SESSION 1

BIG DATA FOR LABOUR MARKET INTELLIGENCE

ILO CONFERENCE, GENEVA 19-20/09/2019

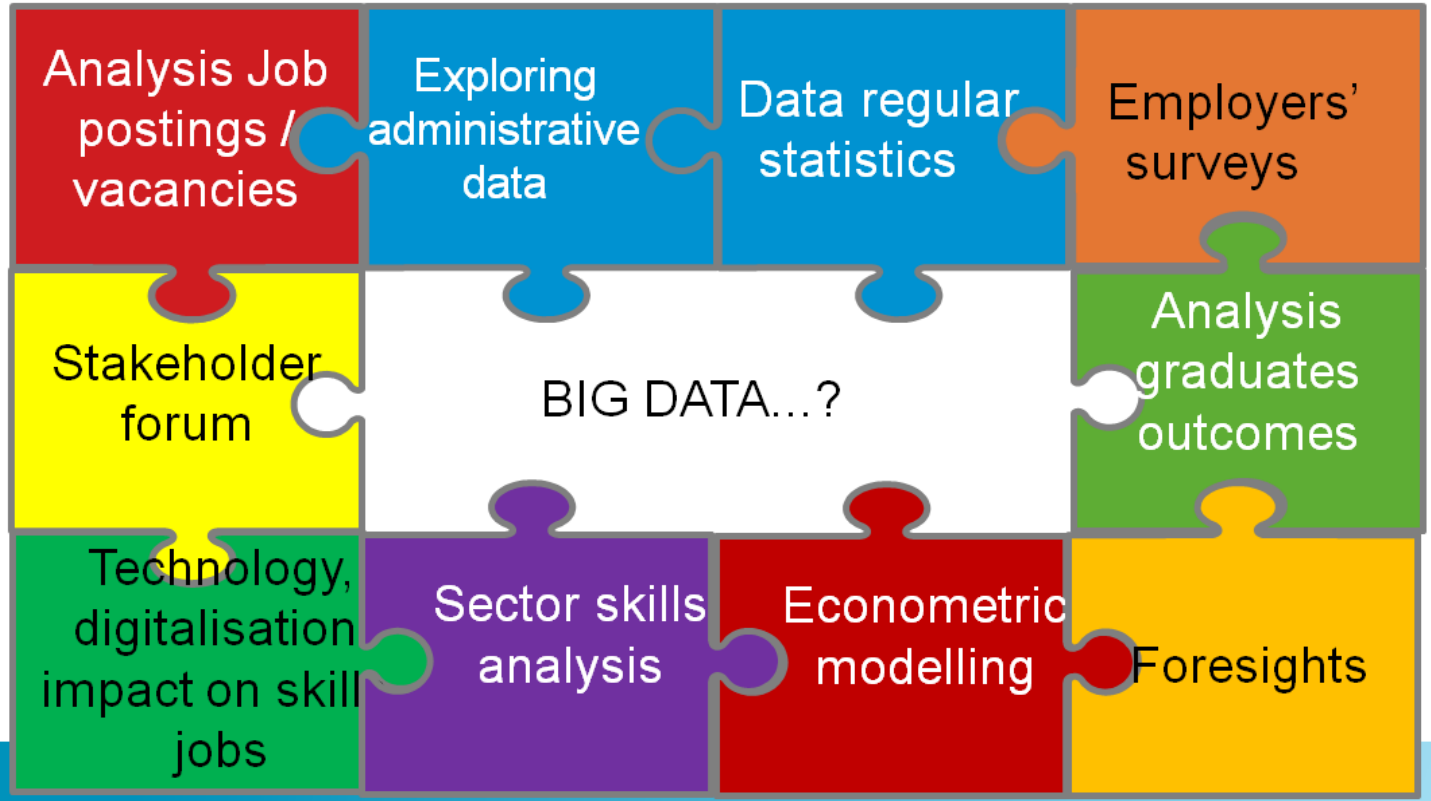
Right skills for occupations, employment: today and tomorrow

1. <u>Transformation:</u> hybrid skills; technical (job) specific; transversal; digital; “green” skills…

2. <u>Policy issues</u>: skill mismatch: gaps, shortage; over- & under-qualification; over- and underskilling; automatable tasks / occupations; reskilling; upsklling

Policy responses!

Skills anticipation – multiple dimensions: Combining data sources and methods

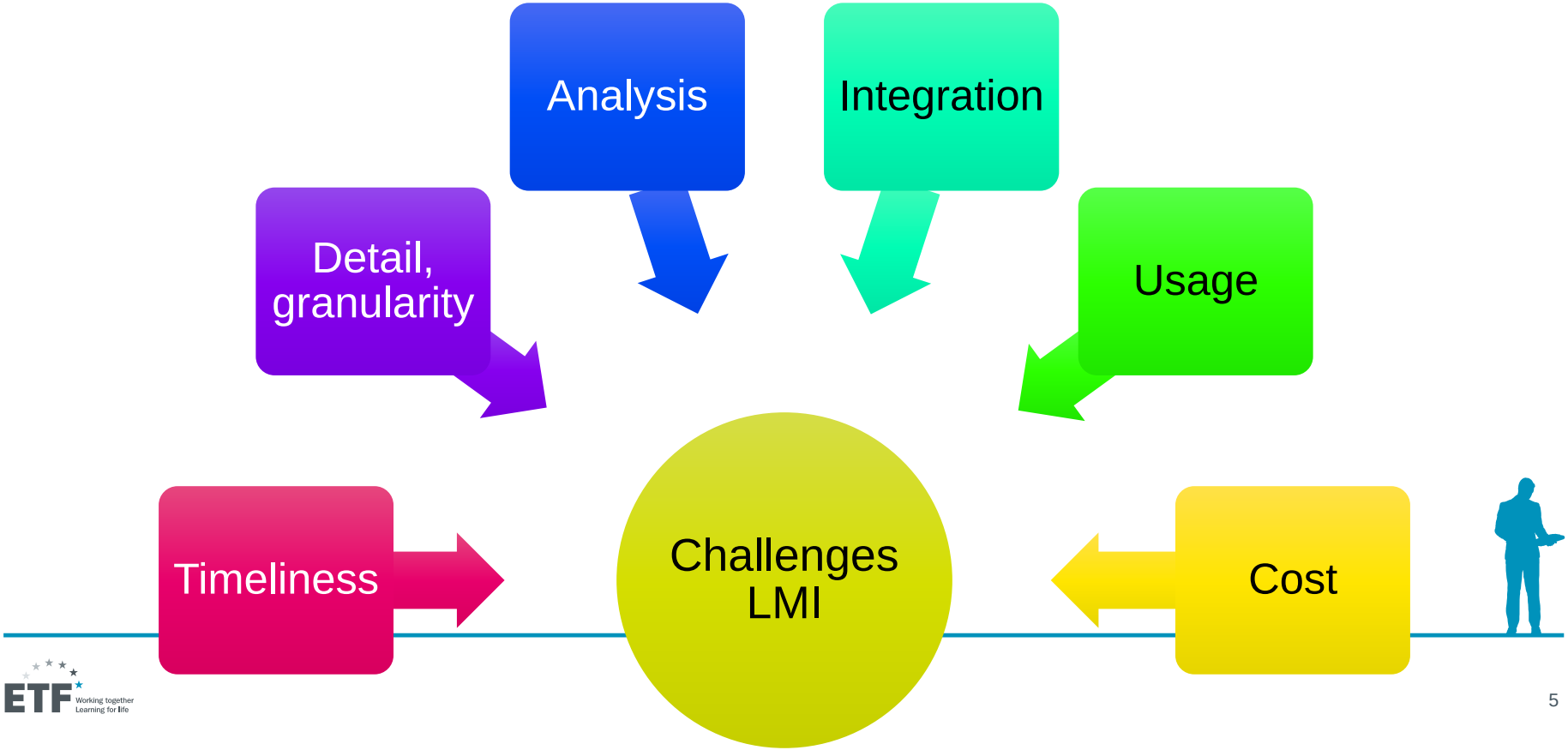


COUNTRIES' LMIS ARE DOING MORE AND BETTER…

Data	Analysis / methods
• Regular surveys statistical offices: LFS, households, business, wages… • Administrative data: registers • Special surveys: employers; workers; graduates; • Qualitative sources: in-depth interviews • Job vacancies DBs, online portals • Education statistical data (admission, graduates)	• Foresight (qualitative) • Quantitative medium / long-term forecasting LM skills • Scenario building on sectors' development, prospects • Analysis of skill mismatch (various types) • Use of Big Data analytics

But the question is: can the digital transformation be applied to innovate and add-value to LMIS?

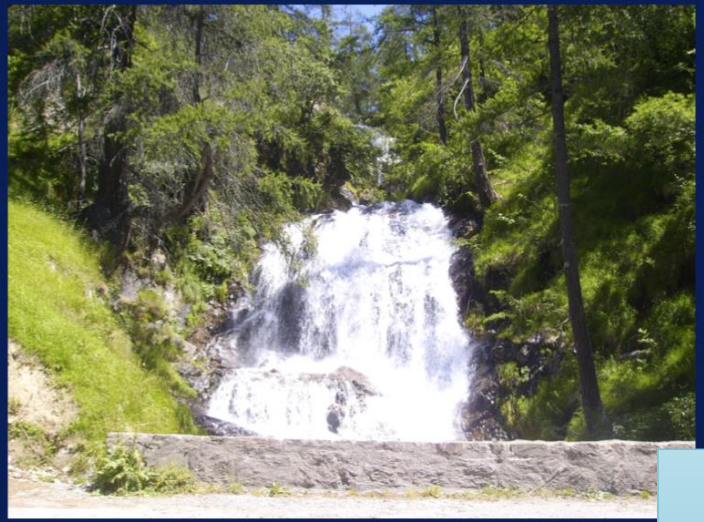
CHALLENGES OF CONVENTIONAL LMI – CAN BIG DATA ANALYTICS HELP?



Big Data for LMI – Online Job Vacancies

BIG DATA

- ✧ Large potential for analysis of labour market and skills dynamics
- ✧ Real-time, agile, innovative
- ✧ Methodology developments – and still several issues at stake



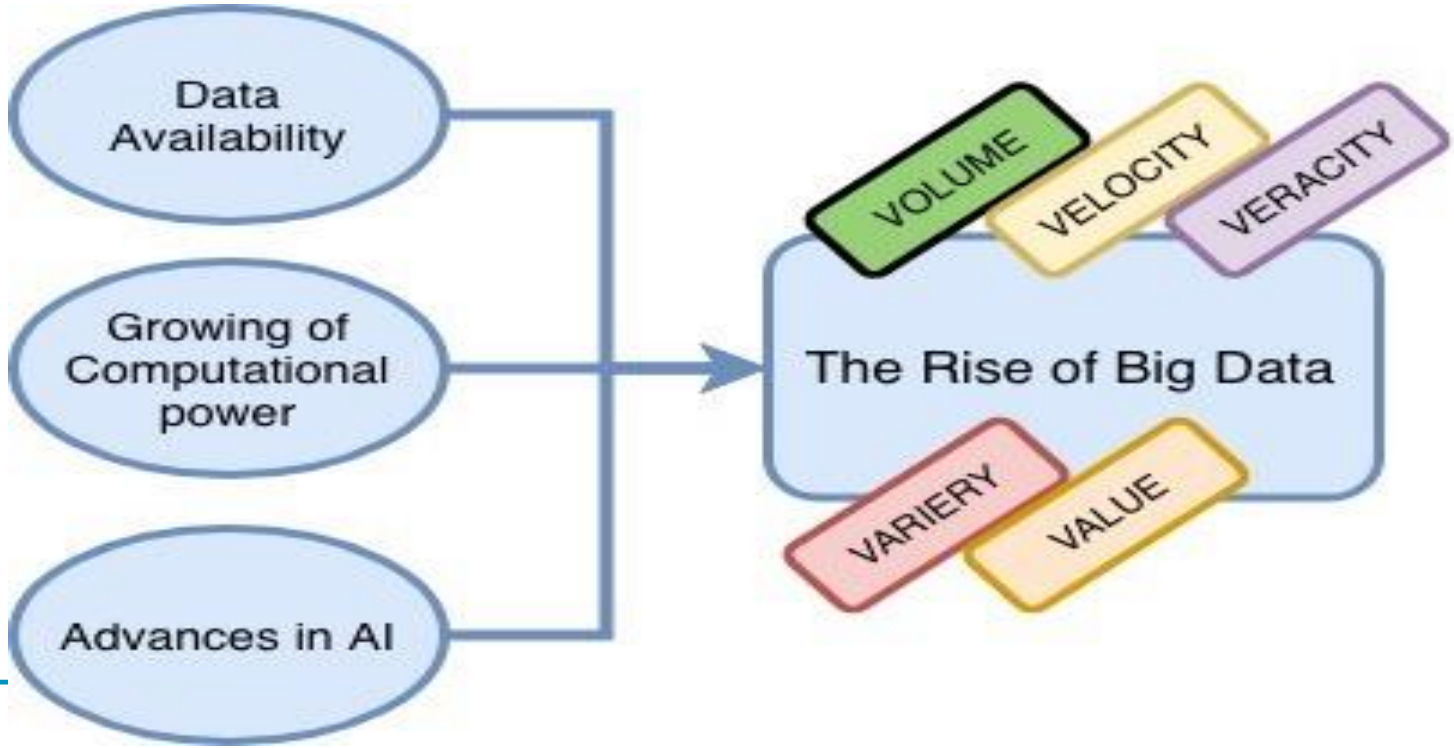
Data Torrent

AI algorithms

Computing Anytime, Anywhere

Big Data Era

The key elements driving the rise of Big Data: (i) data availability, (ii) ever greater computing power and (iii) recent advances in AI



Big Data for LMI – Online Job Vacancies

Tabulaex
Analytics for new business
A BURNING GLASS COMPANY

burningglass TECHNOLOGIES

CRISP centro di ricerca interuniversitario per i servizi di pubblica utilità

https://www.burning-glass.com/

Data driven insight into the Job Market

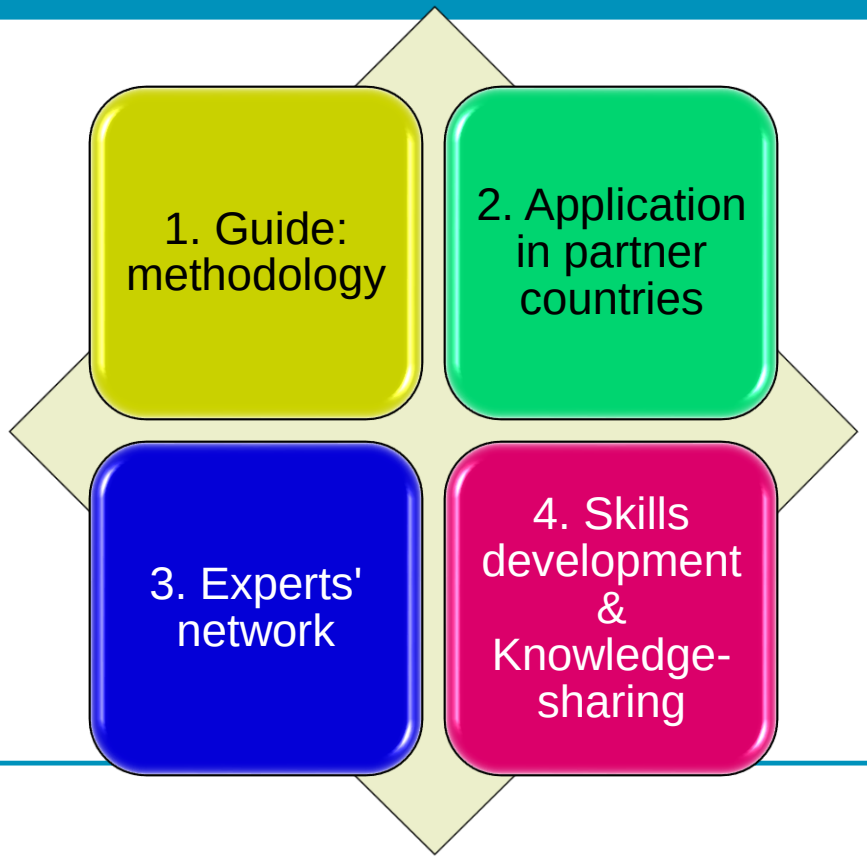
CEDEFOP
European Centre for the Development of Vocational Training

ETF Working together Learning for life
European Training Foundation

Skills-OVATE: Skills Online Vacancy Analysis Tool for Europe

ETF approach: shaping, applying and sustaining knowledge

Partnering with CRISP Research Centre



1. Guidance: methodology

NEW

Aimed at statisticians, researchers, policy analysts and decision-makers in the ETF's partner countries who are confronted with the challenges of anticipation and dissemination of insights on the dynamics of demand for jobs, skills and qualifications, this paper addresses key conceptual, methodological and organisational aspects in using Big Data for labour market intelligence. It clarifies how Big Data can be used to go beyond the frontiers of conventional approaches to labour market information systems and add value to established statistics.

https://www.etf.europa.eu/en/publications-and-resources/publications/big-data-labour-market-intelligence-introductory-guide

1. Guidance: methodology

CONTENT

1. Big Data and LMI: how to enhance LMI in the digital era – overview, state of play, potential and limitations
2. Incorporating Big Data analytics in LMI: systematic steps
3. Use of Big Data analytics for LMIS: a selection of cases to be used as practical reference
4. Conclusions and recommendations

+ References, sources!

2. Application in countries

Feasibility OJV

- Identification, analysis of OJV websites
- Ranking and selection of suitable websites
- 2 countries: Tunisia, Morocco

Data tool

- Data ingestion
- Data processing
- Front end – presentation area: visualisation

Sustainability

- Engage national partners, experts in process data model
- Discuss results / uses with national experts and stakeholders
- Replicate, share experience, develop skills

Reflections from first ETF experience

Statistical offices

- In which conditions can Big Data LMI be used?
- Can Big Data LMI supplement and enrich LM statistics? How?
- Capacity?

OJV websites

- Large variety of volume, scope; fragmentation: mapping?
- Volume OJVs: what issues?
- Common principles for OJV information?
- Cooperation public and private websites?

Discovering

- *Other* Big Data applications and sources for *Skills*
- The science behind Big Data analytics: AI algorithms
- “Let the data speak”: game changer?
- Multidisciplinarity: data science + domain expertise

Reflections from first ETF experience

- Informal employment and new forms of work: how to capture them with Big Data analytics?
- Which taxonomies, classifications of occupations and skills can be used?
- Skills demand analysis: is cross-country comparison important? What about supply?
- Build services for professionals and end-users – explore the data visualisation possibilities
- International collaboration and exchange

Thank you!

www.etf.europa.eu