

Parcours for the Future

CHANGING SKILLS FOR A CHANGING WORLD

Ummuhan BARDAK
European Training Foundation
uba@etf.europa.eu

Global changes affect all countries



Technological
advances/
nanotech/ biotech/



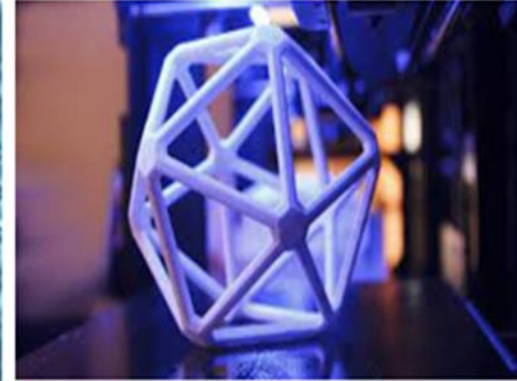
Digitalisation/ cloud
computing/ internet
of things/services



Artificial Intelligence
/ machine learning/
robotics



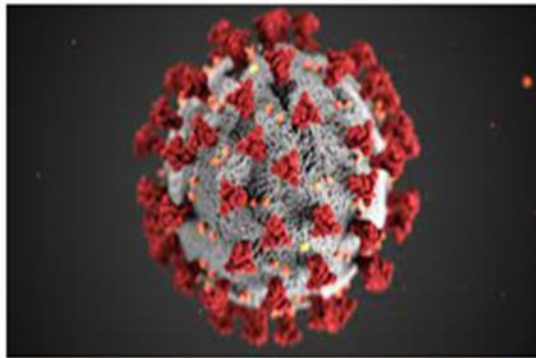
Big Data/ mobile
internet/ data
mining/processing



Advanced
manufacturing / 3D
printing/ materials



Globalisation/
trade competition/
financial shocks



Covid-19/
Pandemics



Climate change/
global warming



Demography/
Migration



Geopolitics/ wars/
new national
regulations

Seven global trends on future of work and jobs (1)

1

JOB DESTRUCTION

- ☐ Percentage of jobs/ tasks to be automated
- ☐ Routine vs non-routine tasks
 - ✓ Routine medium-skilled tasks
 - ✓ Routine manual tasks
 - ✓ Routine cognitive/ high-skilled tasks
- ☐ Machine-human complementarity

2

JOB POLARISATION

- ☐ Declining share of medium-skilled jobs
- ☐ Typically employed men with secondary education
- ☐ Unprecedented growth of low-skilled service jobs
- ☐ Dramatic growth of high-skilled jobs

Seven global trends on future of work and jobs (2)

3

EMERGENCE OF NEW JOBS

Activities linked to the application of new technologies

- ☐ Jobs for data processing
- ☐ Jobs for digital services
- ☐ Jobs for robotics and AI
- ☐ STEM jobs
- ☐ Mixing of disciplines

4

CHANGING TASKS IN THE JOBS

- ☐ Task content moves from physical towards intellectual and social
- ☐ Increasing degree of autonomy/ teamwork
- ☐ Increasing adoption of ICT tools
- ☐ Upgrade of jobs in manufacturing and services
- ☐ Adding new tasks to existing jobs
- ☐ Revision of occupational profiles

Seven global trends on future of jobs and work (3)

5

SEGMENTATION OF KNOWLEDGE WORK

- ☐ Digital Taylorism: applying Fordist production into knowledge work
- ☐ Stratification of knowledge between (conception) and execution (doing)
- ☐ Developer roles vs. demonstrator roles
- ☐ Increasing standardisation of high-skilled jobs

6

CHANGING EMPLOYMENT PATTERNS

- ☐ Rise of non-standard/ atypical employment
- ☐ New business model of digital economy
- ☐ Expanding temporary employment
- ☐ Increased multi-disciplinary teamwork, remote work, teleworking, flexible work

7

EROSION OF JOB BENEFITS

- ☐ Less full-time, permanent and single-employer jobs
- ☐ Erosion of traditional employer-employee relations,
- ☐ Regulatory loopholes of employment status
- ☐ Ghost workers without offices, uniforms, computers

Managing transition towards the future: skills

- ❑ “Panta rhei” (Heraclitus): Everything is in flux, the only constant seems to be ‘change’ itself requiring flexibility, adaptability, resilience and agility
- ❑ Countries need to manage their transition towards the future: outcome is shaped by the choices of political and economic elites
- ❑ Fundamental shift away from learning specific tasks toward ‘learning to learn’, other soft skills, ‘capability’ over ‘competence’
- ❑ Specific technical skills needed to use technology and perform certain tasks are not enough anymore
- ❑ New capabilities that everyone must have in the future: skills to get the most out of changing labour markets and perform effectively in different work-related settings as employees, self-employed and entrepreneurs

Better future for all requires skills for everyone!

“The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn and relearn” (Alvin Toffler)

Eight skills needed by all in the future (1)

1

Cognitive and socio-emotional skills: The increasing importance of intellectual and social tasks as well as those linked to human–machine interaction

2

Digital skills: All citizens need at least basic ICT skills and digital safety protocols – and a significant majority needs job-related digital skills

3

STEM (Science, technology, engineering and mathematics): Essential for innovation-driven economic development, already recorded high demand in specialisation areas

Eight skills needed by all in the future (2)

4

Green skills: Environmental challenges and the policy objective of greening our economies create demand for labour in these areas – three levels of green skills

5

Soft skills: Also referred to as non-cognitive skills, transversal skills, personality traits, character skills, 21st century skills, life skills, etc. – it is a “new mindset”

6

Multi-disciplinarity or composite skills: It points to increasing demand for workers with wider skills and multiple expertise areas in the changing labour markets; e.g. composite skills, fusion skills, T-shaped skills

Eight skills needed by all in the future (3)

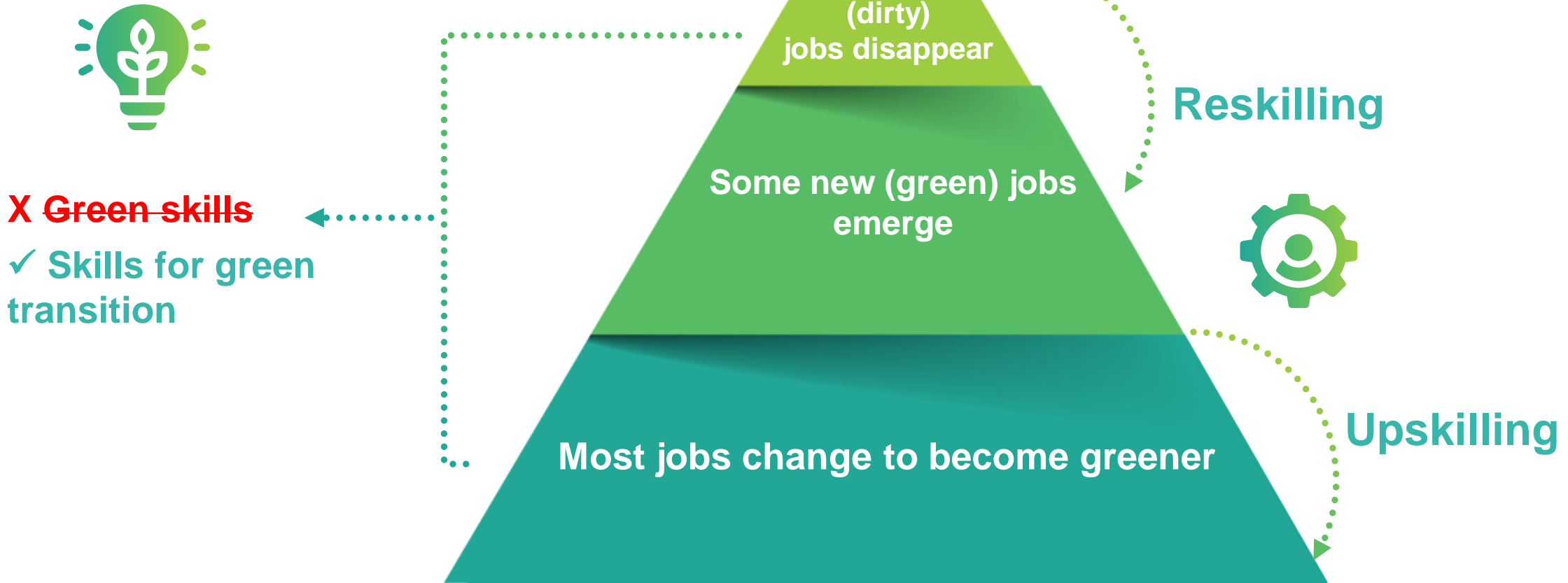
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Entrepreneurial skills: Individuals need them to adapt to changing forms of employment and enhance their flexibility and labour mobility

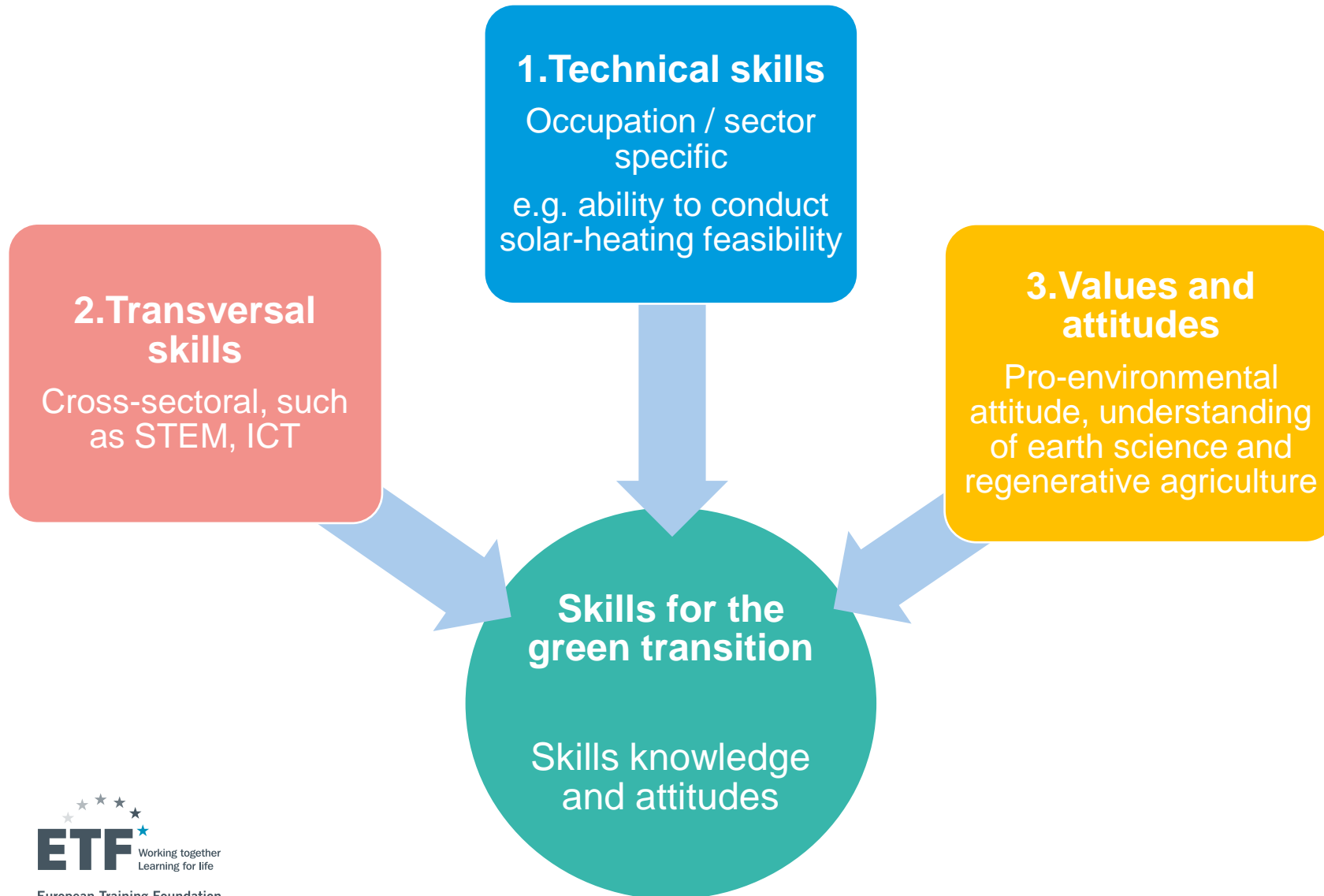
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Career management skills: These enable people to navigate labour markets and manage their careers in a context of complexity and uncertainty

The impact of green transition on labour market



What are skills for green transition?



Typology of skills for greening



Specific/ new green skills for new occupations:
i.e., windmill turbine installer, solar technician,
sustainability officer, energy efficiency expert



Topping up skills for greening existing
occupations: e.g., car mechanic,
plumber, electrician



Generic skills in environmental
context: e.g., marketing
specialist, banking investor

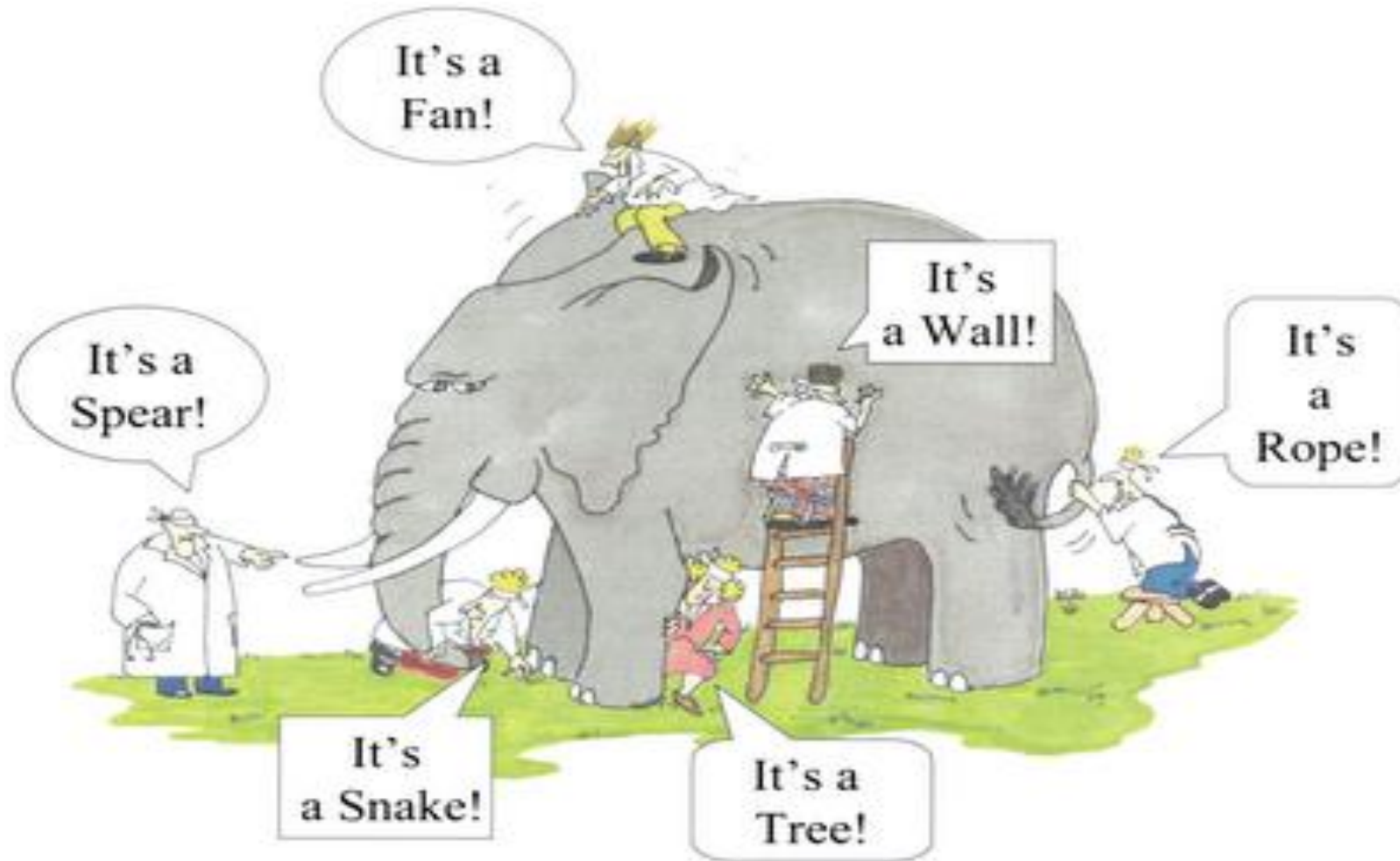


Generic technological processes:
e.g., agrifood professionals,
precision irrigation, digital skills



Positive attitude towards
sustainability; green
mindset: e.g., consumers,
medical staff

Final word on the future of work



The future of work is all about skills!

“There’s never been a better time to be a worker with special skills or the right education, because these people can use technology to create and capture value. However, there’s never been a worse time to be a worker with only ‘ordinary’ skills and abilities to offer, because computers, robots and other digital technologies are acquiring these skills and abilities at an extraordinary rate” (Brynjolfsson and McAfee 2014)

REFITTING EDUCATION IS KEY!

Further readings from ETF

www.etf.europa.eu/en/publications-and-resources/publications/changing-skills-changing-world-understanding-skills-demand

[Edited green transition policy brief_EN \(europa.eu\)](#)

[The future of work – New forms of employment in the Eastern Partnership countries: Platform work | ETF \(europa.eu\)](#)

<https://www.etf.europa.eu/en/document-attachments/future-skill-needs-construction-sector-armenia-country-report>

www.etf.europa.eu/en/publications-and-resources/publications/future-skills-case-study-automotive-sector-turkey

[Future of skills: Energy sector in Albania | ETF \(europa.eu\)](#)

https://www.etf.europa.eu/sites/default/files/2020-11/future_of_skills_agri-tech_sector_in_israel.pdf

<https://www.etf.europa.eu/en/document-attachments/future-skills-energy-sector-tunisia>

