



CEDEFOP

European Centre for the Development
of Vocational Training

Two decades of building EU skills intelligence

Cedefop's tools and insight



50
YEARS

SHAPING LEARNING AND
SKILLS FOR EUROPE

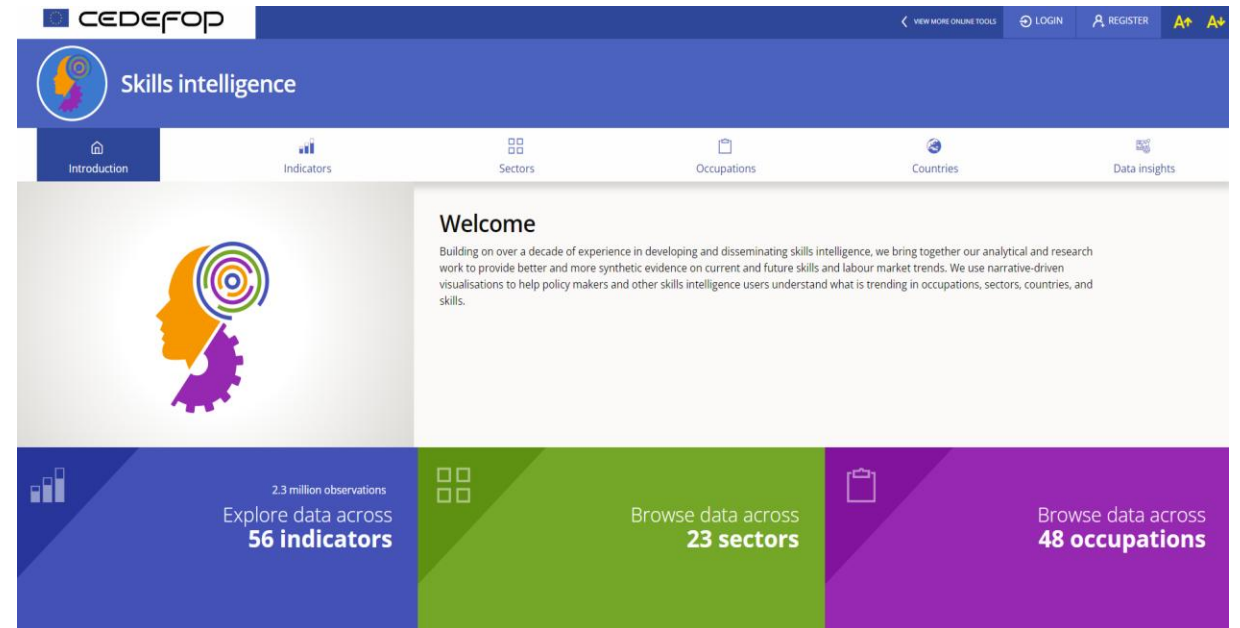
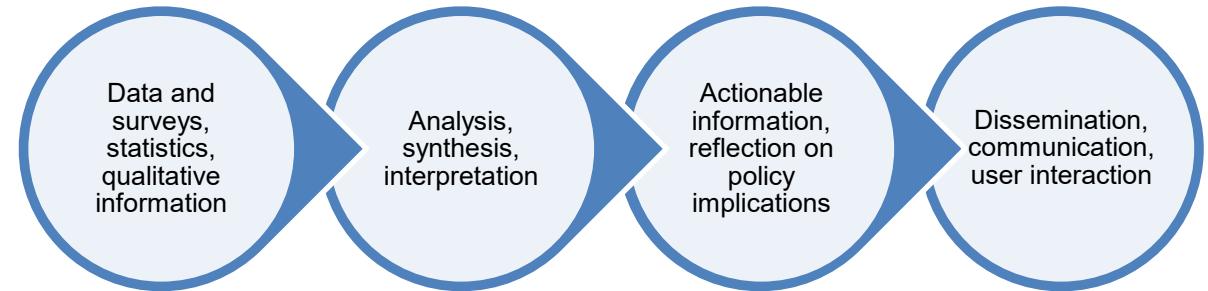
Skills intelligence – beyond LMI

Skills intelligence is...

- outcome of expert-driven process
- identify, analyse, synthesise and present
- quantitative and/or qualitative skills/labour market information

to enable

- identifying key trends and demands in the labour market;
- assessing, anticipating and forecasting skills needs;
- addressing skills gaps and mismatches;
- adapting provision of education and training;
- providing relevant educational and career guidance and counselling.



<https://www.cedefop.europa.eu/en/tools/skills-intelligence>

Strengthening **skills intelligence** for Europe



CEDEFOP

European Centre
for the Development
of Vocational Training



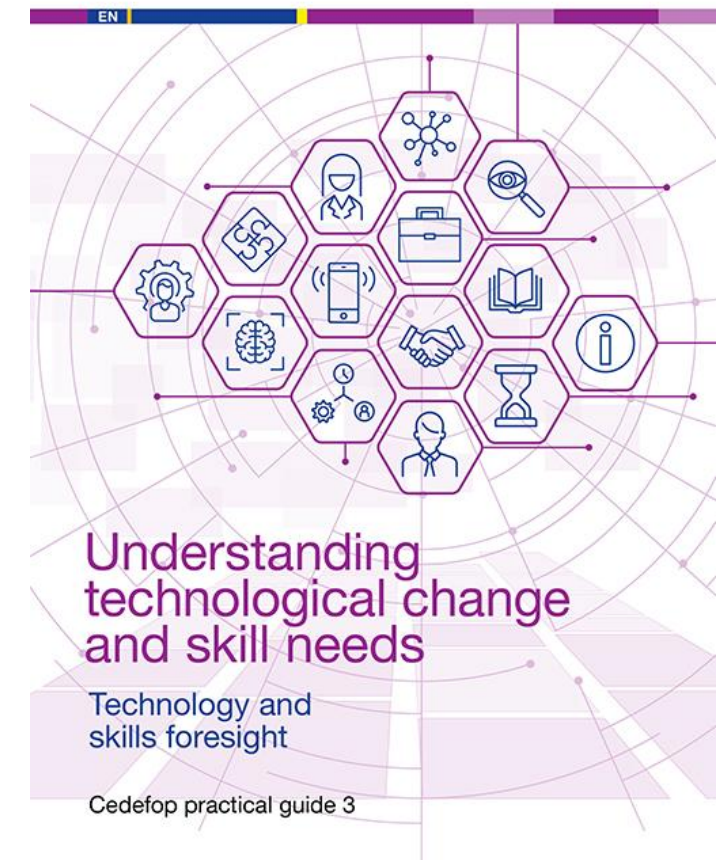
STAS



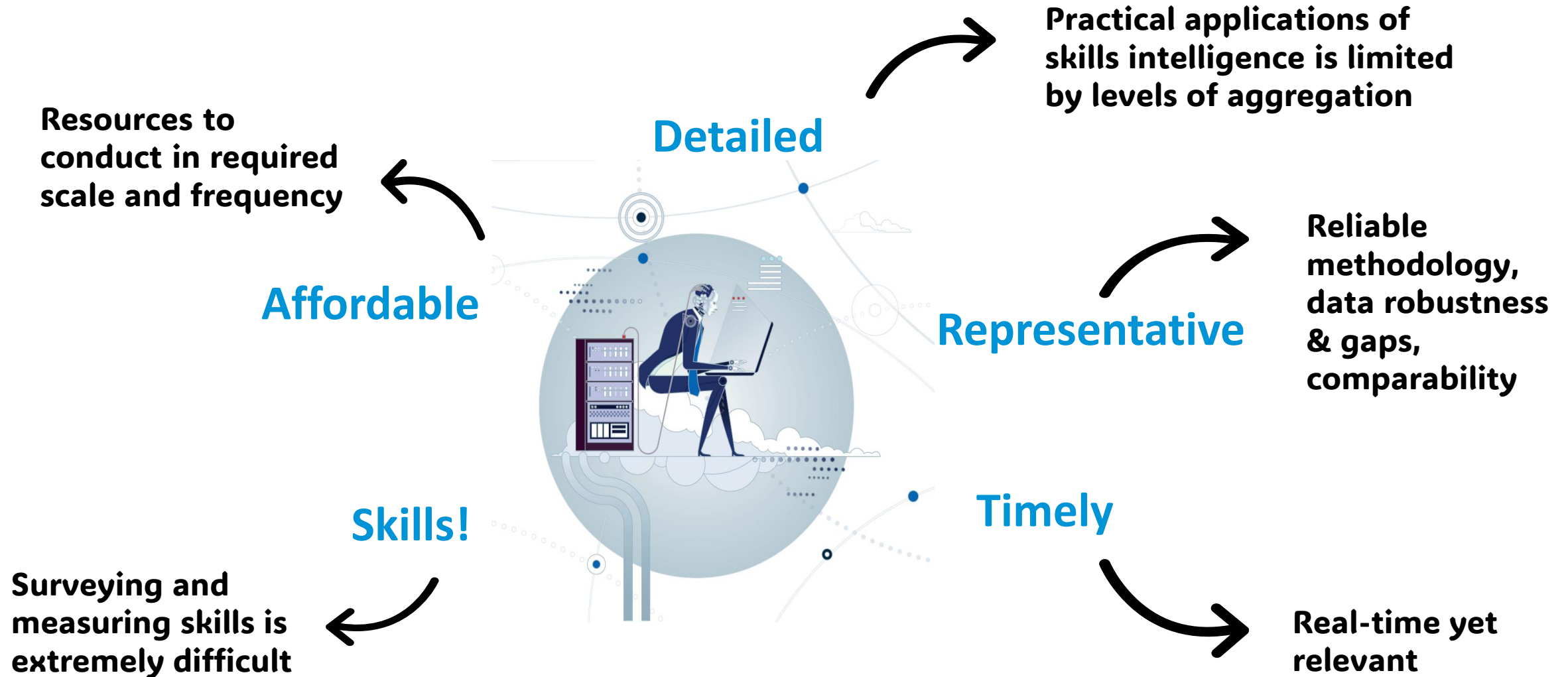
European
Skills Index



Cedefop skills intelligence from theory to practice



Five challenges of skills intelligence



Below the surface of skills intelligence



Visualisations
Dashboards
Publications
Presentations

User testing

Product design

Data validation

Quality control

Data management

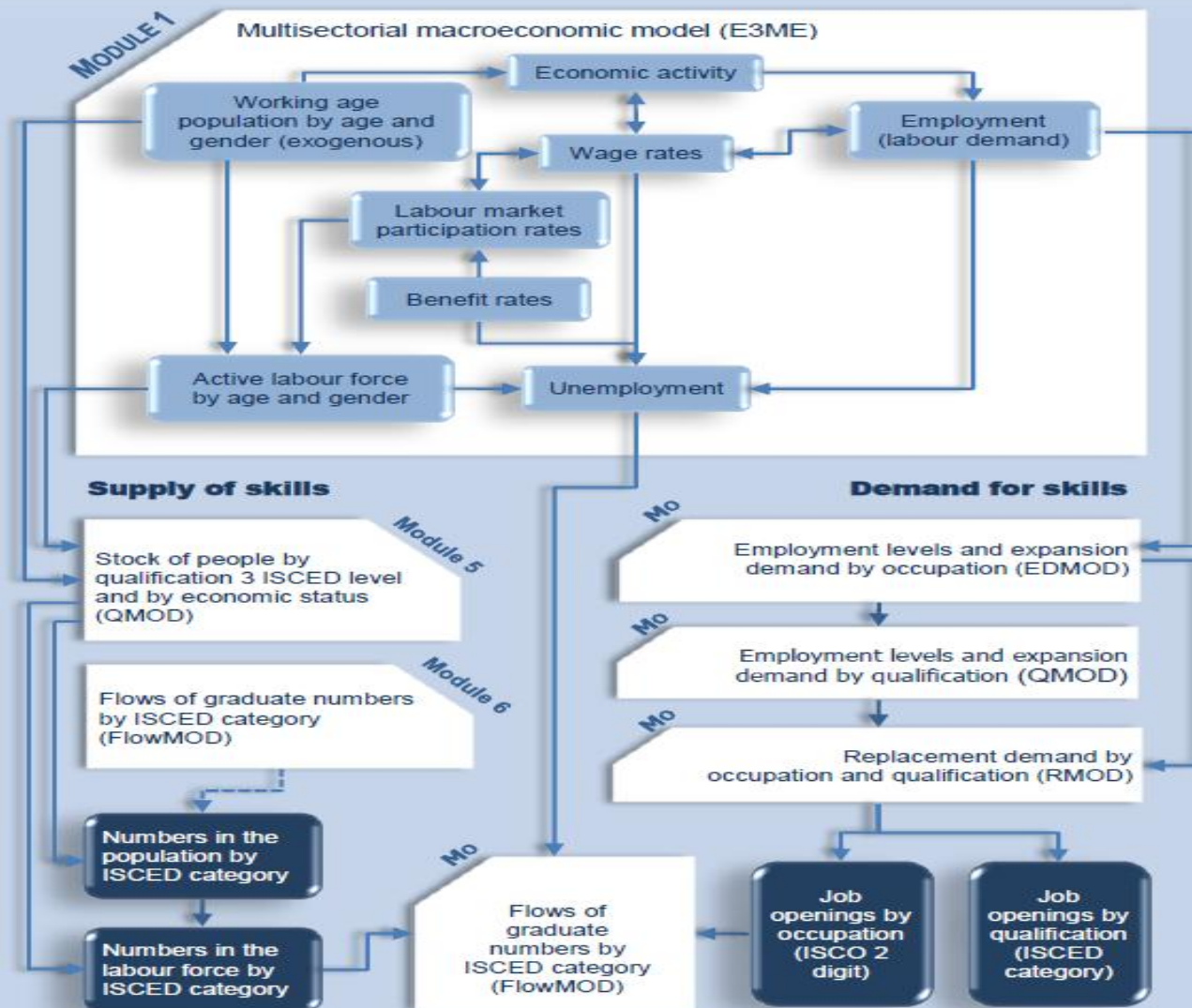
Data collection

Design and prototyping

Methodology work

Ideas and research questions

Cedefop European skills forecasting



Robust: transparent assumptions, representative

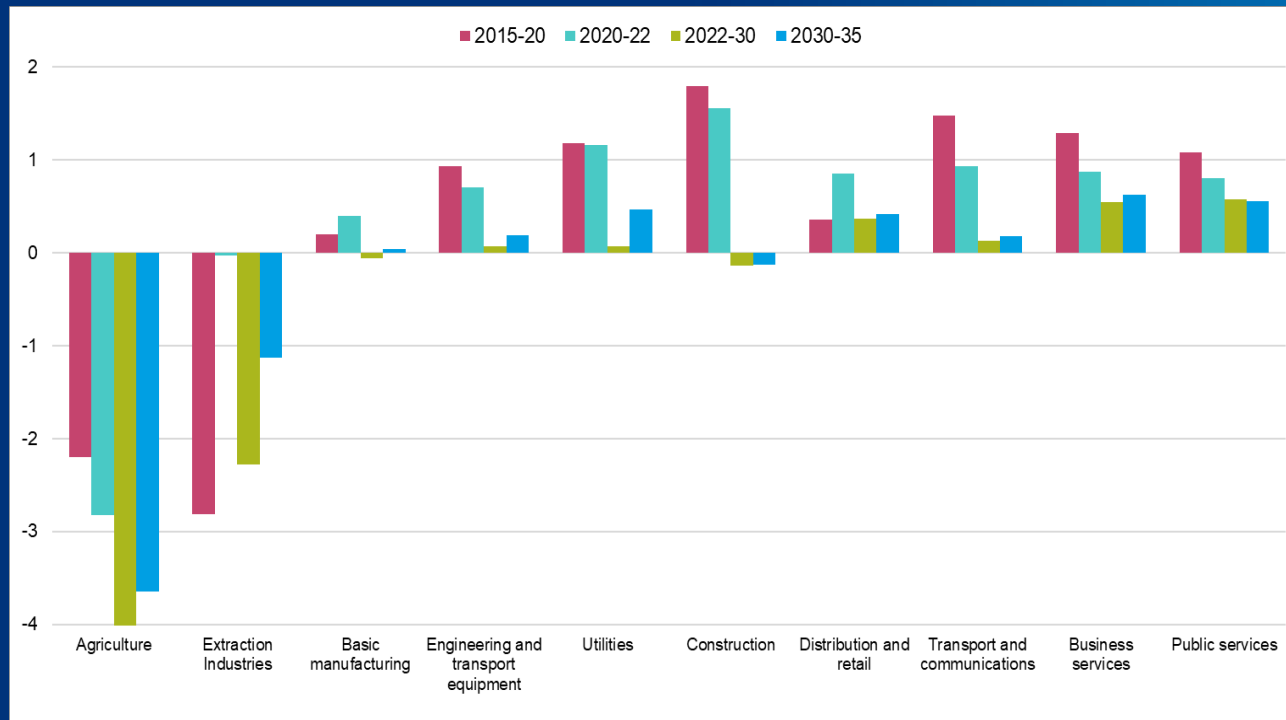
Model-based: equilibrium/accounting relationships

Harmonised: EU-wide consistent method

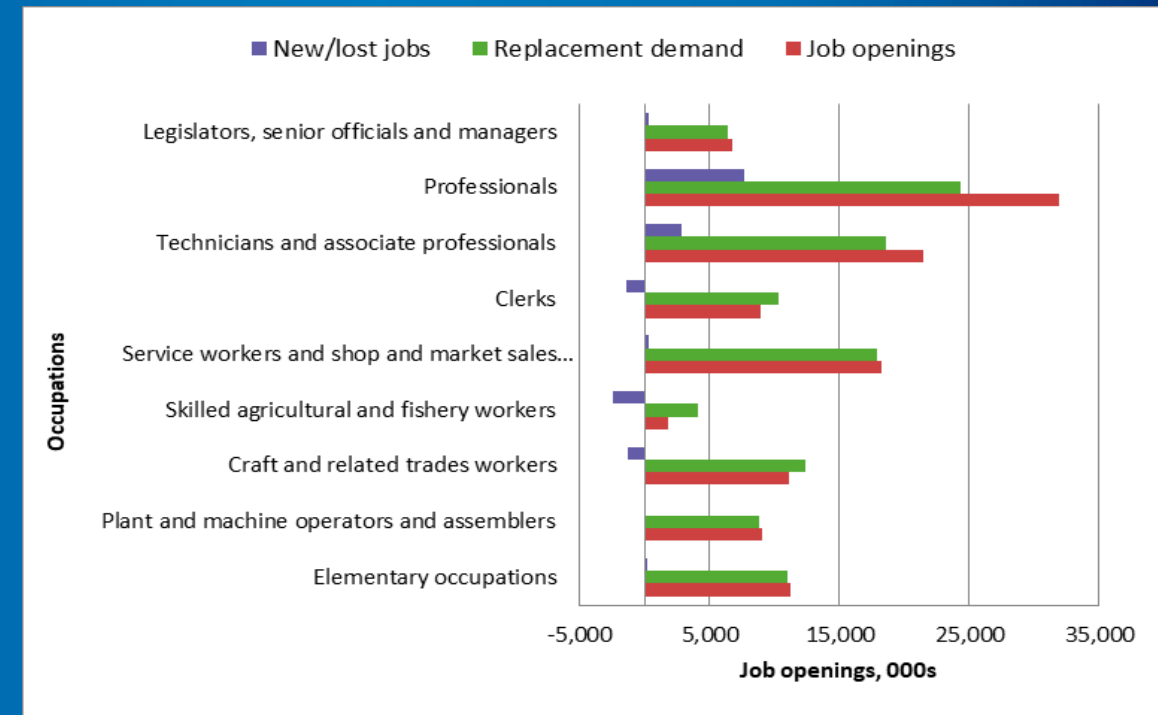
*But: skills not granular -
historical - partial equilibrium -
supply-demand inconsistency -
non-participatory - high cost*

Skills forecasting demand side example

Employment growth by broad industry (% pa), EU-27



Job openings by broad occupational group, 2022-35



Source: Cedefop skills forecast

Cedefop surveys make it possible to analyse jobs and skills mismatch from various angles



Representative: probabilistic sampling, statistical inference

First-hand: inside the workplace

Robust: pre-testing, expert validation, consistent EU instrument, skills mismatch

Contextual: determinants, empirical analysis

But: meta skills - partial equilibrium - subjective - non-participatory - high cost - slow

Measuring skill needs

TASK-BASED APPROACH (Handel, 2012; Fernandez-Macias & Bisello, 2016, 2020)

As part of your main job, did you do the following activity in the last month?
...read texts that are least ><5 pages long?

Did you use any computer device to do the following activities for your work in the last month?
...write or edit text using a word processor?

COGNITIVE

Reading
Writing
Maths
Problem-solving
Creativity

MANUAL

Lifting
Dexterity
Repetitiveness/
standardisation
Use of computerised
machines

INTERPERSONAL

Counselling
Selling
Serving
Presenting
Teaching/training
Persuading/negotiating
Caring
Team-working

DIGITAL

Email/internet/social media
Word processing
Spreadsheets
Data management
Occupation-specific software
Programming (AI)

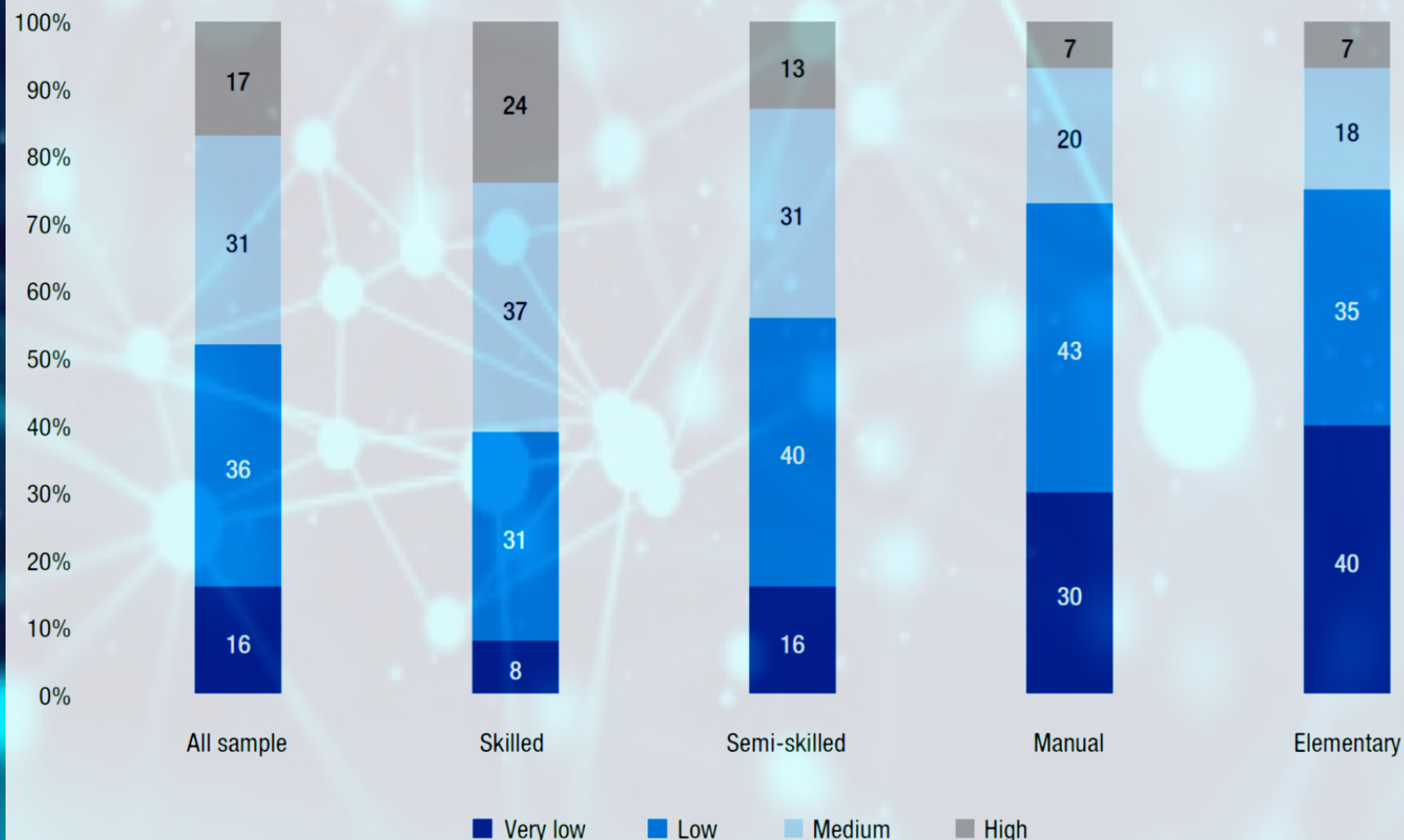
Beyond occupation

Skill needs in EU jobs

Heterogeneity of skill demands within occupations

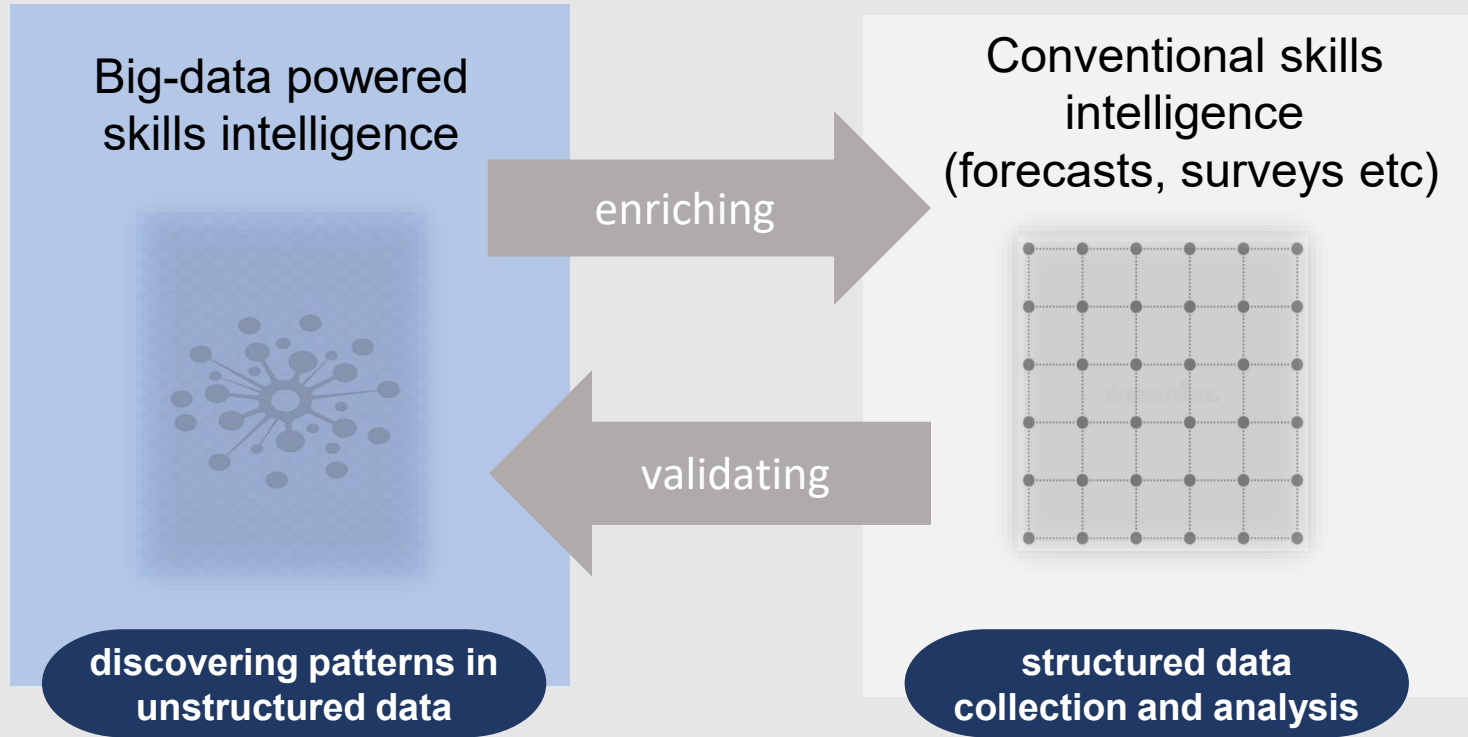
- 4 in 10 adult workers in high-skilled occupations do...low-skilled tasks
- 2 in 10 workers in low-skilled occupations do...high-skilled tasks

Figure 32. Job-skill requirements by occupational group, EU+, 2021



Source: Cedefop second European skills and jobs survey, 2021.

Big data: big promises



Granular: detailed jobs and skills

Emerging: new jobs and skill

Fast(er): almost 'real-time'

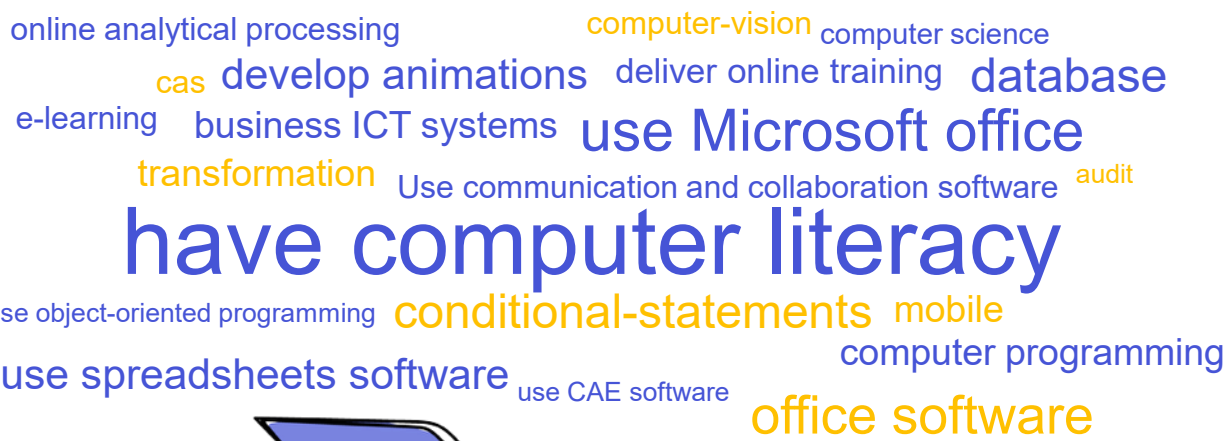
Dynamic: trend analysis

Big: data everywhere

But: unstructured – bias - partial - classification challenges - not future oriented - non-participatory - high expertise costs

Online job ads help map twin transition skills in detail

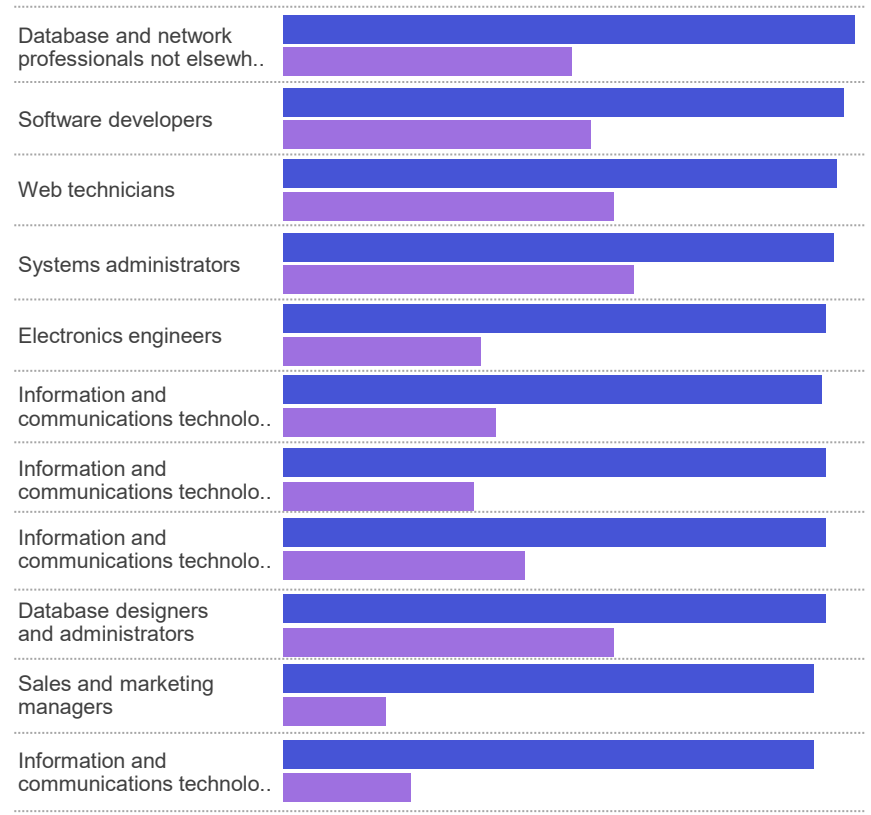
Top 50 digital skills Q1-Q3 2024



■ ESCO skill
■ Augmented skill

Digitalness and digital pervasiveness by occupation (4-digit ISCO) Q1-Q3 2024

Sort by: Digital pervasiveness



Cedefop foresights informing the twin transition

**Participatory - in-
depth stakeholder
insight**

PESTLE factors

**Possible 'futures' –
scenarios**

**In-depth sectoral
dynamics**



**Non-
representative**

Expert bias

**Dependent on
stakeholder
engagement**

Cedefop's TalentGap index

Critical skill shortages in EU27 (2025-35)



Feedback **loop** challenge



CEDEFOP

European Centre
for the Development
of Vocational Training

**LABOUR MARKET
SKILLS NEEDS**



**EDUCATION AND
TRAINING SYSTEMS
LEARNING OFFER**

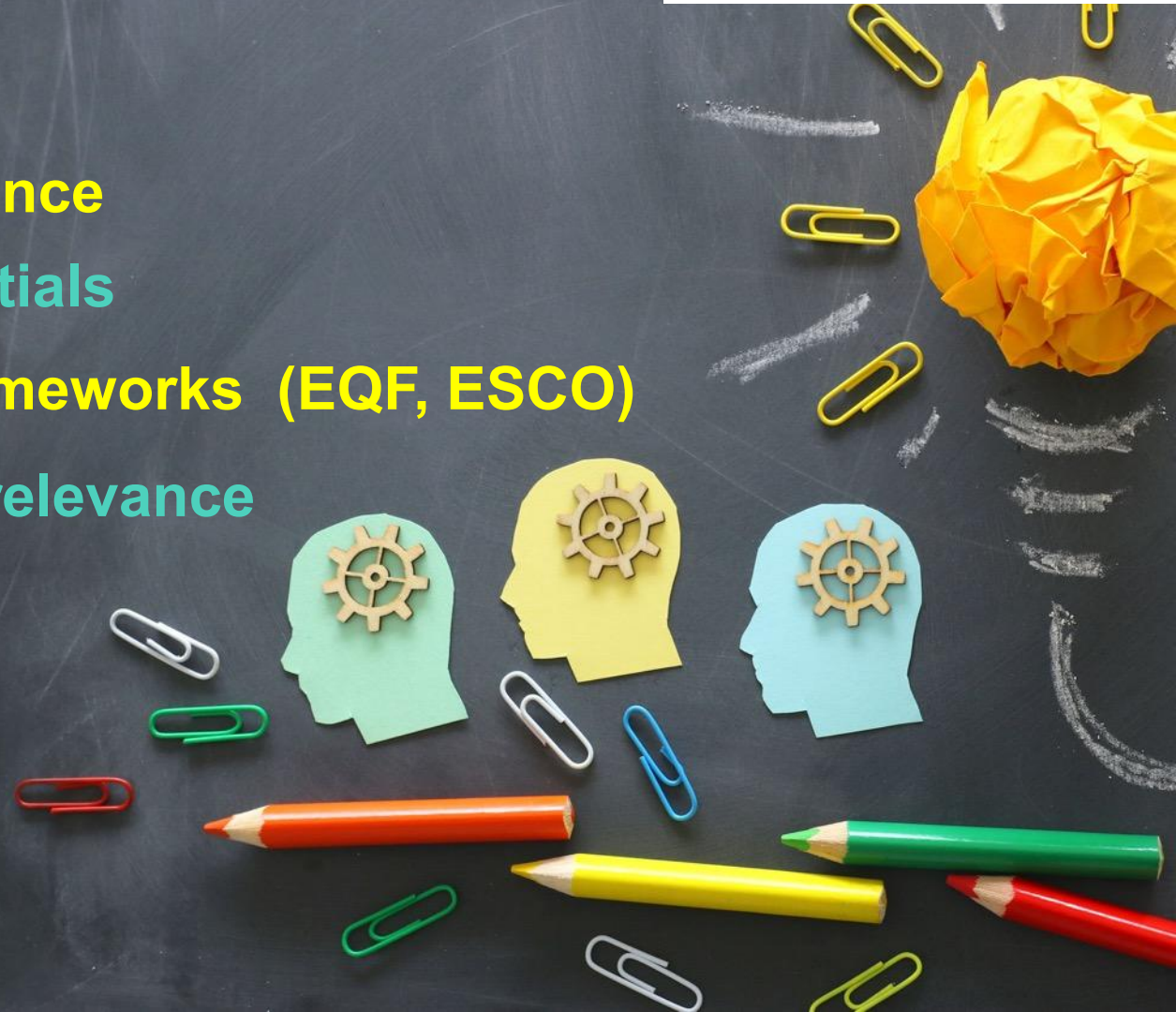
Skills intelligence

Digital credentials

Reference frameworks (EQF, ESCO)

Qualification relevance

Powered by collaborative multi-actor governance



Matching skills

Inspiring policies for anticipating and matching skill needs

27

EU countries

102

skills anticipation and
matching practices

65

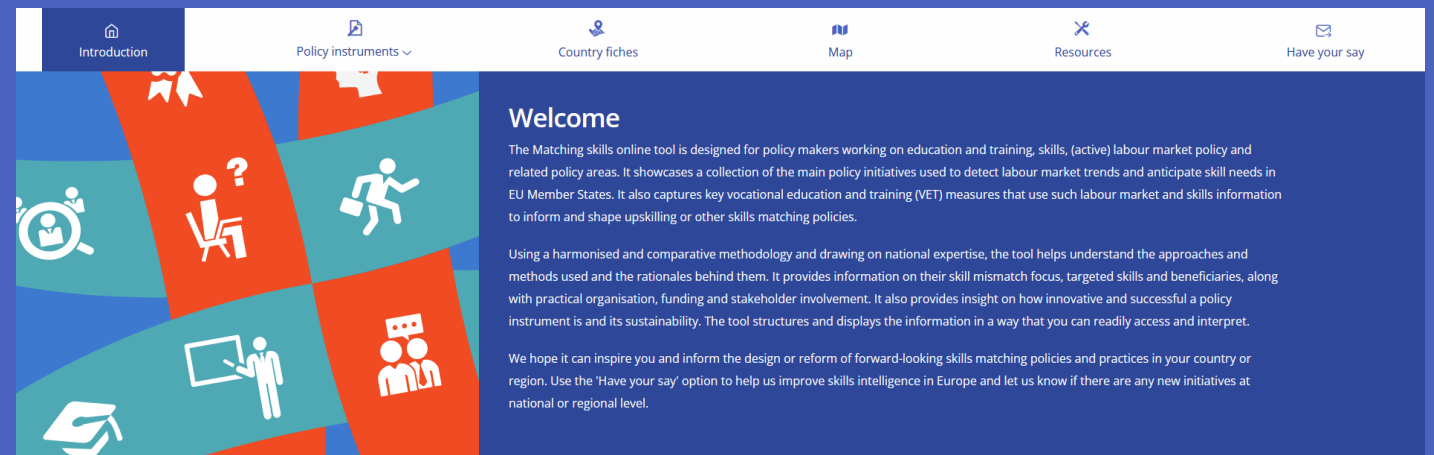
Main skills anticipation
initiatives

37

Key VET policy
measures

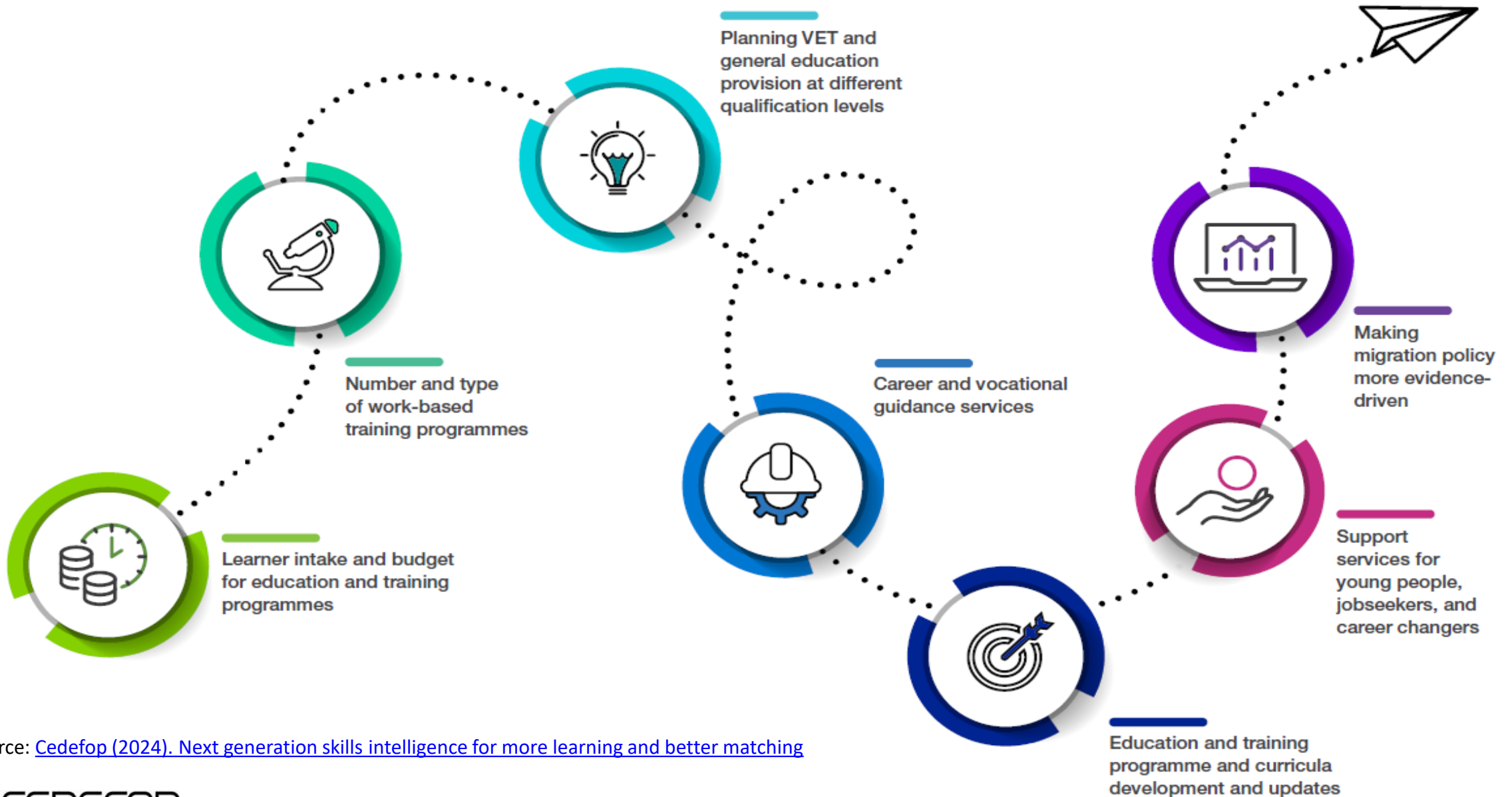
COMPARATIVE EU INFORMATION BY

- Focus area
 - Policy area
 - Skills matching focus
 - Use of skills intelligence
 - Country
-
- Resources
 - Have your say



www.cedefop.europa.eu/en/tools/matching-skills

Skills intelligence supports school and work transitions



Source: [Cedefop \(2024\). Next generation skills intelligence for more learning and better matching](#)

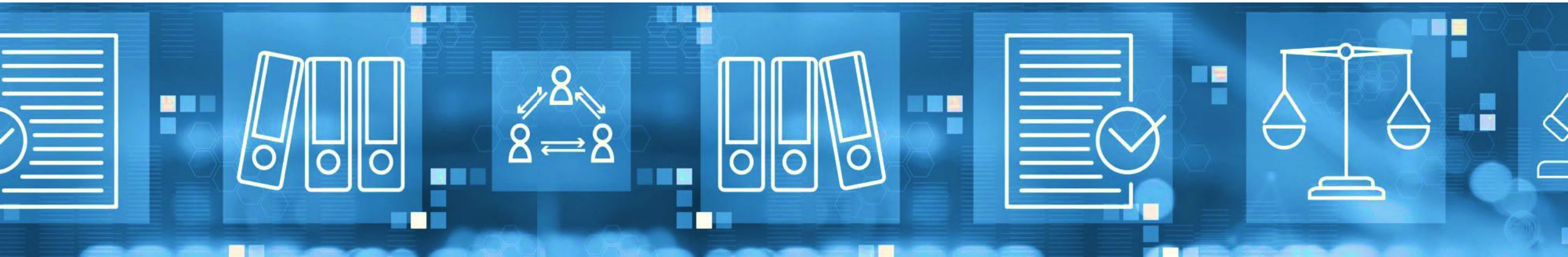
Cedefop skills governance framework (Greek customisation)



About 57 pillars
~ 160 indicators

Next generation skills intelligence across Europe

Building the EU skills intelligence infrastructure



EU blueprint on skills intelligence

Guidance for countries to build own skills intelligence and forge stakeholder partnership

Shared data infrastructure and tools

Expand primary data collection and providing tools to enable data utilisation

Country support programme

Supporting guidelines implementation (blueprint adoption and coordination)

Thematic focuses

Digitalisation, green transition, ageing, talent attraction, specific sectors/occupations

Thank you

www.cedefop.europa.eu

Follow us on social media



For more information

Konstantinos.Pouliakas@cedefop.europa.eu



CEDEFOP

European Centre
for the Development
of Vocational Training