



SKILLAB: Creating a Skills Supply and Demand Space

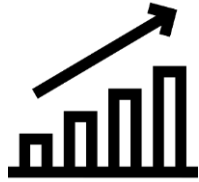
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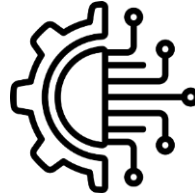
HORIZON EUROPE
2021-2027

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The labour market today



The labour market **is evolving** in rapid rates



New **technologies** are incorporated in the labour landscape



Specific **skills** are required from the workforce

SKILLS Matter



SKILLS Matter



Skills?

Hard Skills

Programming

Statistics

Machine Learning

Data Analytics



Collaboration

Creativity

Communication

Leadership

Soft Skills

“Skills Gap”

Demand

Surplus of skills in the job advertisements that are posted

VS

Supply

Deficit of skills that are provided from potential workforce

Monitoring the demand and supply of skills in the European labour market



CONSORTIUM



ARISTOTLE
UNIVERSITY OF
THESSALONIKI



CERTH
CENTRE FOR
RESEARCH & TECHNOLOGY
HELLAS

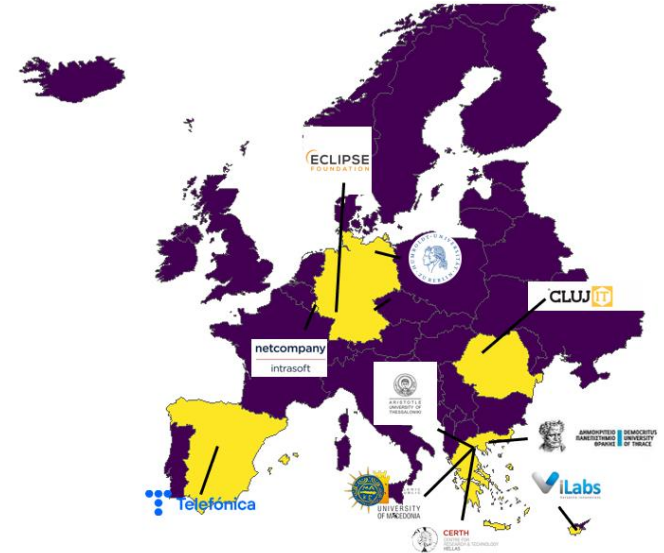


ΔΗΜΟΚΡΙΤΕΙΟ
ΠΑΝΕΠΙΣΤΗΜΙΟ
ΘΡΑΚΗΣ
**DEMOCRITUS
UNIVERSITY
OF THRACE**

HUMBOLDT-
UNIVERSITÄT
ZU BERLIN



netcompany
intrasoft





PROJECT AIM

Deliver an open-source skill demand/supply identification, analysis and prediction hub for citizens, enterprises, academia, and policy makers.

A HOLISTIC APPROACH



Develop a skills
management and skills
shortage identification
platform

REGIONAL



Gauge and monitor
the European labour
market

SECTORAL



Propose strategies,
curricula
development, policies

TEMPORAL

SKILLAB Objectives



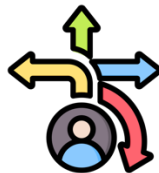
identify skills shortages and gaps



skills training & upskilling



HR recruiting



**Learning pathways for EU
citizens**



Job retainability

SKILLAB TECHNOLOGY

Development and deployment of a holistic, open-source skills management and shortage identification platform.

Integrate Advanced **Machine Learning** and **Natural Language Processing** into the analysis of competences.

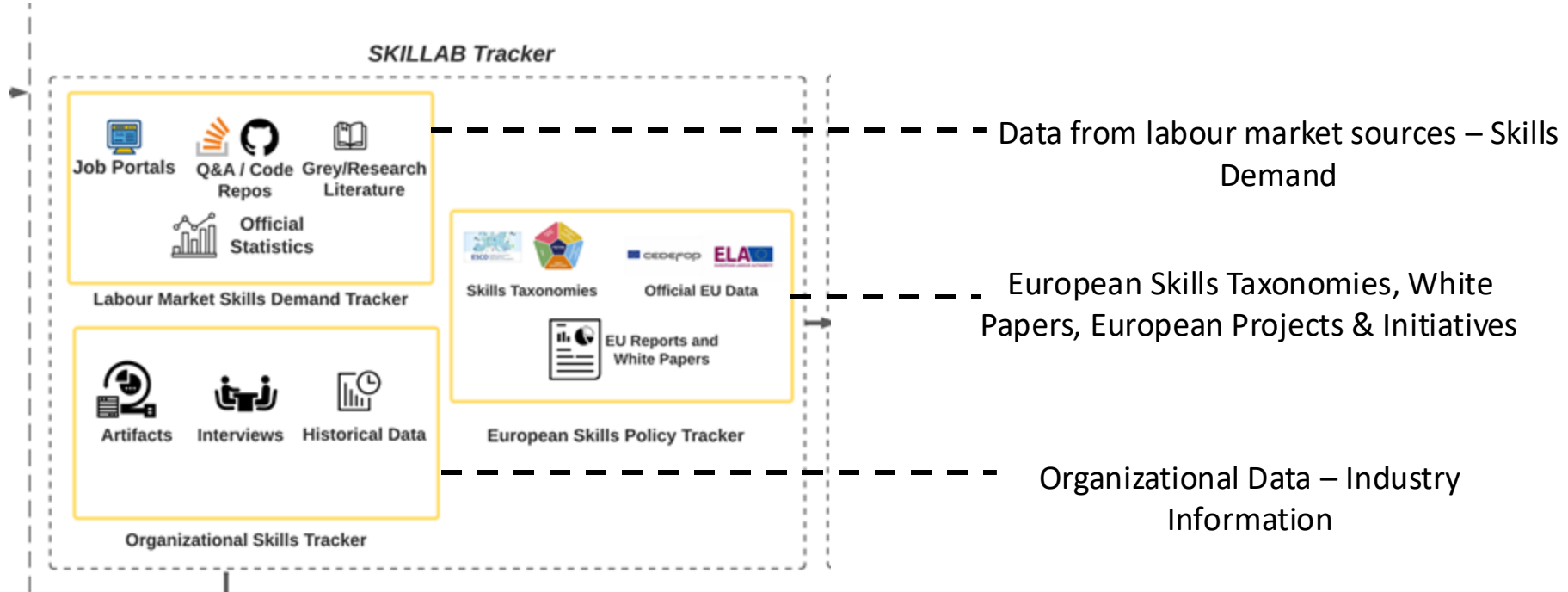


SKILLAB TRACKER

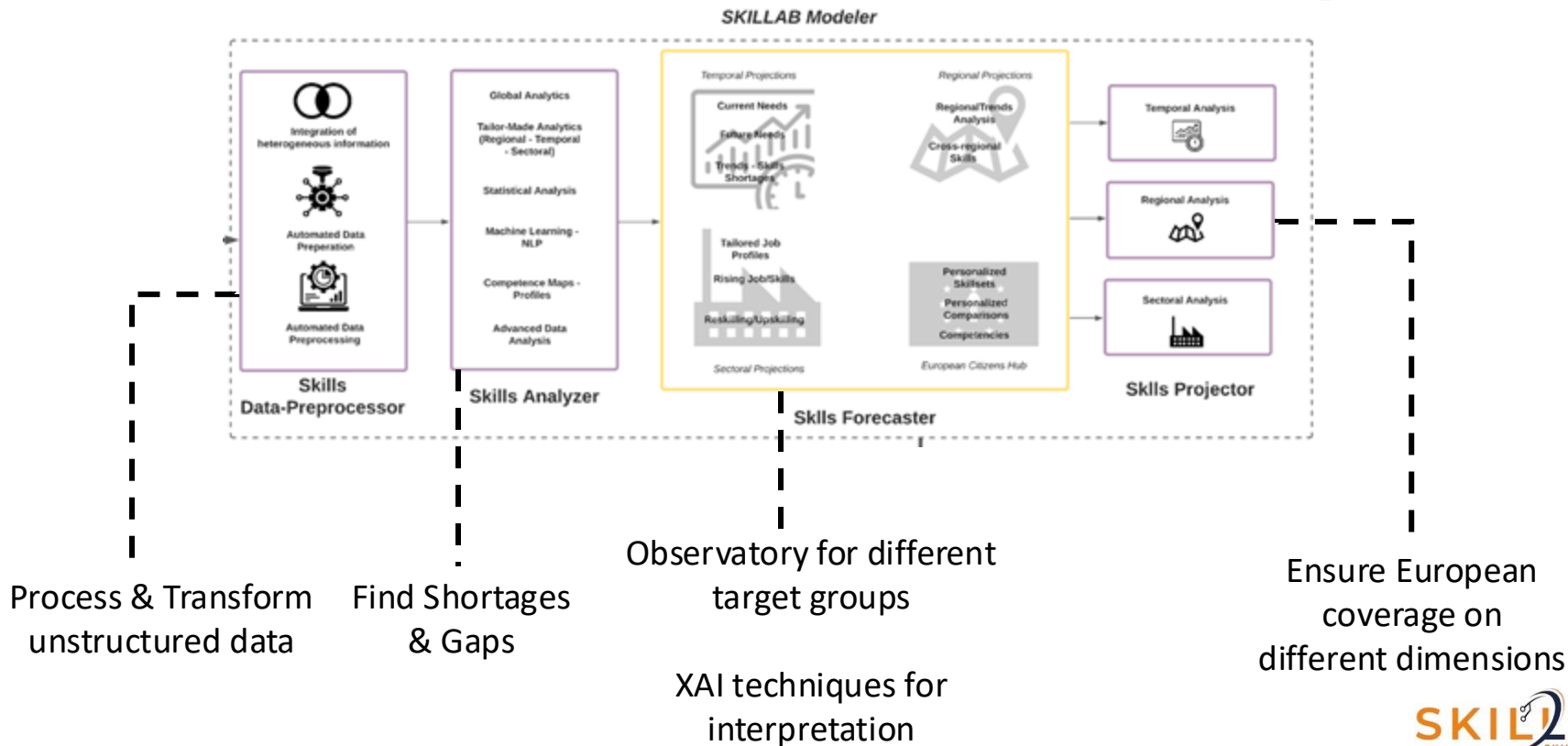
SKILLAB MODELER

SKILLAB INTELLIGENT
AGENT

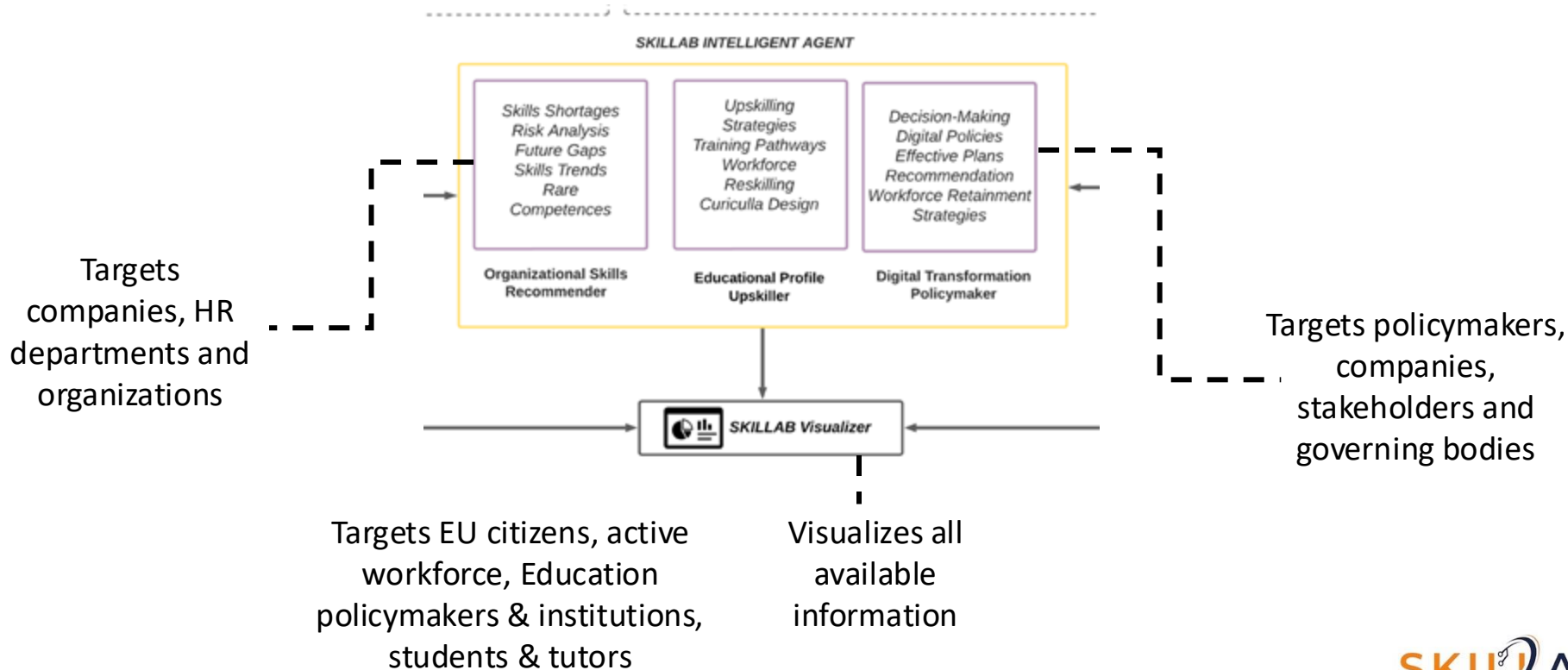
SKILLAB TRACKER



SKILLAB MODELER



SKILLAB INTELLIGENT AGENT





European Project Databases

Job Postings

Academic Literature

User Profiles – CVs – Software Repositories

Industrial Literature

European Indicators

Educational Data

Udemy Categories Library Business Search on Udemy Log in Sign up

10,000 results for "data science"

Filter Sort Most Relevant

Ratings

- ★★★★★ 4.5 & up (10/10)
- ★★★★ 4.0 & up (10/10)
- ★★★ 3.5 & up (10/10)
- ★★ 3.0 & up (10/10)

Language

- ☐ English (10/10)
- ☐ Portuguese (10/10)
- ☐ Spanish (10/10)
- ☐ French (10/10)

Show more

Hands-on Practice

The Data Science Course: Complete Data Science Bootcamp 2024
Complete Data Science Training: Math, Statistics, Python, Advanced Statistics in Python, Machine Learning, and Data Science

10,000 results

€79.99

coursera Explore data science

Online Degrees Find your New Career Log in Join for Free

Courses Professional Certificates Degrees Beginner Advanced All Filters 1

Reset

3,190 results for "data science"

Sort by: Best Match



IBM Data Science
Skills you'll gain: Python Programming, Data Science, Machine Learning, Data Analysis, Programming, Professional Development, ...
Make progress toward a degree
4.6 (1,206 reviews)
Beginner - Professional Certificate - 3-6 Months



OPEN SYLLABUS

Mapping the college curriculum across 20.9 million syllabi.

Open Syllabus is a massive non-profit archive of the main activity of higher education: teaching. It provides top-down views of the curriculum across thousands of schools to support curricular innovation, lifelong learning, and student success.

Open Syllabus works to expand the boundaries of open education. Most of its tools are free to use.

OPEN SYLLABUS ANALYTICS

Explore teaching across millions of syllabi from thousands of schools.

OPEN SYLLABUS COURSE MATCHES

See which courses should transfer across hundreds of schools.

OPEN SYLLABUS CATALOG

A navigable view of the whole project of anglophone higher education.

Curricula & Syllabi

Online courses

EU educational policies

The image is a collage of three screenshots from official EU websites, all showing search results for 'educational policies'.

- Top Left Screenshot (ILO):** The International Labour Organization website. The header is blue with the ILO logo and the tagline 'Advancing social justice, promoting decent work'. The navigation bar includes 'About', 'Topics', 'Countries', 'Research', 'Data', 'Standards', and 'Partnerships'. The search results section is partially visible.
- Top Right Screenshot (EUR-Lex):** The EUR-Lex website, 'Access to European Union law'. The header is blue with the European Union flag. The search bar contains 'educational policies'. The results show 'Search Results' with a list of documents.
- Bottom Screenshot (TED):** The TED website, 'Tenders electronic daily'. The header is blue with the European Union flag. The search bar contains 'educational policies'. The results show 'Search Results' with a list of tenders.

PILOTS

Open-Source Pilot Case



Empowering Open-Source Communities

- Structure and organize knowledge about available and demanded skills in open-source communities to understand, use, or contribute to project code
- Identify skills demands / shortages / future trends in open-source communities

Private Sector Pilot Case



Implementation of SKILLAB platform in the company

- Improve the recruitment process
- Enhance employee skills and optimize training programs
- Obtain relevant feedback related to the recruitment process improvement using the SKILLAB platform
- Identify hiring needs, trending skills
- Perform competition analysis

Public Authorities Pilot Case



Addressing future skills needs in the labour market of Greece and Cyprus

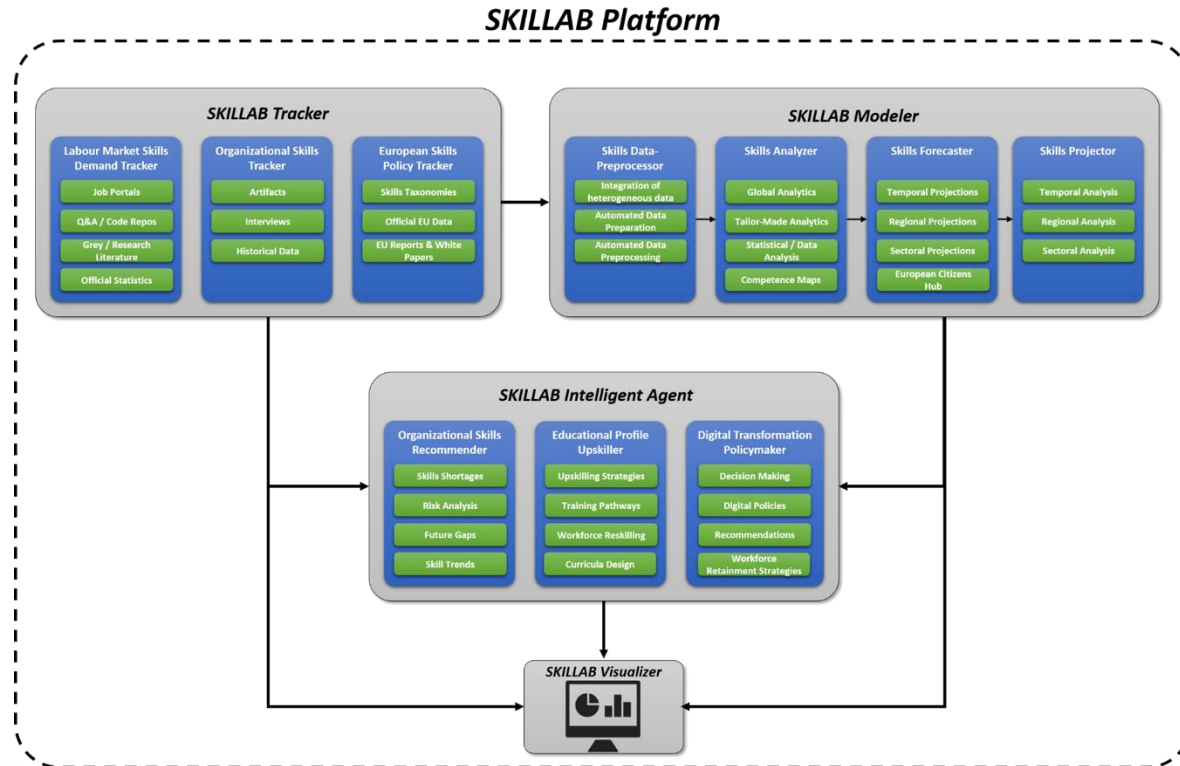
- Bridge the gap between evidence and decision-making by assessing the impact that the SKILLAB platform will have to the skills anticipation process of Greece and Cyprus (public bodies and organizations)
- Present an added value for policy and decision makers at national (and even EU) level by enabling the labour market stakeholders to engage with evidence-based insights and make informed decisions.

The SKILLAB project can be transformed into a DS by incorporating decentralized technologies, federated learning or open data sharing in its services, with emphasis on bridging skill gaps and mismatches

The development of a SKILLAB DS could benefit the market by

- Encouraging open data sharing on skills development
- Exchanging of data and knowledge among stakeholders
- Enhancing upskilling and reskilling opportunities across the EU

The SKILLAB Data Space



SKILLAB Data Space Layers

Business Layer

- Define roles of participants in the DS
- Formulates interaction strategies and plans
- Citizen, Industrial, Educational, Policymaker roles with interactions between them

SKILLAB Data Space Layers

Functional Layer

- Functional requirements of the DS



SKILLAB Data Space Layers

Information Layer

- Define Vocabulary Units that define the data sources used
- Portrayal of ontologies and relationships
- Structure of backend services

SKILLAB Data Space Layers

Process Layer

- Specify data sharing interactions
- Data Analysis with Data Apps
- SKILLAB analytics platforms and services/microservices

SKILLAB Data Space Layers

System Layer

- Connective routines between participants
- Brokers for metadata and data exchange
- Services for interaction

PILOTS using the DS

Open-Source Pilot Case



Empowering Open-Source Communities

- ECL and similar companies would benefit from using a DS with structured skills data, shared among participants
- Acceleration of identifying open-source skills with great added value for foundations

Private Sector Pilot Case



Implementation of SKILLAB platform in the company

- Leverage the analysis components of the DS by safely accessing insights
- Derive recommendations from the DS
- Establishment of internal data sharing within the CLUJ IT ecosystem
- Linkage of CLUJ with ideal candidates

Public Authorities Pilot Case



Addressing future skills needs in the labour market of Greece and Cyprus

- Liaison between SKILLAB and the envisioned DS, with policy data provided and shared in the DS
- The offer of a DS with full anonymity can aid agencies in Greece and Cyprus to analyze SKILLAB insights
- Accelerating decision-making processes

Thank you !

Thank you!
Any questions?

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