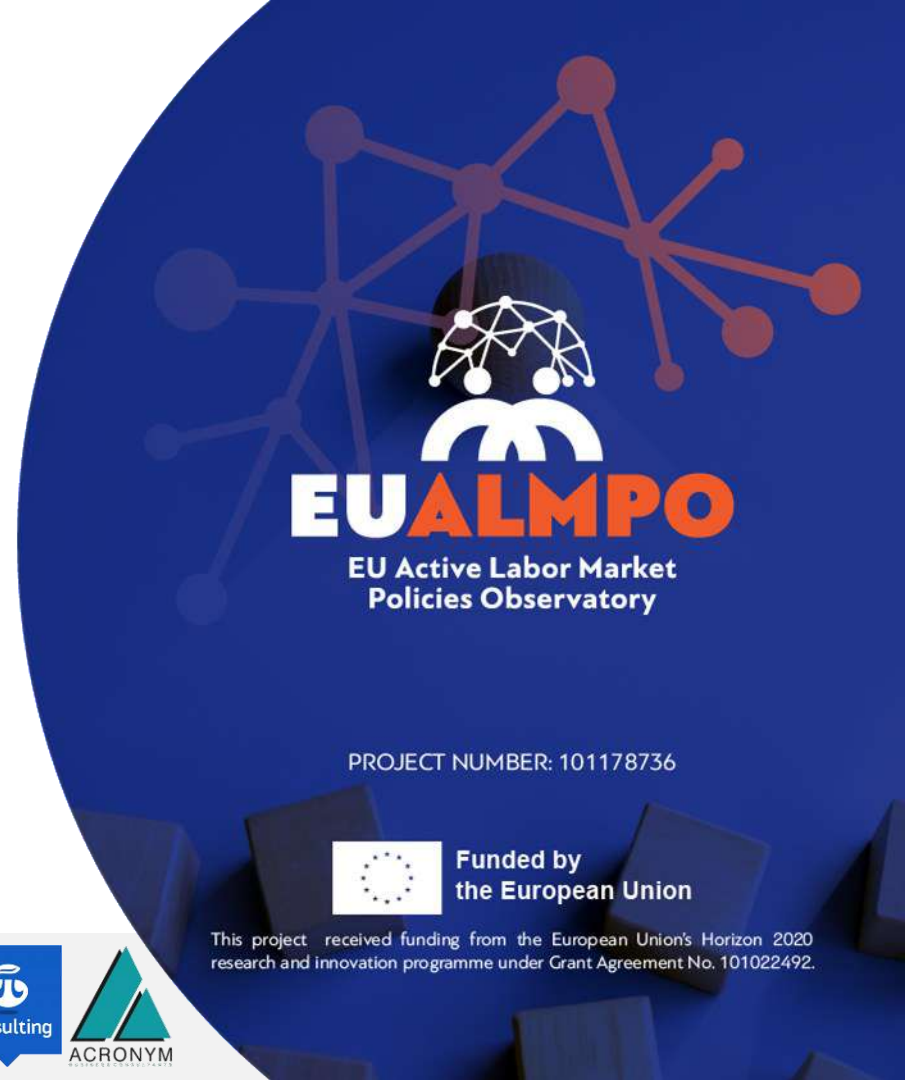


The EU-ALMPO Technological Infrastructure

Validation of the analytical framework
Workshop,
September 26, 2025

Prof. Giannis Tzimas, Project Coordinator
Data & Media Lab,
Department of Electrical and Computer Engineering
University of Peloponnese



The Challenge We Address



Problem

ALMP evidence and operational data are dispersed across PDFs, portals, and heterogeneous sources.

Goal

Collect → normalize → understand → recommend → visualize
ALMP knowledge with end-to-end provenance and evaluation.

Outcomes (by deliverable)

- **D3.1:** Document Repository & Assisted Annotator
- **D3.2:** ALMP Wizard (interactive design UI)
- **D4.1:** Labor-market analysis tooling (multi-source)
- **D5.1:** Analytics & tailored recommendations
- **D5.2:** CV-aware policy-design prototype

THE CHALLENGE WE ADDRESS



Key information sits in long reports, portals, and spreadsheets



Analysts need fast ways to compare policies and spot trends

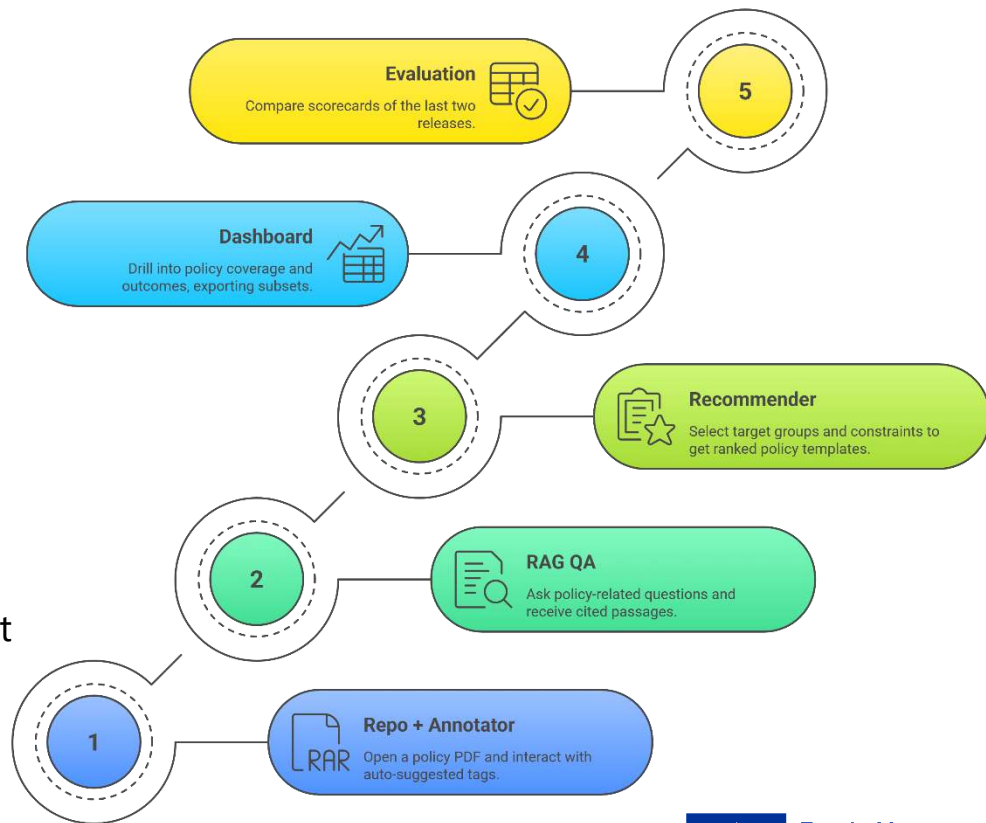


Decisions must be timely, transparent and citizen-centered

The EU-ALMPO Tech Framework



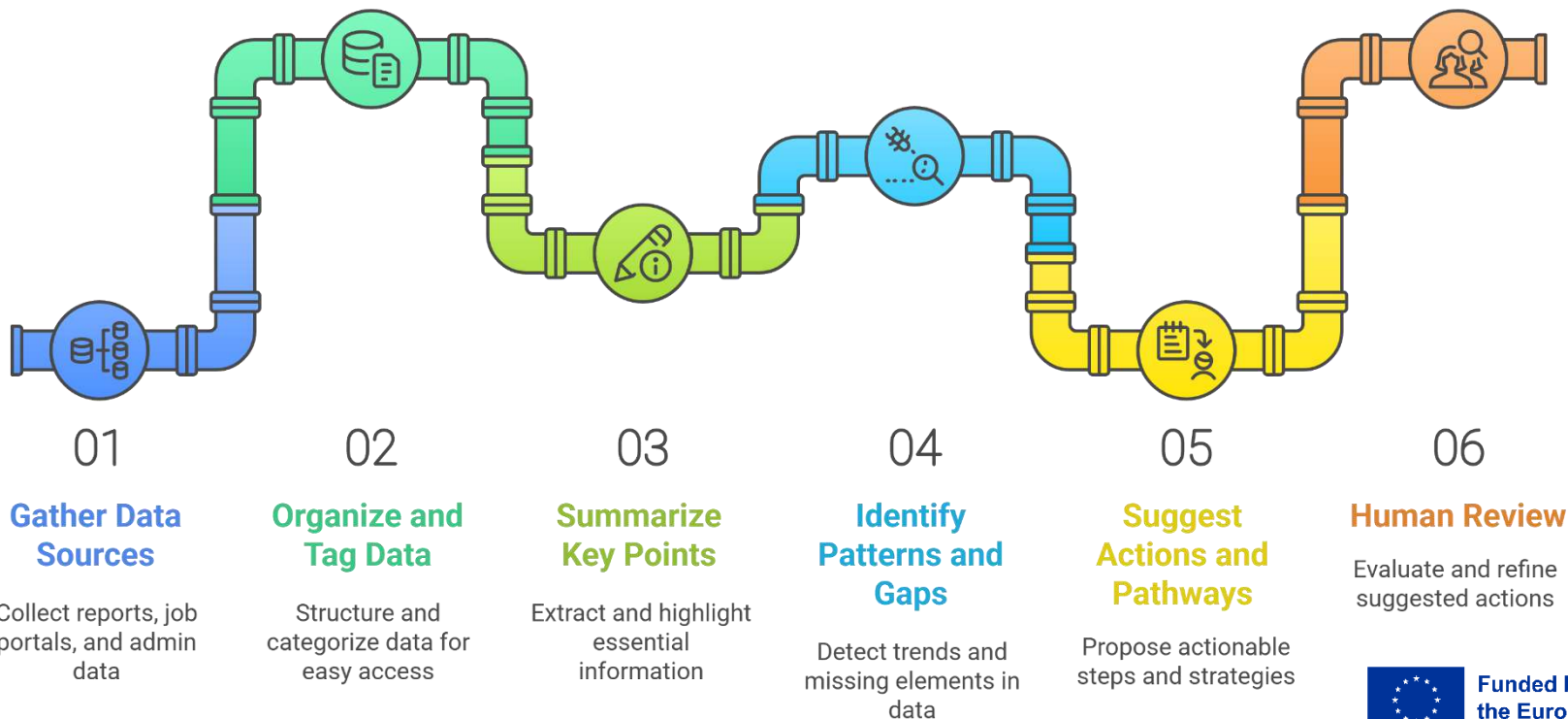
- **Repo + Annotator:** open a policy PDF → see auto-suggested tags → accept/edit → provenance view.
- **RAG QA:** ask “eligibility for youth hiring subsidies in region X (2022–2024)” → cited passages.
- **Wizard/Recommender:** select target group & constraints → ranked policy templates with justifications.
- **Dashboard:** drill into ALMP coverage vs. outcomes; export a subset.
- **Evaluation:** show scorecard comparing last two releases.



How Information Flows



Data Analysis and Action Suggestion Process



Our Sources (Examples)



ALMPO Documents

Research papers, Administrative, Policy and evaluation reports in various formats.

Job Postings

Job postings from major portals and five countries.

Labor Market Data

Administrative and Labor Market data and statistics where available.

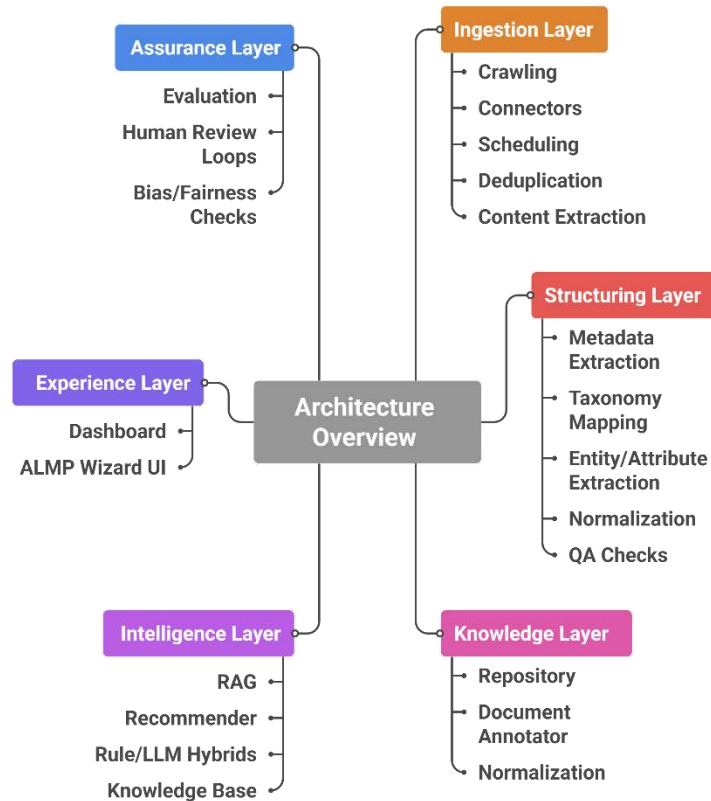
European Classifications

European classifications for skills, occupations, and sectors.

Architecture Overview: Layers & Components



- **Ingestion Layer:** Crawling, connectors, scheduling, deduplication, content extraction (HTML → Markdown/PDF → text + tables + figures).
- **Structuring Layer:** Metadata_Extraction (unstructured→structured), taxonomy mapping, entity/attribute extraction, Normalization, QA checks.
- **Knowledge Layer:** Repository (versioned, queryable), Document Annotator (UI + schemas), Normalization.
- **Intelligence Layer:** RAG (retrieval + generation), Recommender (policy options, micro-credential paths), rule/LLM hybrids, Knowledge Base.
- **Experience Layer:** Dashboard (analytics, drill-down), ALMP Wizard UI (design canvas, templates, guided flows).
- **Assurance Layer:** Evaluation (offline & online metrics, human review loops, bias/fairness checks).



EU-ALMPO Login Page





Create Account

Start your journey with EU ALMPO today

Full Name

Email

Password

Confirm Password

Select Your Account Type:

- ☒ ALMP Designers & Policy Stakeholders
- ☐ Analysts / Researchers
- ☐ Lead Curator
- ☐ Curator

☐ By creating an account, you agree to our [Terms of Service](#) and [Privacy Policy](#)

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Already have an account? [Sign In](#)



Welcome Back

Please sign in to continue.

Email

Password

[Forgot Password?](#)

Sign In

By signing in, you agree to our [Terms of Service](#) and [Privacy Policy](#)

[Create a new Account](#)

The ALMPO Repository



 **ALMPO**

Your notebooks

Create AI-powered study guides from your documents. Upload sources, ask questions, and get answers backed by your content. Work more efficiently by leveraging the power of AI to summarize long documents, extract key concepts, and identify relevant information quickly.



  Most recent ▾

Title	Sources	Created	Role	Action
 ALMPs	5 Sources	June 12, 2025, 3:47 p.m.	pegumba@gmail.com	
 AI and Digital Transformation	6 Sources	June 19, 2025, 9:36 a.m.	pegumba@gmail.com	
 Youth Employment ALMP	5 Sources	June 27, 2025, 7:12 a.m.	pegumba@gmail.com	
 Digitization Policy	23 Sources	July 8, 2025, 7:28 a.m.	pegumba@gmail.com	
 Workplace AI Integration	0 Sources	Sept. 10, 2025, 8:38 a.m.	pegumba@gmail.com	
 Young Mothers Policy	0 Sources	Sept. 10, 2025, 8:51 a.m.	pegumba@gmail.com	

- A simple screen to highlight important passages in a document.
- Shared labels so the team describes things in the same way.
- Quality checks ensure the library remains consistent and trustworthy.

The ALMPO Document Annotator (1/3)



 **Document Annotation Page**    PT

Guide

AI ADOPTION IN THE PUBLIC SECTOR concepts full
Last updated: Aug 25, 2025

AI Adoption in Public Sector
Key factors for successful AI adoption include early user involvement, fast discovery, and alignment of resources, IT, and business processes.
ai adoption public sector
human-centred resources
business processes

AI Adoption in Public Sector

AI Adoption in Public Sector

Document

AI ADOPTION IN THE PUBLIC SECTOR concepts full
Last updated: Aug 25, 2025

AI Adoption in Public Sector
001 Several factors were crucial in the successful adoption of a human-centred approach to AI, including a fast discovery phase that involved workers (or end users) in the development early on, and aligning human resources, information technology and business processes.
002 The slow adaptation of existing work processes and legacy IT systems was a barrier to the optimal usage of the technology.
003 Moreover, the usefulness of the technology depended on both the task routineness and worker experience, thereby necessitating a rethinking of the work division between technology and workers, and between junior and senior workers.
004 Successful human-centred roll-out of AI in Europe will therefore depend on the availability of, or investments in, complementary intangible organisational capital.
005 'AI adoption in the public sector: a case study', *Working Paper* 03/2023, Bruegel
006 | 1 Introduction | 2 |
007 | 1.1 Productivity and technology acceptance | 2 |
AI Adoption Case Study
008 | 1.2 The organisations in this case study | 3 |
009 | 1.3 Selection of the case study | 3 |

Annotation

AI ADOPTION IN THE PUBLIC SECTOR concepts full
Last updated: Aug 25, 2025

TAXONOMIES
Target Groups 16
Almp Instruments 9
Delivery Modes 9
Evaluation Design 2

VISUALIZATIONS
Annotation Confidence
Average confidence level of your annotations based on the model's predictions.
Confidence Score 92%

- Search by topic, target group, instrument, budget, or location.
- Ask natural questions (e.g., What programs support youth hiring?).
- Answers link back to the exact place in the document.



The ALMPO Document Annotator (2/3)



Curator Studio

Selected Content

Line 1

Several factors were crucial in the successful adoption of a human-centred approach to AI, including a fast discovery phase that involved workers (or end users) in the development early on, and aligning human resources, information technology and business processes.

Enrichment Data

Confidence: 90% Last updated: 9/22/2025, 9:47:45 PM

Core Information

Basic information including title, summary, and key details about the content.

Title

Required

AI Adoption in Public Sector

Rhetorical Role

Required

Discussion

Summary

142/500 characters

Cancel

Reset

Submit

The ALMPO Document Annotator (3/3)



Curator Studio [X]

Taxonomy & Classification [v]

Categorization and classification of the content using predefined taxonomies and custom categories.

Almp Instruments [X]

training X evaluations X Add keyword and press Enter

Target Groups [X]

performance X hiring X Add keyword and press Enter

Delivery Modes [X]

human X resources X Add keyword and press Enter

Evaluation Design [X]

Productivity X Technology X Acceptance X Add keyword and press Enter

Add New Category

Cancel Reset Submit

The ALMPO Wizard (1/4) – Defining the Designing Task



ALMPO

ALMPs

Sources

+ Add

Discover

Mind Map

Canvas

Chat about these sources

Select sources

AI ADOPTION IN THE PUBLIC SE... ☐

AI Act Policy Brief.pdf ☐

almps effectiveness 0.pdf ☐

almp guidelines.pdf ☐

Brunello e Wruuck - 2019 - Skill ...

Policy

How can I assist with your policy today?

Welcome to the ALMPO Policy Wizards! In this interactive tool, you will be guided through a series of conversations designed to assist you in developing and refining your policy effectively. Let's embark on this journey together to create impactful policies tailored to your needs!

Welcome to Policy Assistant

I'm here to assist you with creating, writing, and improving effective active labour market policies. You can upload reference sources, ask me questions, or request guidance on specific aspects of policy writing. First step is I will need reference documents. Use the "+ Add" button on the left panel and upload your sources after which you will be able to proceed.

Create New Policy

You can draft a new policy on a specific topic of your choice.

Develop an ALMP on youth Unemployment

The ALMPO Wizard (2/4) – Interacting



 **AI and Digital Transformation**     PT

Sources 

+ Add

 Discover

 Mind Map

 Canvas

 Chat about these sources

Select sources ☐

 AI ADOPTION IN THE PUBLIC SE... ☐

 AI Act Policy Brief.pdf ☐

 almps effectiveness 0.pdf ☐

 Anna - 2023 - Who does what fo... 

 ASPIRE-program-classification... 

 almp guidelines.pdf 

Wizard 

Hello, how can I help you today?

10:30 AM

I'm looking for information about machine learning.

06:51 AM

I'd be happy to help with that! Based on your sources, I see you have "Introduction to Machine Learning" document available. Would you like me to summarize the key concepts from that document, or do you have specific questions about machine learning?

10:30 AM

Best practices for remote work
2025-09-10T10:06:48.637Z

<

Who is Golden Nyasulu?

What is the Pisa Declaration?

Where does Kenninla Osula work?

How to improve productivity?

Best practices for remote work

>

Jump to Bottom

Start typing...



EU ALMPO

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the European Union

The ALMPO Wizard (3/4) – Mind Map



The ALMPO Wizard (4/4) – Editing with AI Assistance for the Final Report



Open Canvas Notes



How can I help with your notes today?

Ask me anything about your notes or request help with writing, editing, or organizing your thoughts.

When it comes to the actual use of the algorithm, two interviewees did not use the algorithm at all, while two others indicated that they used it in about 15 percent of the cases they handled. Estimated time savings reported by these two interviewees were very minimal, about 10 minutes per usage. For an average of four cases a week out of which at most one is sped up by the use of the algorithm, this means a maximum of 10 minutes saved per week. This seems to contrast with the bigger reported

productivity increases mentioned earlier in this report. However, it is important to note is that all respondents were fairly experienced workers, who had less benefit from using the technology (see below). All of the interviewees agreed that usage and related time savings are greater for less experienced workers, such as interns or new colleagues, and for cases outside one's usual area of expertise, for example when covering for an absent colleague with a different specialisation.

Early studies showed that usefulness is a stronger predictor of uptake than ease-of-use: *"Users are often willing to cope with some difficulty of use in a system that provides critically needed functionality"* (David, 1989). In the current case, we identified two main barriers, one in the ease-of-use and another one in the usefulness of the AI algorithm. A minor barrier was the lack of social

Selected Content

When it comes to the actual use of the algorithm, two interviewees did not use the algorithm at all, while two others indicated that they used it in about 15 percent of the cases they handled. Estimated time savings reported by these two interviewees were very minimal, about 10 minutes per usage. For an average of four cases a week out of which at most one is sped up by the use of the

Run custom AI action...

Analysts' Day-to-Day with ALMPO (Use Cases)



- **Policy Analyst:** Compare subsidies across years and regions.
- **Programme Manager:** Prepare a briefing with sources and key figures.
- **Counsellor:** explore training options for a beneficiary's profile.

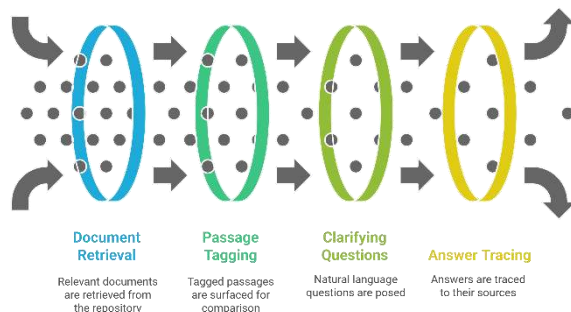
Policy Design and Update Process



Skills Gap to Action Plan



Policy Question Analysis Funnel



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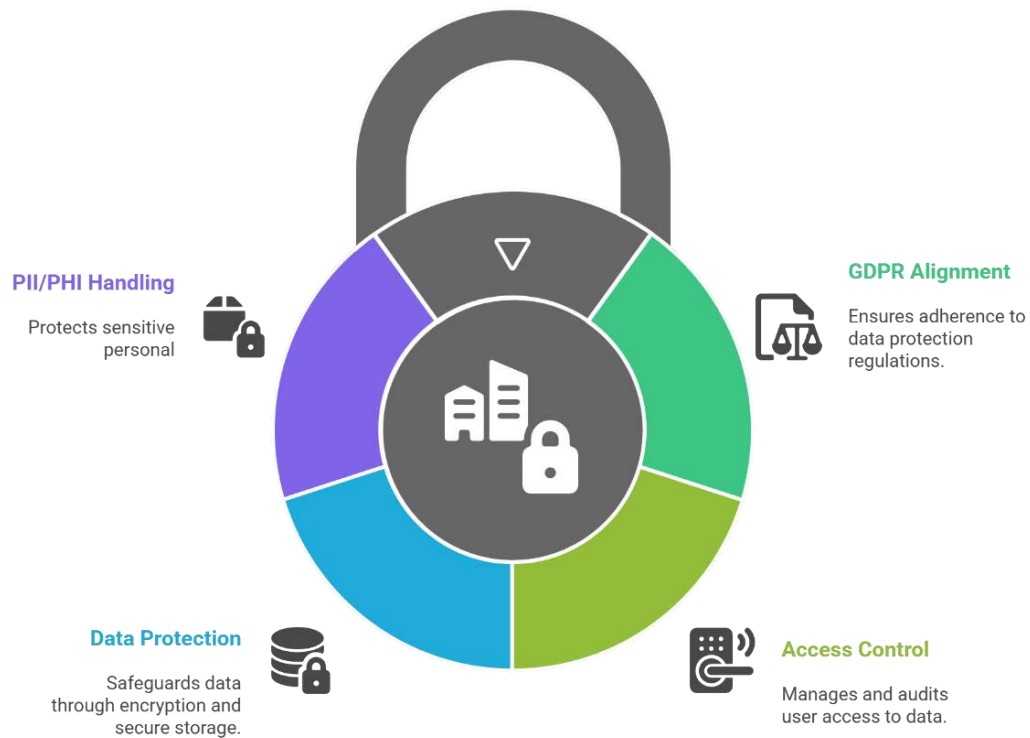


- **Clear rules** for tagging and summarizing items.
- **Built-in checks** to detect duplicates and reduce errors.
- **Full traceability** — every chart, answer, or recommendation links back to its sources.



- **Automated crawling** of major job portals across multiple countries.
- **Integration of administrative sources**, including PES and labour statistics.
- **Normalization & deduplication** to ensure consistent, high-quality data.
- **Skills & occupation coding** using ESCO, ISCO, and NACE standards.
- **Real-time monitoring** of vacancies, trends, and skills demand.

Security, Privacy, and Compliance



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Thank you!

Scan for more:



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This project received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 101022492.