



Skill mismatches in Europe

Evidence from the European skills and jobs survey (ESJS)

Konstantinos Pouliakas
Expert, Cedefop

LMI for All Webinar Series
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2nd European skills and jobs survey

Digitalisation and skill mismatch

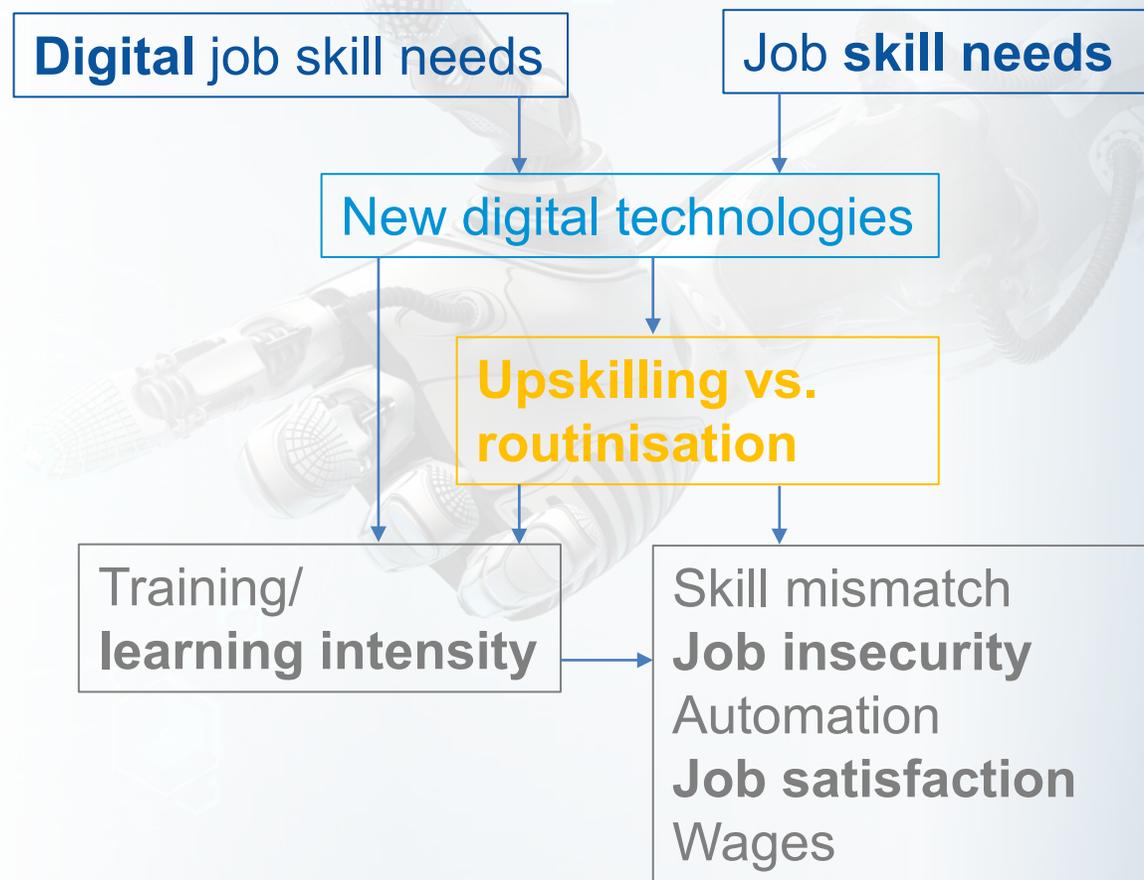
Main research questions:

- What do EU workers do at work?
- Basic or complex(digital) skills use?
- New digital technologies?
- Skill gaps and remedial learning?

Better measurement of:

- Job-skill requirements
- Digitalisation/digital work
- (Digital) skills complexity
- Work routinization
- Skill mismatches

Pillars and conceptual design

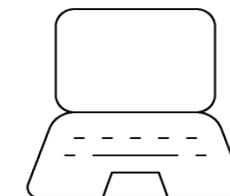
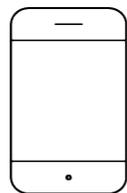


2nd ESJS survey ID

SURVEY METHOD

RDD CATI

ONLINE (CAWI)



Weighting

Representative sample
of EU+ adult workforce

COUNTRIES SURVEYED

EU-27
+ Iceland
+ Norway
ETF-6
+ Western Balkans
+ Israel

TARGET NUMBER OF INTERVIEWS

Ranging from 1 000 to 3 000 –
total of **46 213 observations**.
500 by RDD CATI
(except 1000 in MT, CY)

TARGET POPULATION

All adults (aged 25-64) in
wage and salary employment
(i.e. paid employees, excluding
self-employment and family
workers), who live in private
households

DURATION

About 20-25 min

Skill underutilisation is marked in Europe

HIGH MISMATCH

Hungary
Greece
Latvia
Lithuania
Ireland
Cyprus
Spain
Italy

HIGH VERTICAL/ LOW HORIZONTAL

France
Malta
Portugal
Sweden
Norway
Estonia
Iceland

LOW VERTICAL/ HIGH HORIZONTAL

Czechia
Slovakia
Poland
Croatia
Bulgaria
Belgium
Austria

LOW MISMATCH

Slovenia
Romania
Germany
Netherlands
Denmark
Luxembourg
Finland

28%
Overqualified

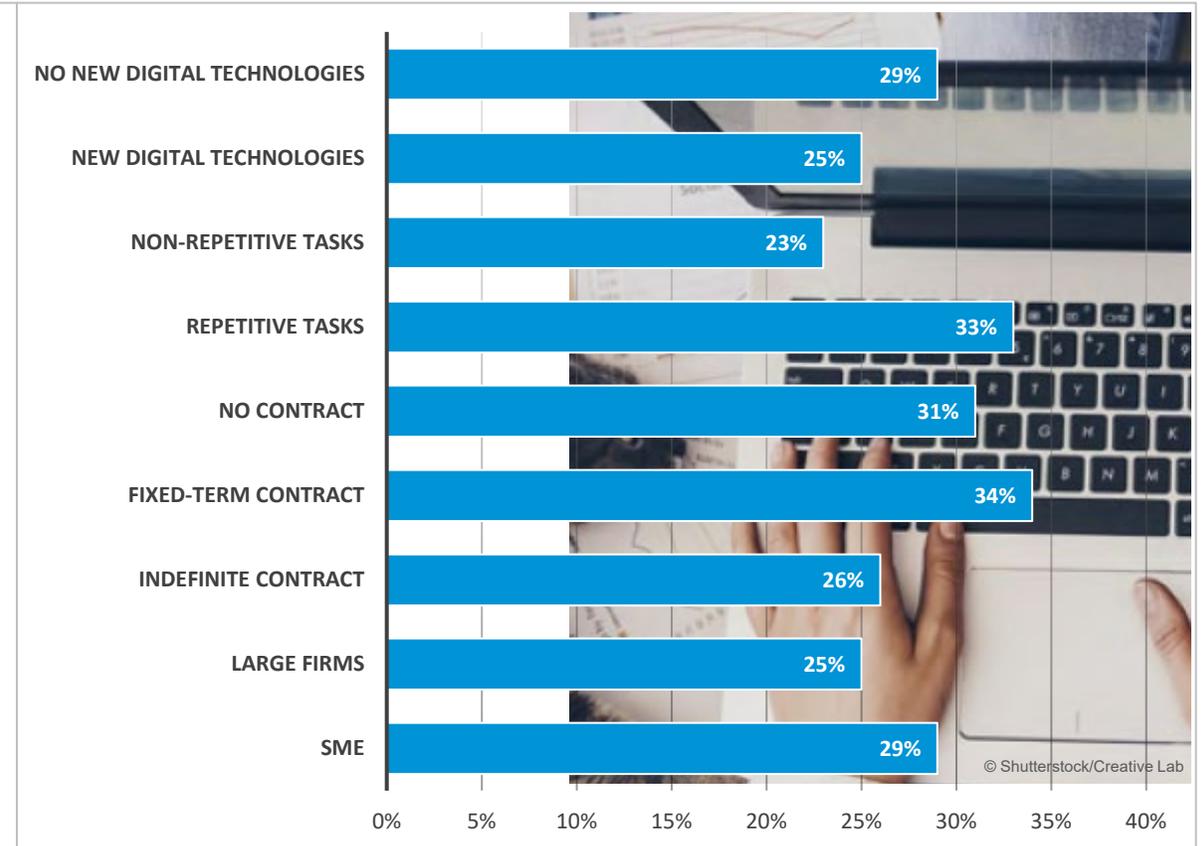
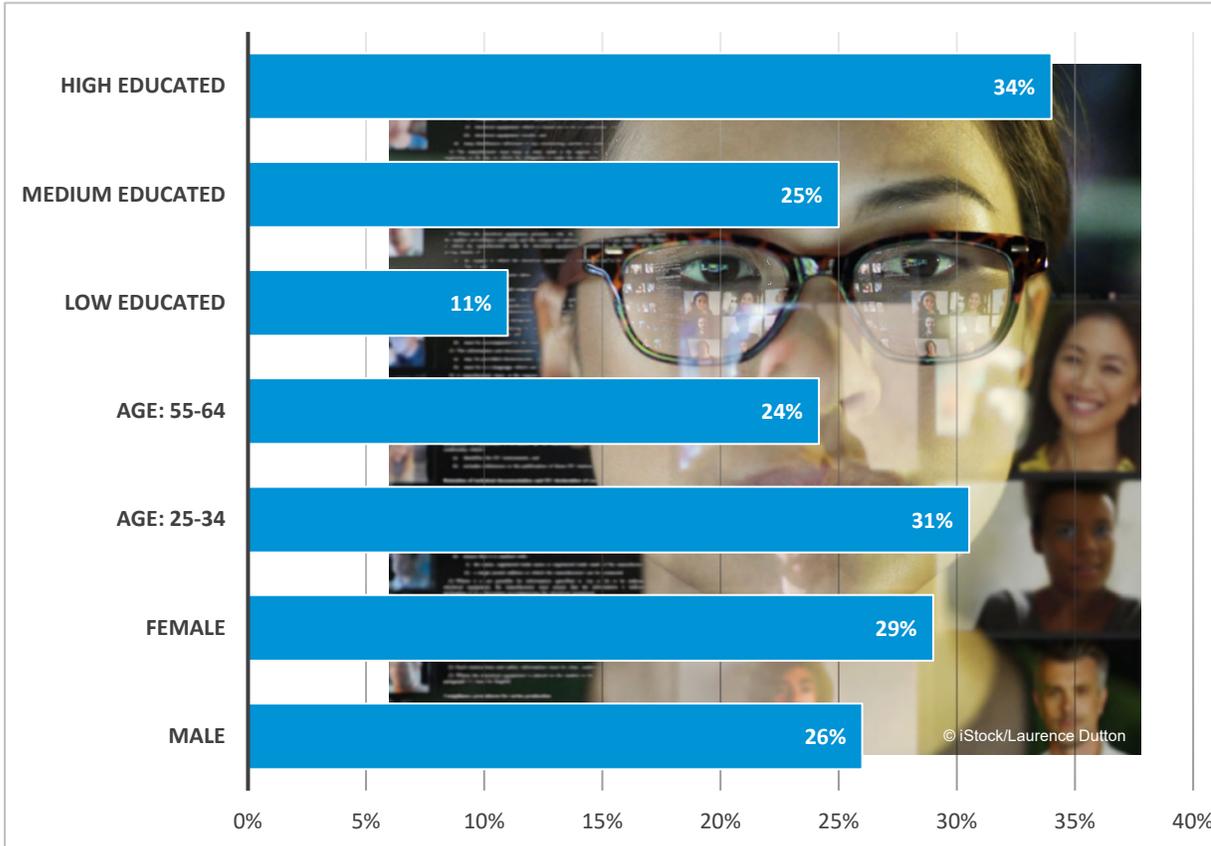
12%
Underqualified

35%
Field mismatch

55%
Skill underuse

Qualified workers in low quality jobs

Profile of overqualified workers in EU+ job markets



Arts, humanities and foreign languages
and social sciences (39%)

Elementary occupations (38%)
and service and sales jobs (34%)

Skill mismatch – wasting potential

SKILL MISMATCH	PAY ABOVE HIGHEST QUARTILE	JOB SATISFACTION
Reference group: workers with same education level ('classmates')		
<i>Overqualified</i>	-9% ***	-7% ***
<i>Severely overqualified</i>	-15% ***	-9% ***
<i>Underqualified</i>	6% ***	3% ***
Reference group: workers in job with similar education and skill requirements ('coworkers')		
<i>Overqualified</i>	+1% **	-4% ***
<i>Severely overqualified</i>	+3% ***	-4.4% ***
<i>Overskilled</i>	-5% ***	-17% ***
<i>Underqualified</i>	-6% ***	insignificant

NB: Mincer-type wage and job satisfaction probit regressions; marginal probabilities at means.

Source: Cedefop ESJS2

Skill mismatch – low skill demand

SKILL MISMATCH	POTENTIAL FOR SKILLS DEVELOPMENT	JOB COMPLEXITY
Reference group: workers with same education level ('classmates')		
<i>Overqualified</i>	-3% ***	-3% ***
<i>Overskilled</i>	-4% ***	-5% ***
<i>Underqualified</i>	1% ***	insignificant
	FOUNDATION SKILLS	DIGITAL SKILLS
<i>Overqualified</i>	-2% ***	-3% ***
<i>Overskilled</i>	-2% ***	insignificant
<i>Underqualified</i>	+3% ***	+3% ***

NB: Ordered probit regressions; Controls (country, sector, occupation, sociodemographic, job); marginal probabilities at means.

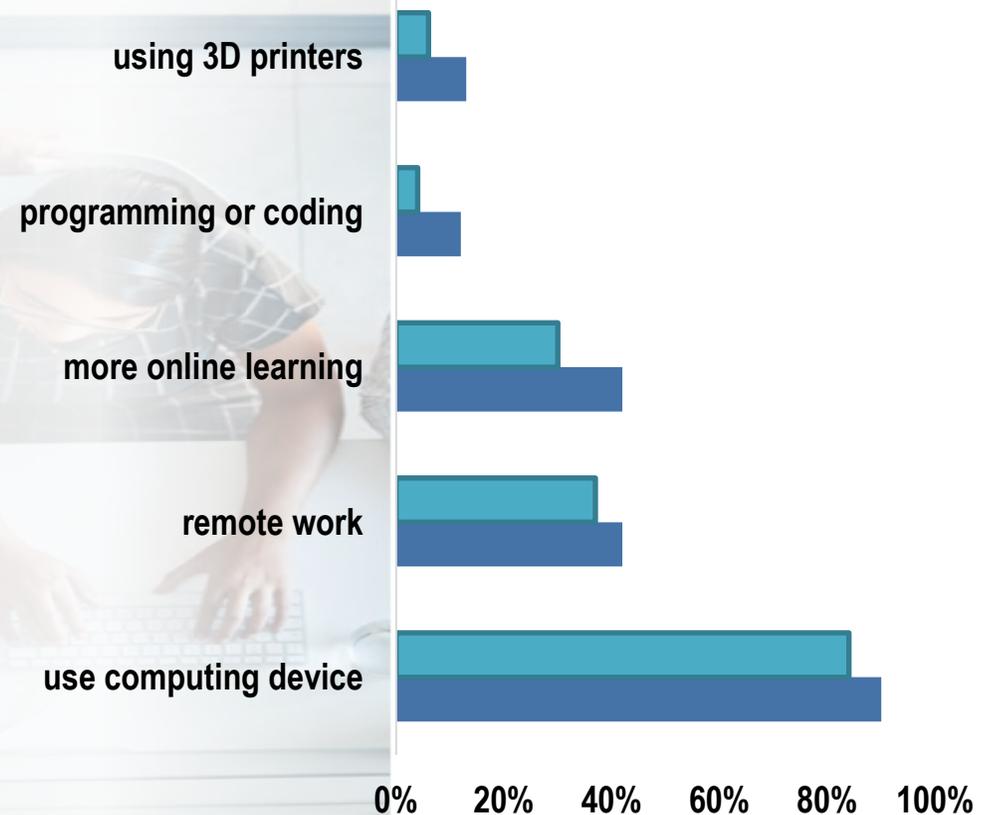
Source: Cedefop ESJS2

Young skilled workers in precarious jobs

Jobs and skills match



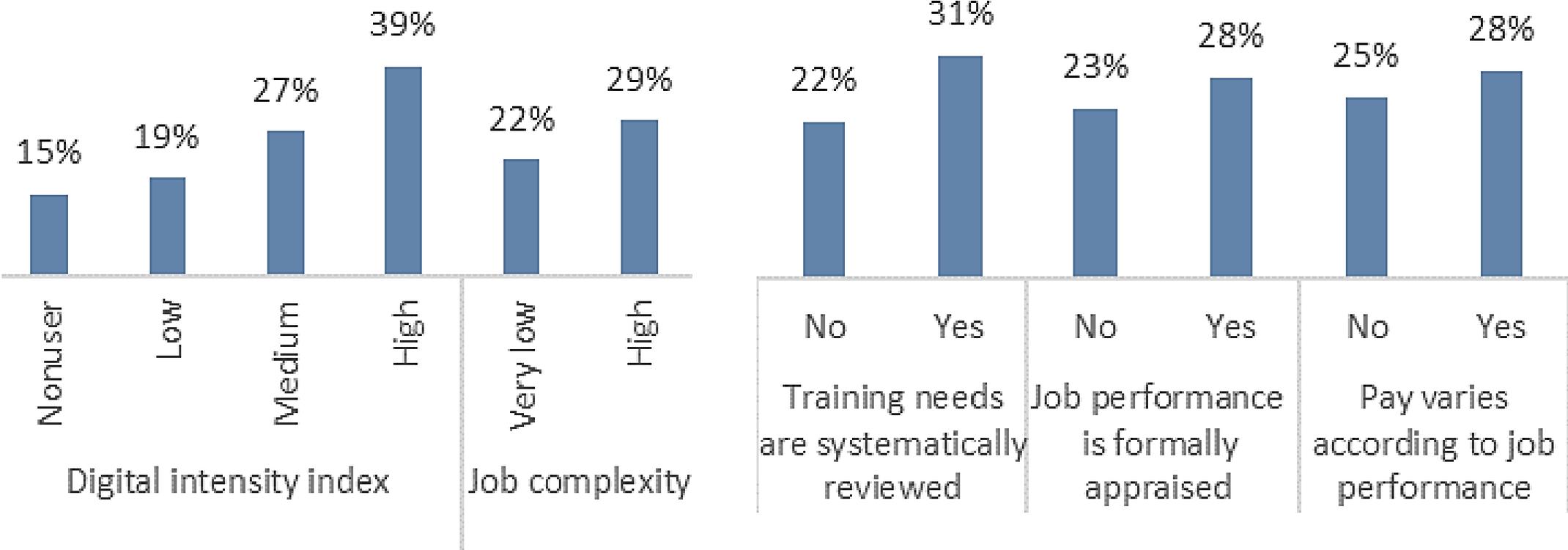
Digital skills



Skill development

“thrives” in dynamic jobs

Determinants of (digital) skills training



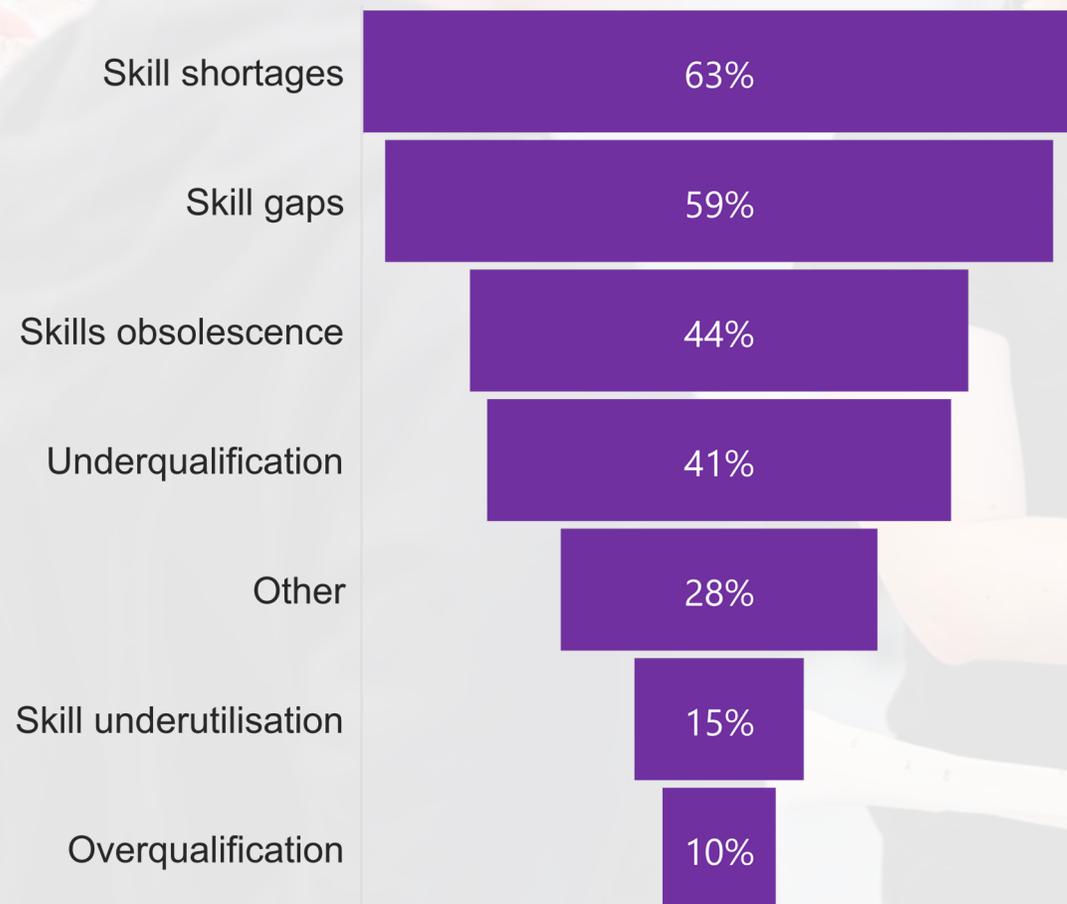
Source: Bertoni et al. (2024) using Cedefop’s ESJS2

EU skills matching policies

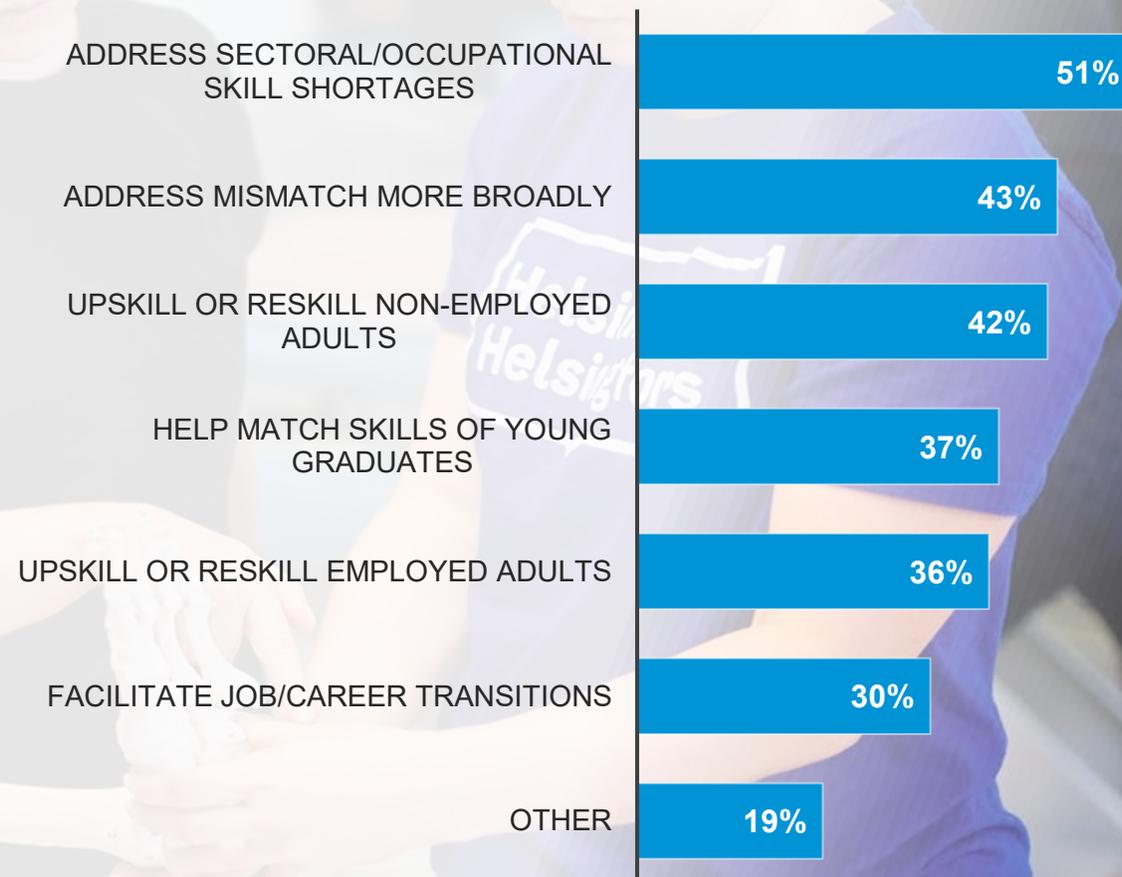
Target areas



What type of skill mismatch does the initiative aim to address?



How does the initiative address skill mismatches?

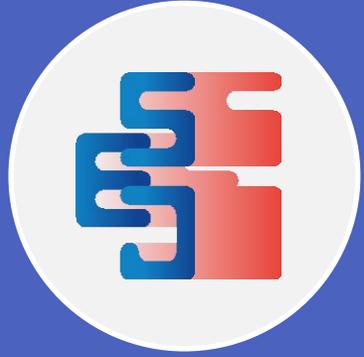


Skills matching

main policy lessons

- Skill “deficiencies” remain primary target area in EU (McGuinness, Pouliakas and Redmond, JES, 2018)
- Focus on ‘external’ mismatch (shortages); less on-the-job
- EU suffers from skill underutilisation and “lack of skills drive”
- Both education and skills underutilisation associated with:
 - Productivity loss (lower wages and job satisfaction)
 - Less need to develop skills
 - Lower-skilled / less complex / less digital jobs
- Need for demand side policies that can stimulate skills use and incentivise skill formation

ESJS2 online tool



29
countries
EU-27 plus
Norway and
Iceland

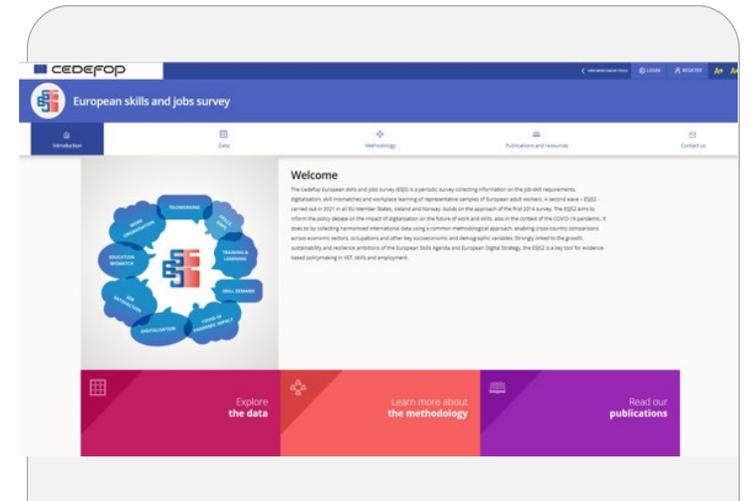
46 213
EU+
adult workers

**Representative
data**
of EU+
labour markets

**More
than
80**
indicators

COMPARATIVE EU+ INFORMATION ON

- Skill demands
- Work organisation
- Remote work
- Digitalisation and automation
- Skill gaps and mismatch
- Training and learning for work
- Covid-19 pandemic impact



<https://www.cedefop.europa.eu/en/tools/european-skills-jobs-survey>

Call for research papers: Human-centred digital transitions and skill mismatches in European workplaces

Cedefop workshop - 12 December 2024

 **CEDEFOP** | European Centre for the Development
of Vocational Training

Call for Papers
Cedefop workshop

Human-centred digital transitions and skill mismatches in European workplaces

Motivation

Recent improvements in autonomous digital technologies, such as the radical developments in generative artificial intelligence, in particular large language models (LLMs), and advanced robotics, can markedly affect skills demand in workplaces and foster skill mismatches (Felten et al., 2023; Eloundou et al., 2023). Most literature has focused on investigating the impact of new digital technologies on job loss and worker replacement (Acemoglu and Autor, 2011; Bessen et al., 2020; Acemoglu and Restrepo, 2020; Acemoglu et al., 2022) or the risk of automation (Frey and Osborne, 2017; Arntz et al., 2017). Technological change can substitute human capital, such as when automating technologies substitute for labour input in typically routine-intensive / low-skill jobs (Autor et al., 2003; Goos et al., 2009). It could however also

Recent improvements in autonomous digital technologies, such as radical developments in generative artificial intelligence and advanced robotics, can markedly affect skills demand in workplaces and foster skill mismatches. In this research workshop, Cedefop invites the submission of research papers -some of which may apply to use the [second European skills and jobs survey microdata](#)- to investigate factors underlying the different forms of conjoined agency between humans and technology and how these may differ across workplace environments and human resource management practices. Understanding the conditions under which digital technologies may have positive or negative implications for workers' upskilling and skills matching outcomes is a key aim of the workshop.

[News details](#)

[Downloads](#)

Thank you

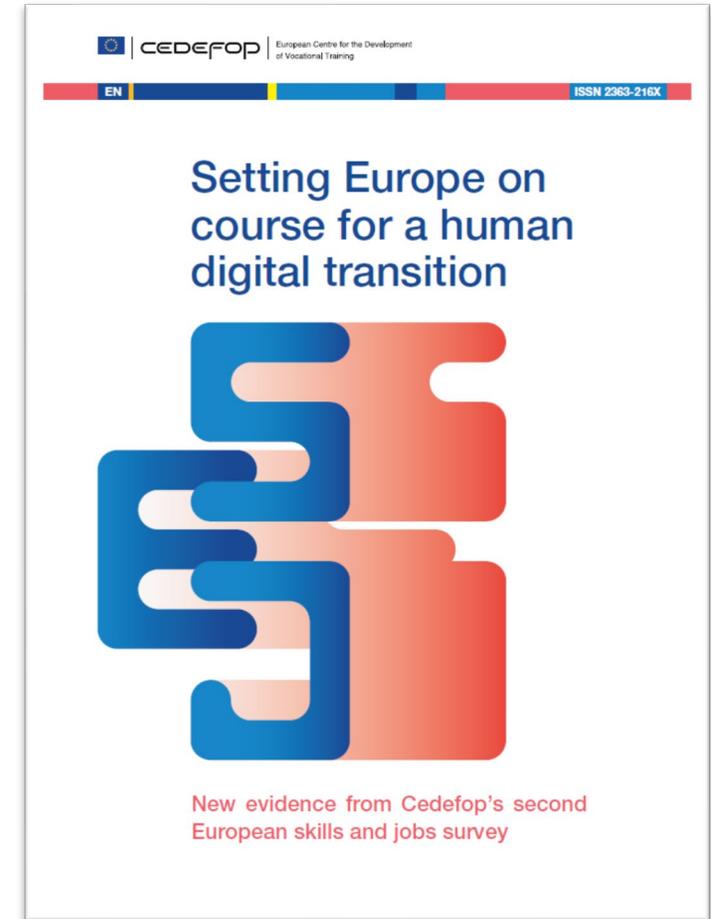


For more information

Konstantinos.Pouliakas@cedefop.europa.eu

www.cedefop.europa.eu

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