Big Data for Labour Market Intelligence

Online capacity development programme (Nov-Dec 2022)

Visit the event webpage to access the agenda and thematic materials

This hands-on learning programme is for you!

Interact with a multidisciplinary team of data scientists, labour market experts, statisticians.

Simultaneous interpretation: English-French-Ukrainian languages

The new capacity development programme 2022 is structured in two modules

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1. **Technical training on concepts, methodological framework, and practical applications.**

   A programme of 3 training webinars: 2, 9 and 29 November 2022, 08.00-11.30 (GMT) / 09.00-12.30 (CET)

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2. **Dissemination and analysis: value of the data system; new themes of analysis (green skills, remote work); value of landscaping and ranking of online job vacancy sources; contextualisation of online job vacancy data in relation to the wider labour market statistics; web data sources for supply side analysis; role and place of AI in the data system.**

   A programme of 3 dissemination webinars: 15 and 16 November, 06 December 2022, 08.00-12.00 (GMT) / 09.00-13.00 (CET)

We live in 'datified societies'. Digitalisation of services, businesses, personal and social interactions generate a growing mass of data across the globe. Digital and online information on employment and education opportunities, demand for skills, occupations and qualifications has increased globally, and this vast internet data can be harnessed to improve and add value to Labour Market Information and skills anticipation systems (LMI).

The European Training Foundation (ETF) started the project "Big Data for Labour Market Intelligence" in 2019, targeting development of an innovative data system for analysis of skills demand. The system is based on online job vacancies (advertisements), collected from web sources. In the first phase (2019-2021) the project achieved tangible results, notably the establishment of the databases and online visualisation platforms (dashboards) in three countries (Ukraine, Tunisia, Georgia). In 2022 the project started a new phase, marked by the inclusion of additional countries in the data system (Egypt and Kenya), upgrade of data quality and exploration of new themes and data sources. ETF works with a specialised consortium of data scientists and researchers (*LightCast and CRISP – University Milano Bicocca*).

Every year the project carries out regular capacity development programmes, and all resources and learning materials are accessible online for any interested institution. In the dedicated YouTube channel you find over 20 videos covering different aspects of the concepts, methodology, analysis and use cases.

Key outcomes of ETF project "Big Data for LMI," including the key dashboards, training programmes, methodological handbook and analytical reports are accessible online:

- Open Space webpage: LMI in transformation – Focus on Big Data

- Brief methodological handbook (English) "Big Data for labour market intelligence: an introductory guide" (2019). Brief Methodological Handbook, 2019 Russian and in French
- Updated interactive data visualisation platforms (dashboards): a) Ukraine; b) Tunisia; c) Egypt; d) Georgia;
- Training programmes with learning resources:
  - YouTube channel
  - A specific training programme for data analysts and experts, November 2019
  - Webpage of webinar on Big Data for LMIS, 10 December 2020
  - Online training programme on Job vacancy analysis, 8, 10 and 15 June 2021
  - Online training programme "What's new with Big Data for LMI?": 22-24 November 2021
- Report: Feasibility study OJV sources: methodology and two case studies (Morocco and Tunisia), 2019
- Report: Big Data for LMI, Web Labour Market Landscaping Ukraine, 2020.
- Report: Big Data for LMI in Ukraine: analytical report, 2020.

Module 1: technical training

Objectives and themes

- General overview of the data system, main objectives and added-value, main concepts and methodological framework
- Combine and compare Online Job Vacancy (OJV) data with traditional data
- The database and scale of OJVs: opportunities and challenges
- Data visualisation and OJV data
- Uses of the results dashboards

Day 1: Wednesday, 2 November 2022 - 09.00-12.30h	

02 November	Theme and engagement
09.00-09.20	Opening. Agenda and objectives of the training course. Introduction of participants (**poll**). *ETF*
09.20-10.45 Session 1	OJV analysis - Innovation in Labour market intelligence, jobs & skills data; the methodological framework; main tools. Data quality. Languages. *Speaker: Mauro Pelucchi*
10.45-11.00	Questions and answers
11.00-11.50 Session 2	Presentation of the new dashboards: Ukraine, Lviv region, Egypt, Kenya. *Speakers: Eduarda Castel-Branco, Anna Gatti*
11.50-12.15 Session 3	Peer learning 1: Mauritius – Human Resource Development Council (HRDC). *Speaker: Harris Neeliah.*
12.15-12.30 Session 4	Cases, examples and exercises: preparation for "Innovation space", with presentation of participants' results. *Speaker: Mauro Pelucchi*

Day 2: Wednesday, 9 November 2022 - 09.00-12.30h	

09 November	Theme and engagement
09.00-09.15	Opening. Main messages from day 1. Agenda

09.15-10.15 **Session 5**	Access to the database, data model and key features. Practical guidance. *Expert: Mauro Pelucchi*
10.45-11.50 **Session 6**	Data classification, data retrieval, practical exercise and coding hands-on. *Speaker: Simone Perego*
11.50-12.20 **Session 7**	Peer learning 2. Sharing of good practice on innovative approaches to LMI. Case study: Egypt Task Force LMI. *Speaker: Radwa Abdelraouf*
12.20-12.30 **Session 8**	Questions and answers. **Poll**

Day 3: Tuesday, 29 November 2022 - 09.00-12.30h

29 November	**Theme and engagement**
09.00-09.15	Opening. Agenda. Poll
09.15-10.15 **Session 9**	Use of Big Data for different analyses of occupational and skills dynamics in the labour market. Combination of data from different sources. *Speaker: Mauro Pelucchi.*
10.15-11.10 **Session 10**	Use of raw data from ETF databases: procedures and technical aspects to create new dashboards. *Speaker: Anna Gatti*
11.10-11.20	Questions and answers
11.20-12.20 **Session 11**	Innovation space: presentations by the participants of the results of their homework. *Speakers: 5-6 participants share the results of their homework (10 min each).*
12.20-12.30 **Session 12**	Final comments. Wrap-up. Closure.

Module 2: dissemination and analysis

Objectives and themes

- Value of OJV analysis for LMI, skills and employment eco-systems
- Landscaping, ranking, monitoring of OJV sources: what can be learned on changing labour markets and recruitment practices?
- New angles of demand analysis based on OJV databases (remote work, green skills)
- ESCO: recent developments of the classification, use in skills analysis and matching, AI applications
- Role and place of AI in real-time LMI
- Contextualisation of OJV / web data in the wider labour market statistical data
- Supply side data and analysis

Day 1: Tuesday, 15 November 2022 - 09.00-13.00h (CET)

15 November	Theme and engagement
09.00-09.15	Opening. Agenda and objectives of Module 2. Introduction of participants (**poll**). *ETF*
09.15-10.15 **Session 1**	Value of Big Data for LMI. Focus on OJV. *Speaker: Mauro Pelucchi*
10.15-11.20 **Session 2**	Landscaping, ranking and monitoring of OJV sources: value for the wider LMI. Methodology overview, evolution. *Speakers: Francesco Trentini*
11.20-11.45	Questions and answers. Break - 10 min
11.45-12.50 **Session 3**	ESCO: new developments of the classification. Uses in skills analysis, skills matching, education (courses, qualifications). AI applications. *Speaker: ESCO team*
12.50-13.00	Questions and answers. **Poll**

Day 2: Wednesday, 16 November 2022 - 09.00-13.00h

16 November	Theme and engagement
09.00-09.15	Opening. Main messages from day 2. Agenda
09.15-10.15 **Session 4**	The role of AI – Machine learning in the data system, classification, analysis. *Speaker: Fabio Mercorio*
10.15-11.10 **Session 5**	New angles of analysis based on OJV databases: demand for green skills; demand for remote work (Ukraine). *Speaker: Anna Gatti*
11.10-11.30	Questions and answers. **Poll** Break (10 min)
11.30-12.10 **Session 6**	Role of ESCO and O*Net classifications in OJVs analysis. *Speaker: Mauro Pelucchi*
12.10-13.00 **Session 7**	The Semantic Web, linked data, knowledge graphs *Speaker: Phil Barker, CETIS LLP and Credential Engine*

Day 3: Tuesday, 6 December 2022 - 09.00-13.00h

6 December	Theme and engagement
09.00-09.10	Opening. Agenda.
09.10-10.10 **Session 8**	OJA / OJV and labour market statistics: key elements for a methodological approach *Speaker: Mario Mezzanzanica*
10.10-11.15	Supply side analysis: data sources, analytical framework. Issues. Perspectives.

Session 9	*Speaker: Fabio Mercorio*
11.15-11.45	Discussants of the papers presented in sessions 8 and 9.
11.45-12.00 **Session 10**	Using the new dashboard - Kenya OJV. Overview on the Kenyan Labour market – based on a tentative comparison of some data from OJV dashboard and the Kenyan LMIS *Speaker: William Odhiambo*
12.00-12.30 **Session 11**	South Africa: PSET-Cloud - an innovative and cooperative approach to data interoperability for better decisions in the worlds of education and work. *Speaker: Simphiwe Ntuli, JET Education Services, South Africa.*
12.30-13.00 **Session 12**	Trusted Smart Statistics – EUROSTAT. Updated overview on developments, new research towards use of OJA data in official statistics, Web Intelligence Hub. *Speaker: Fernando Reis, EUROSTAT*
13.00-13.10	**Wrap-up, conclusions. Closure of the programme.**

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