may be incomplete, with some sectors overrepresented, others totally absent
- Techniques and tools are rather specialised and require a great deal of expertise on data analytics
- Data often unstructured: it requires processing and classification according to determined standards (NACE, ISCO, ESCO, ISCED) for harmonization of data

THANK YOU FOR YOUR ATTENTION!

QUESTIONS?