E-LEARNING COURSE ON SKILLS ANTICIPATION AND MATCHING

2 NOVEMBER – 18 DECEMBER 2020
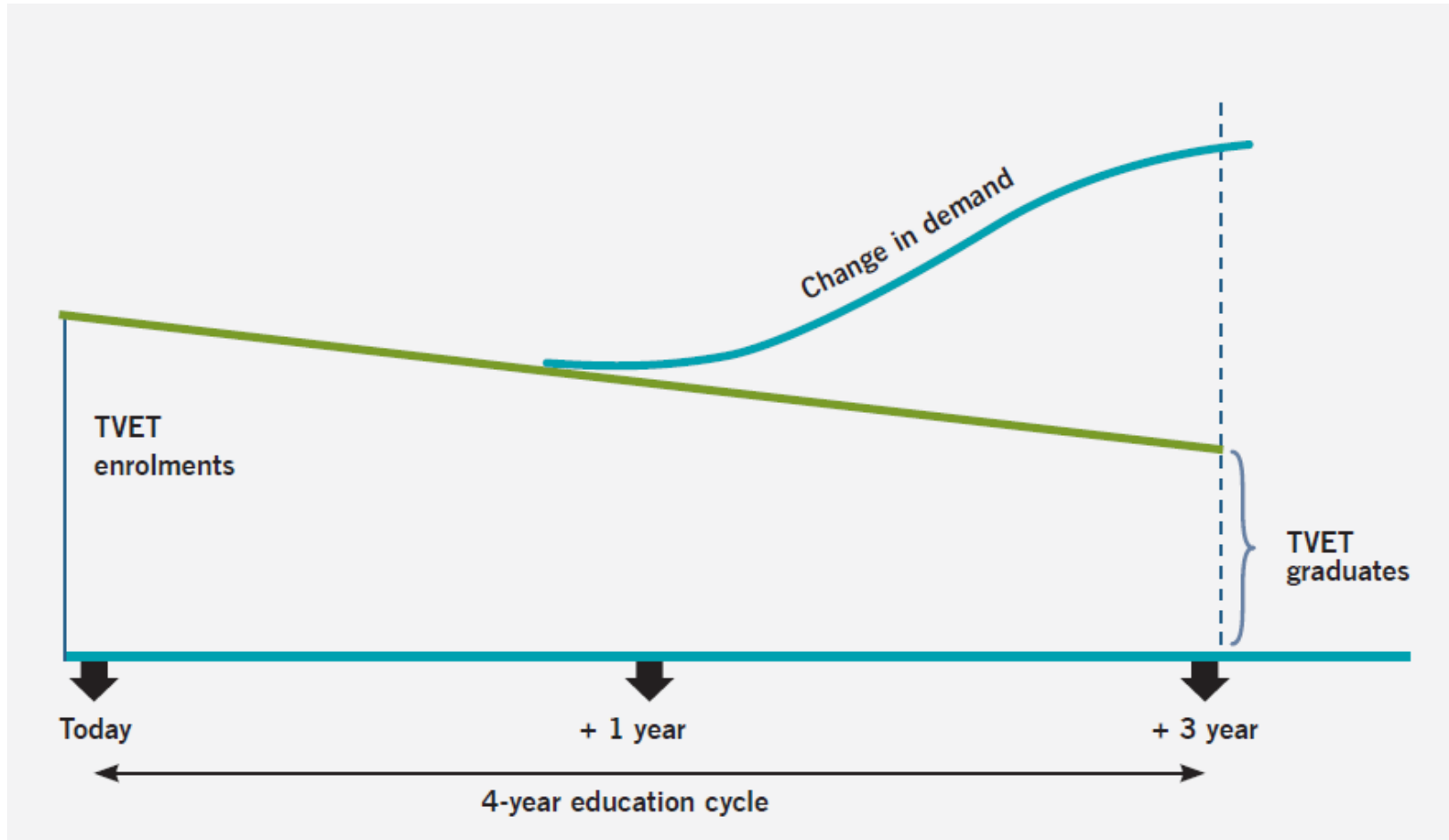
🕐 **7 WEEKS, 60 HRS**

Stefano Merante

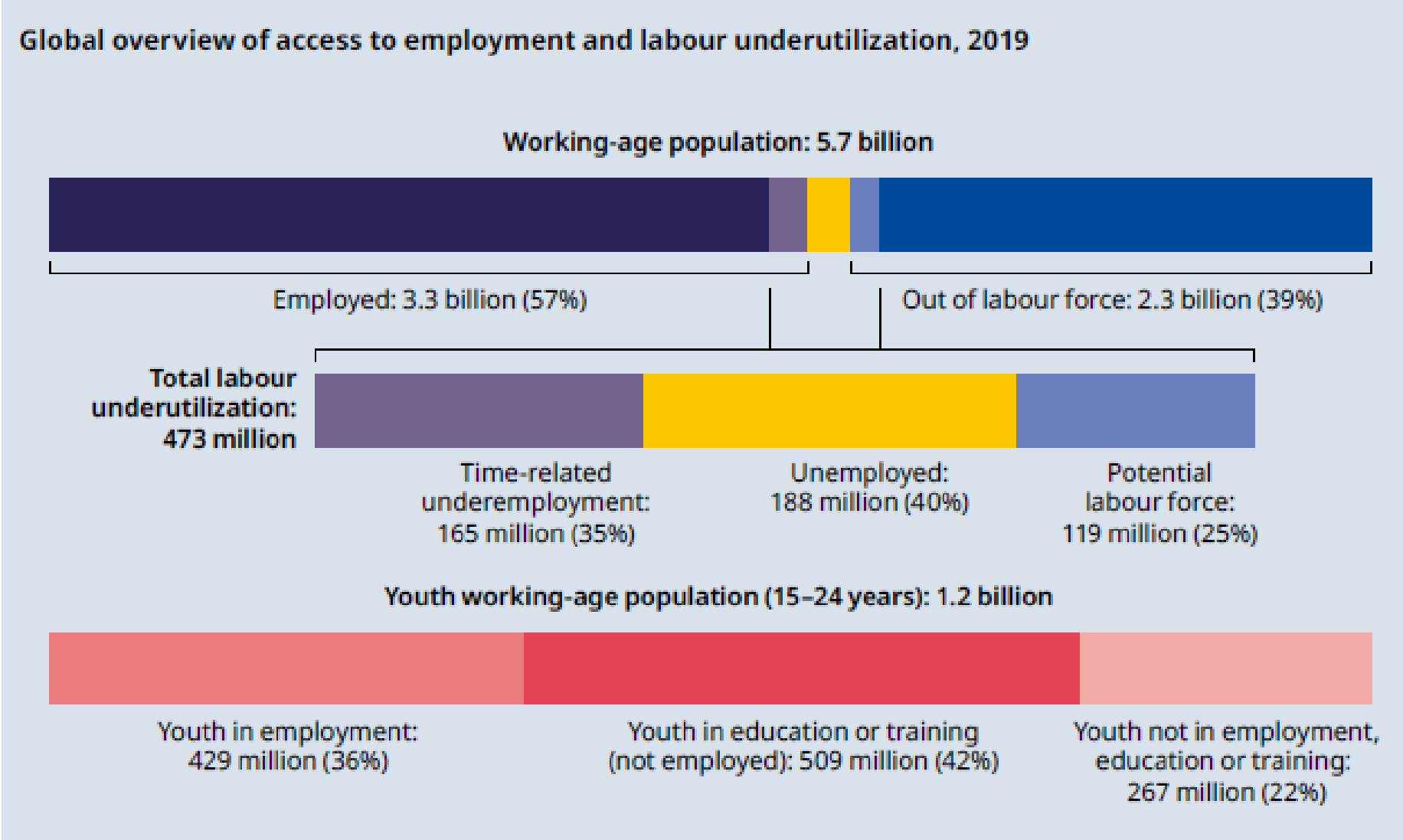Rationale of Skills Anticipation and Matching

Unit Learning Goals

- Understand the central importance of identifying current and anticipating future skills needs;

- Understand global drivers of change and their implications for skills needs anticipation and matching;

- Analyse myths and realities regarding skills needs anticipation and matching;

- Identify the main principles of skills needs anticipation and matching.
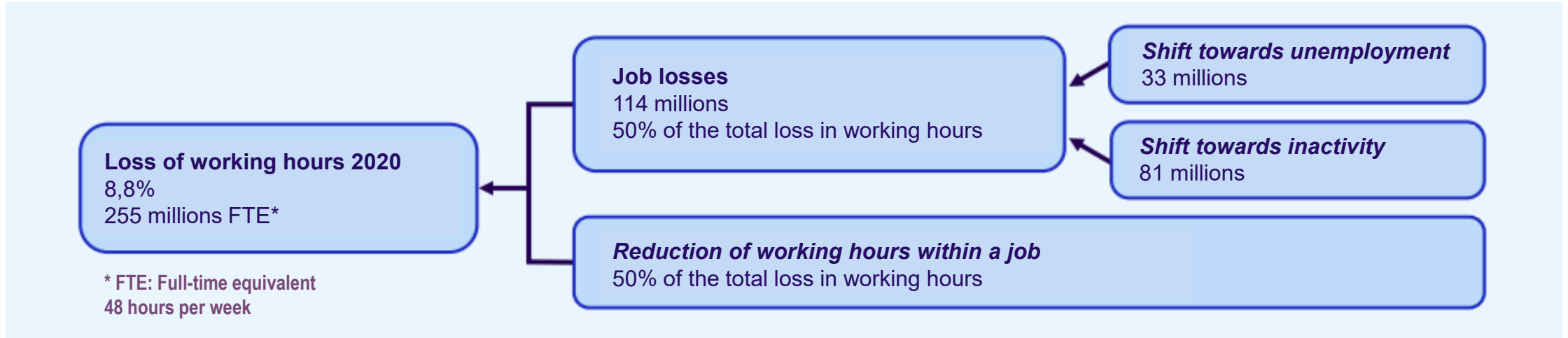
Why we need skills anticipation?

Global employment and social issues: Trends 2020 (ILO)

Global overview of access to employment and labour underutilization, 2019

Working-age population: 5.7 billion

Employed: 3.3 billion (57%)

Out of labour force: 2.3 billion (39%)

Total labour underutilization: 473 million

Time-related underemployment: 165 million (35%)

Unemployed: 188 million (40%)

Potential labour force: 119 million (25%)

Youth working-age population (15–24 years): 1.2 billion

Youth in employment: 429 million (36%)

Youth in education or training (not employed): 509 million (42%)

Youth not in employment, education or training: 267 million (22%)

Estimated work hours and jobs lost in 2020

Loss of working hours 2020
8,8%
255 millions FTE*

* FTE: Full-time equivalent
48 hours per week

Job losses
114 millions
50% of the total loss in working hours

Shift towards unemployment
33 millions

Shift towards inactivity
81 millions

Reduction of working hours within a job
50% of the total loss in working hours

Note: Job losses and shifts towards unemployment and inactivity are relative to 2019. The shift to inactivity represents the reduction in the labour force. Job losses are transformed into actual worked hours, while the FTE estimate uses 48-hour work weeks.

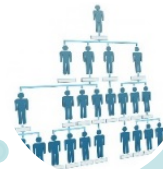Source: ILO Monitor: COVID-19 and the world of work. 7th edition

World is changing

Global drivers of change

Which jobs?
Which tasks?
Which skills
and
qualifications?

Migration

Technology
and innovation

Demographic
change

Climate
change

Work
organization

Globalization

Technology Development and Innovation

- Many estimates on **susceptibility of jobs to automation**:
  - Some argue – potentially all,
  - Half in advanced economies (Frey, Osborne 2013),
  - Asia - around 56% (ILO, 2016),
  - More modest estimates (14% by OECD 2019)
- Automatable ≠ will be automated
- **Opportunity**: Job creation
- **Tasks and skills change**
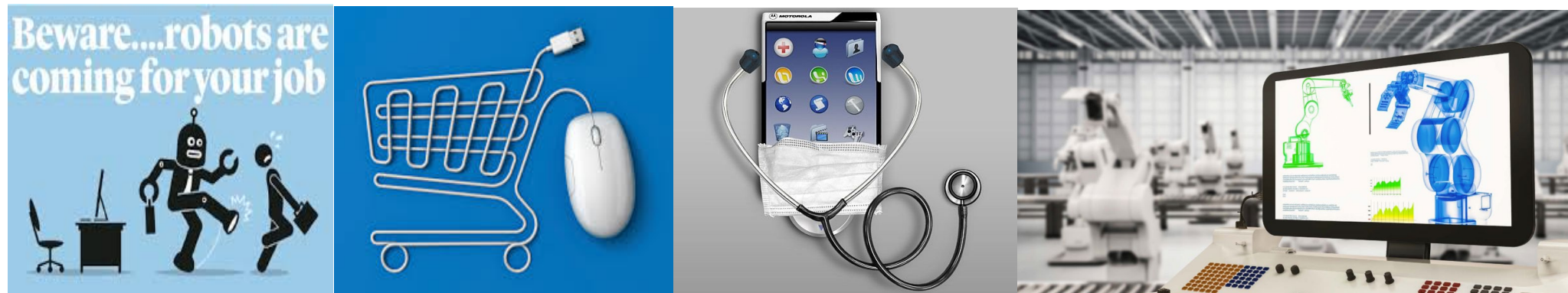
Demographic Changes

- **Developed world is aging fast**:
  - Labour shortages expected
  - Skills for higher productivity, employment activation measures (e.g. LLL, technology skills for aging workers etc.)

- **Workforce in most developing countries is still young**:
  - Challenge to provide young people with relevant skills and to attract investments and create jobs
  - Skills for productivity, economic diversification and enhancement of internal demand for skills

- **Foreseen enhancement of global labour migration**

THE MEDIAN AGE OF CONTINENTS
Africa has the world's youngest population, with a median age in the teens
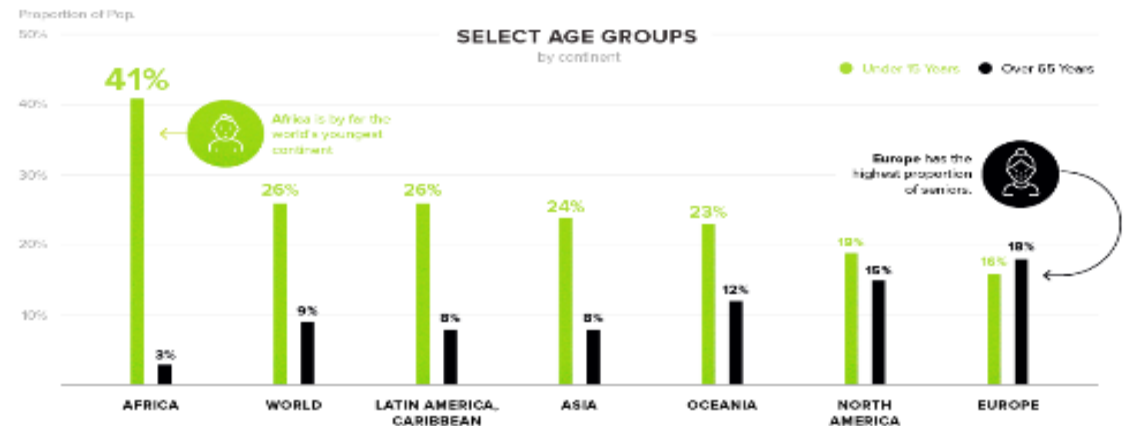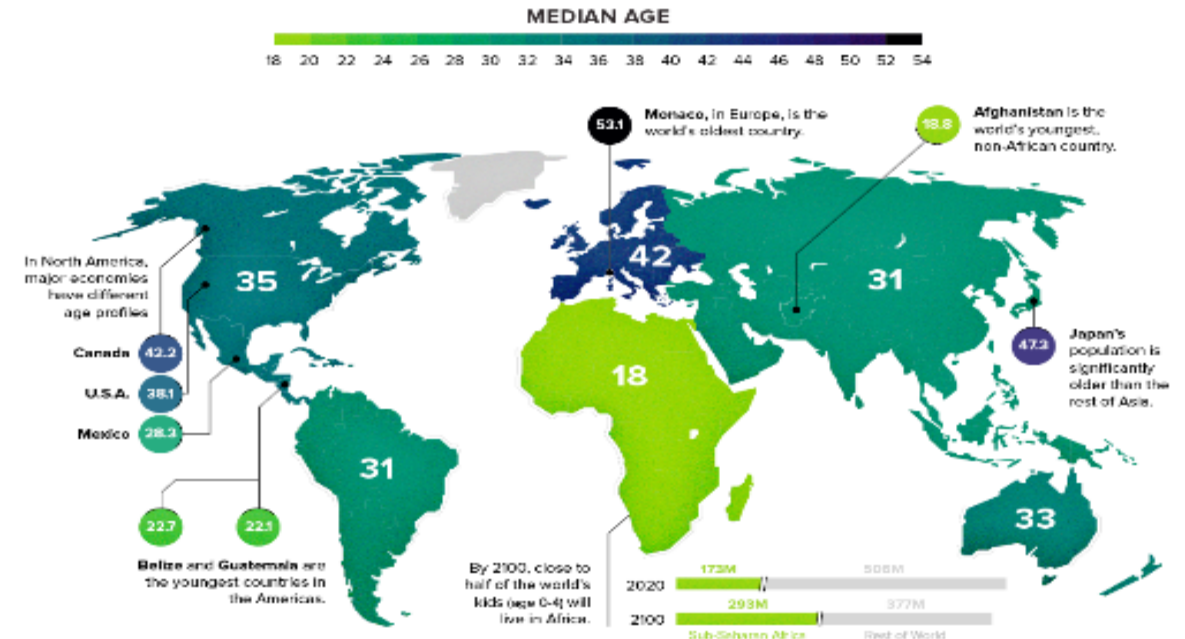
Globalisation and trade

- ❑ Global value chains (GVCs), labour redistribution, delocalisation and relocalisation
- ❑ Open trade can promote job creation and economic growth
- ❑ Skills are key to the quality and scale of export growth
- ❑ Essential for economic diversification (new products and services, markets, technologies)
- ❑ The dispersion of skill levels also affects countries' comparative advantage in trade
- ❑ Skills act as a buffer that helps reduce adjustment costs

Exporting companies are more aware of skills gaps

a. Percentage of companies identifying a poorly trained workforce as the main constraint
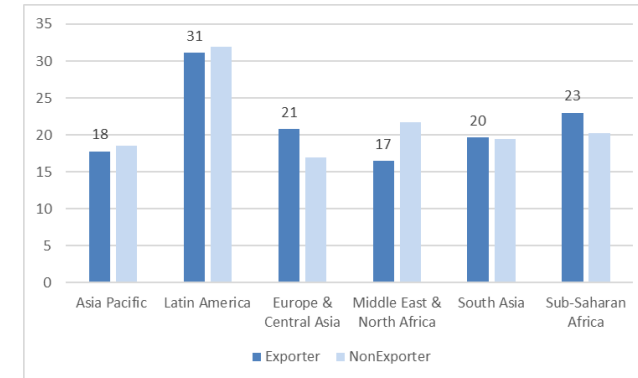

b. Percentage of companies offering formal training
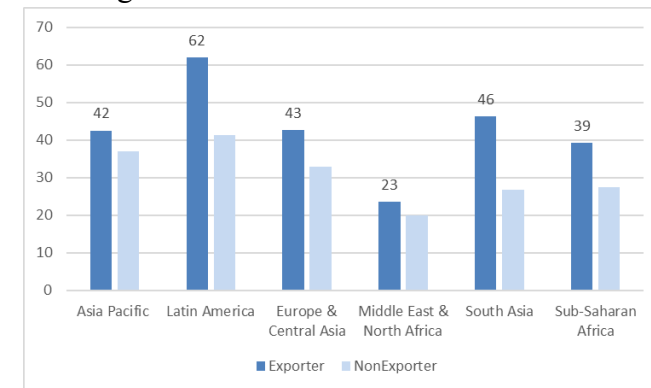
Source: EQSM 2009-2019, taking into account the latest available years only

Educational Attainment

- **Increase in average years of schooling among 15-24 year olds:**
  - In developing countries: from 4.2 to over 7.4 years (between 1990 and 2018), but girls achieve only 83% of boys attainment (UNESCO)
  - In developed countries: from 9.3 to 12 years during the same time period

- **More talents compete for jobs**
- **Crowding out of low-skilled**
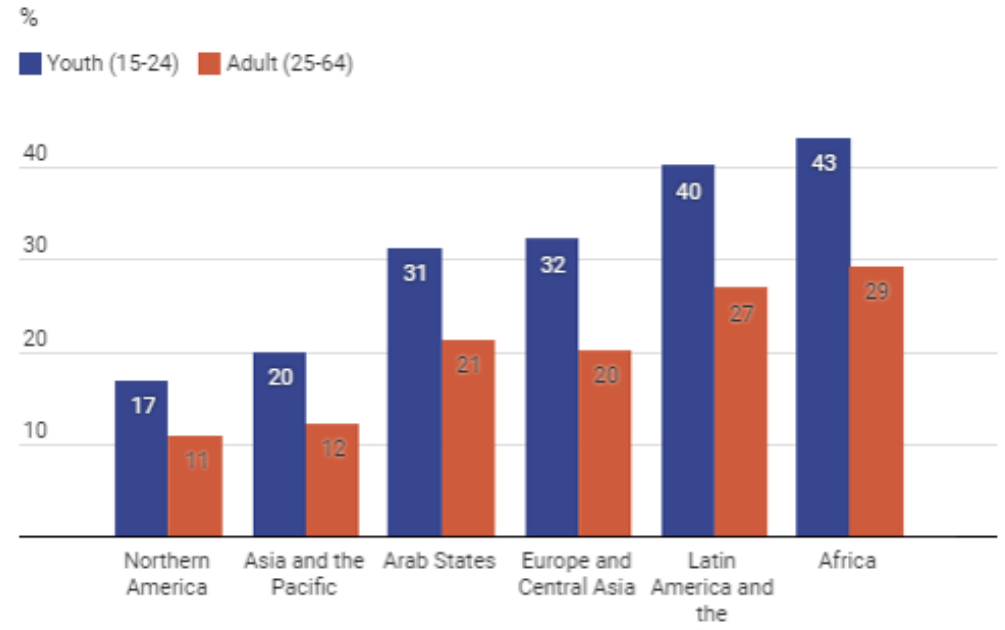- **More and better skills may lead to economic growth**

Mean years of schooling, 1990-2018
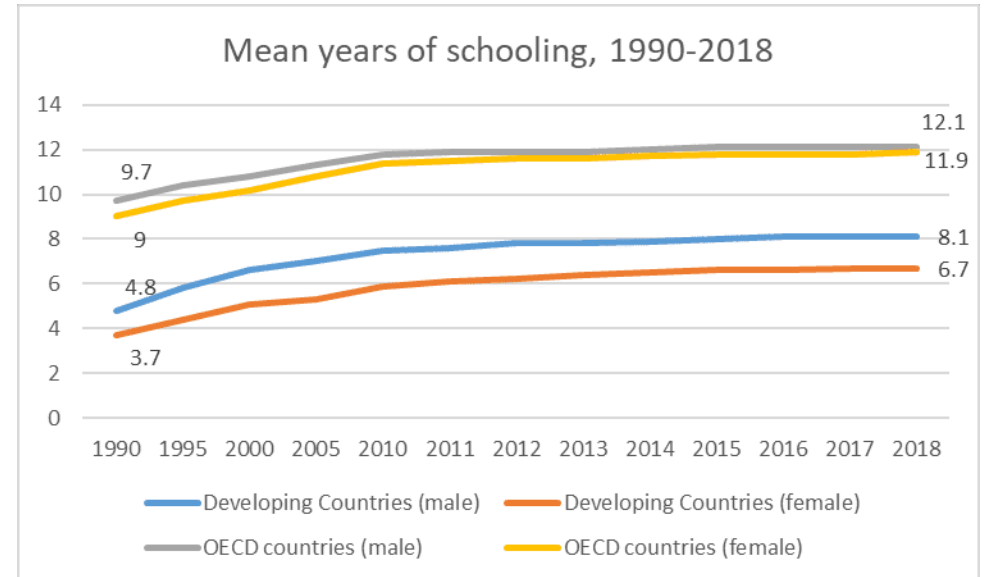
Sources: UNDP HD Data.

Labour Mobility

- **Labour has become more mobile internationally:**
  - as economic activity has become more globalized
  - as digitalisation has facilitated virtual access to jobs and talent
- **Increased mobility:**
  - 2 out of 3 citizens with tertiary education of Haiti, Jamaica, Trinidad and Tobago live abroad. Around third of physicians in the US, Australia, and Canada are foreign-trained
- **Increased global competition for talent**
- **Increased demand for portable skills**
- **Skills development – not only for which jobs but also for which countries? Where?**

Share of respondents who would move permanently to another country by age group, 2016

%

■ Youth (15-24) ■ Adult (25-64)

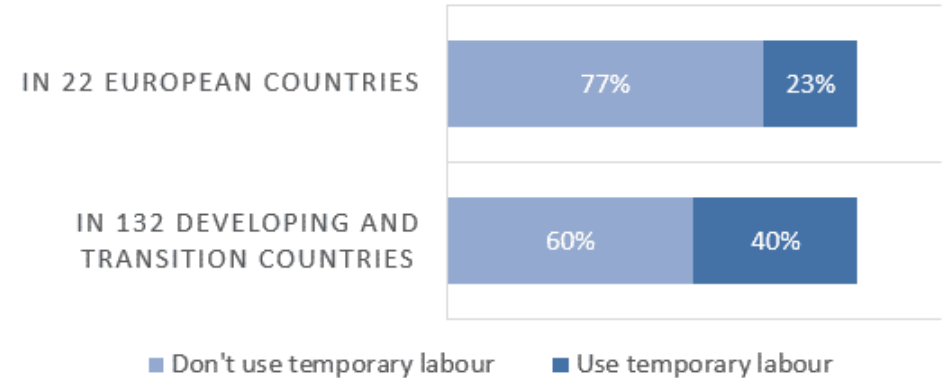| Region	Youth (15-24)	Adult (25-64)
Northern America	17	11
Asia and the Pacific	20	12
Arab States	31	21
Europe and Central Asia	32	20
Latin America and the Caribbean	40	27
Africa	43	29

Survey respondents were asked: "Ideally if you had the opportunity, would you like to move permanently to another country or would you prefer to continue living in this country?" The chart displays the percentage of respondents who said "Like to move to another country".

Source: ILO calculations based on Gallup World Poll • Get the data • Created with Datawrapper

Changing work organisation

❑ Task-based economy and new business models (new employment relationships - who is responsible for skills development?)

❑ The challenge of productivity and competitiveness requires the adoption of new business practices :

- Non-routine skills become a key source of competitive advantage
- Technological and non-technological innovation (cognitive skills)
- Essential job skills (non-cognitive skills)
- High performance work organisation (HRD learning organisation strategy)
- Workplace learning

Firms' reliance on temporary labour

	Don't use temporary labour	Use temporary labour
IN 22 EUROPEAN COUNTRIES	77%	23%
IN 132 DEVELOPING AND TRANSITION COUNTRIES	60%	40%

Source: ILO (2016)

▶ Figure 1.3 Number of active digital labour platforms globally, selected categories

- Online web-based
- Taxi
- Delivery
- Hybrid

383
283
106
5
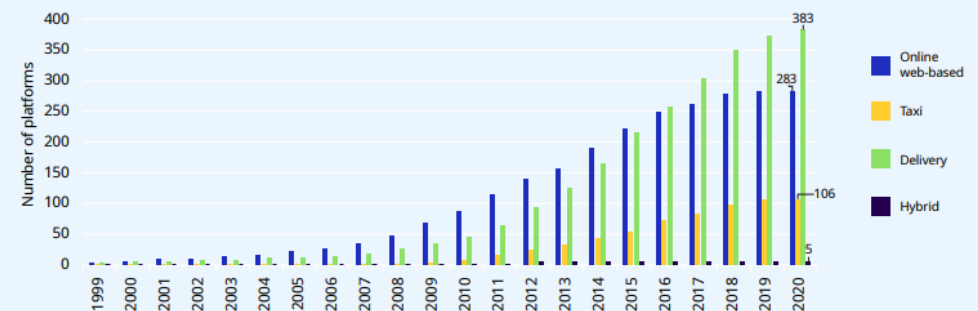
Note: Only currently active platforms are included.

Source: Crunchbase database.

Source: WESO - ILO (2021)

ILO Global Research: 32 countries
Skills for a greener future

SKILLS FOR
A GREENER FUTURE:
A GLOBAL VIEW

Based on
32 country studies

Figure ES 3. Occupations most in demand across industries in a global energy sustainability scenario, 2030

Energy sustainability scenario, 2030

Potential job growth

Risk of job destruction — Job creation potential

7 million jobs

25 million jobs

2 million jobs — could be destroyed if workers are not reskilled into new occupations

5 million jobs — could be reallocated

20 million new jobs — need training

5 million jobs — could absorb laid-off workers

need reskilling and upskilling to reallocate within same occupations in growing industries

Potential job growth

Circular economy scenario, 2030

Risk of job destruction

71 million jobs

⊖ 22 million jobs | 49 million jobs

could be destroyed if workers are not reskilled into new occupations | could be reallocated

need **reskilling** and **upskilling** to reallocate within same occupations in growing industries

Job creation potential

78 million jobs

29 million new jobs | 49 million jobs ⊕

need **training** | could absorb laid-off workers

Panel A. Occupations with the highest number of new net jobs created in a circular economy scenario

- 52 – Sales workers
- 74 – Electrical and electronic trades workers
- 72 – Metal, machinery and related trades workers
- 33 – Business and administration associate professionals
- 21 – Science and engineering professionals
- 31 – Science and engineering associate professionals
- 96 – Refuse workers and other elementary workers
- 41 – General and keyboard clerks
- 14 – Hospitality, retail and other services managers
- 61 – Market-oriented skilled agricultural workers
- 24 – Business and administration professionals
- 12 – Administrative and commercial managers
- 43 – Numerical and material recording clerks
- 83 – Drivers and mobile plant operators
- 95 – Street and related sales and service workers
- 42 – Customer services clerks
- 54 – Protective services workers
- 59 – Other service and sales workers
- 91 – Cleaners and helpers
- 44 – Other clerical support workers

Legend:
- New jobs
- New jobs absorbing laid-off workers
- Jobs destroyed, reallocatable
- Jobs destroyed, not reallocatable

Job change (millions): −12, −6, 0, 6, 12, 18

Reskilling measures demanded at all skill levels

Low-skilled occupations
On-the-job learning or short training and upskilling programmes will be required.

Medium-skilled occupations
Short to longer upskilling and re-skilling programmes, technical and vocational education and training courses will be required.

High-skilled occupations
University degrees, longer upskilling programmes and continuous training programmes will be required.

Low-skilled: 5, 8, -1, -15
Medium-skilled: 16, 52, -3, -44
High-skilled: 4, 18, -3, -12

■ Energy transition scenario, 2030 (jobs in millions)   ■ Circular economy scenario, 2030 (jobs in millions)

Sources: ILO, Skills for a Greener Future. Infographics (2019).

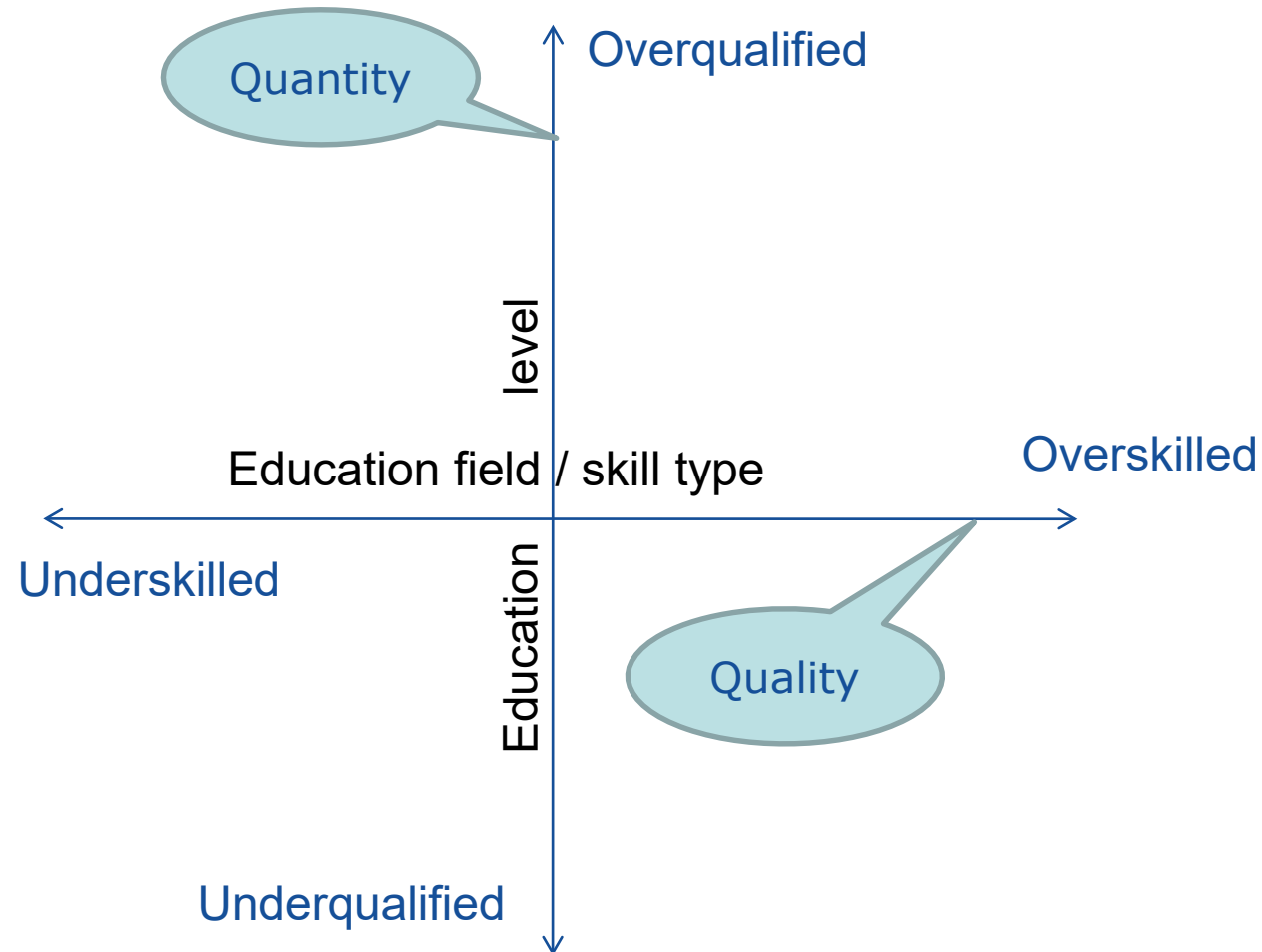# Skills anticipation and matching

CONSEQUENCES OF SKILLS MISMATCH

Poor matching between skills supply and demand has many negative consequences, for individuals companies and can also influence the country's economy and society more generally.

INDIVIDUALS

Unemployment
Need to take another job than that they are qualified for

Direct/indirect investment to achieve the qualification and develop skills not returned

Skills obsolescence
Effect on wages

Low job satisfaction
Loss of motivation
Lower productivity
Lower quality of output

Hiring difficulties

National competitiveness threaten

Need to retrain
Loss of original investment
Loss of competitiveness

International companies investments hindered

COMPANIES

COUNTRY

Low productivity
Insufficient product quality
Loss of competitiveness

Public costs of unemployment benefits
Social exclusion of families

Skills Mismatch

Mismatch
Quantitative

Surplus
too many skills e.g. unemployed, inactive, new entrants

Shortage
not enough e.g. hard to fill vacancies

May co-exist

Mismatch
Qualitative

Vertical
Qualification mismatch

Horizontal
Skill gaps and mismatch

May co-exist

Vertical and Horizontal Skills Mismatches

For example:
- **Overeducated but underskilled**

- **Undereducated but overskilled**

- **Over/undereducated and over/underskilled**

Skills mismatch in low and middle income countries (ILO, 2019) Results by region
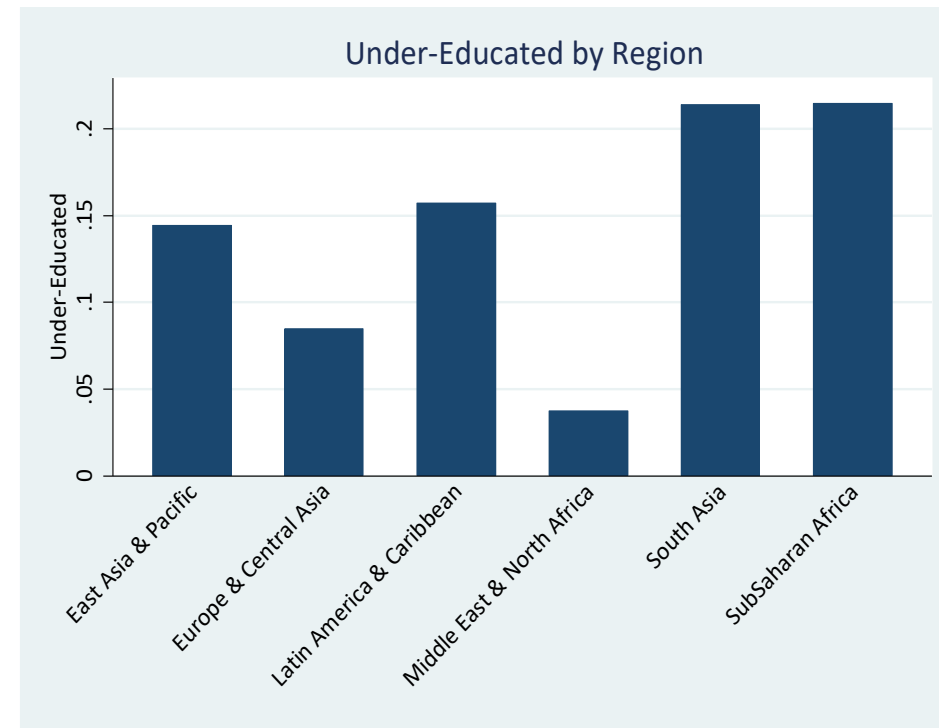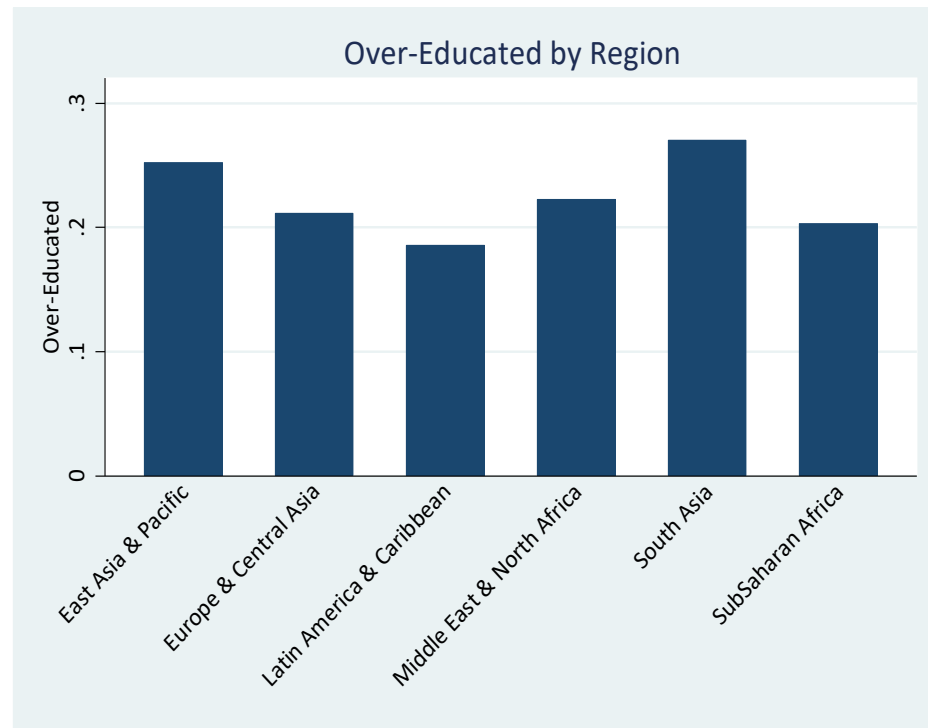
Source: ILO Global Product on Jobs and Skills Mismatch, 2017, preliminary findings.

Skills mismatch over time

➤ **Skills obsolescence**
  ❖ Skills need to be maintained
  ❖ Skills not used become obsolete

➤ **Career mismatch** – When jobs and skills mismatch does not approximate

➤ **Current and potential mismatch**

Implications for skills needs
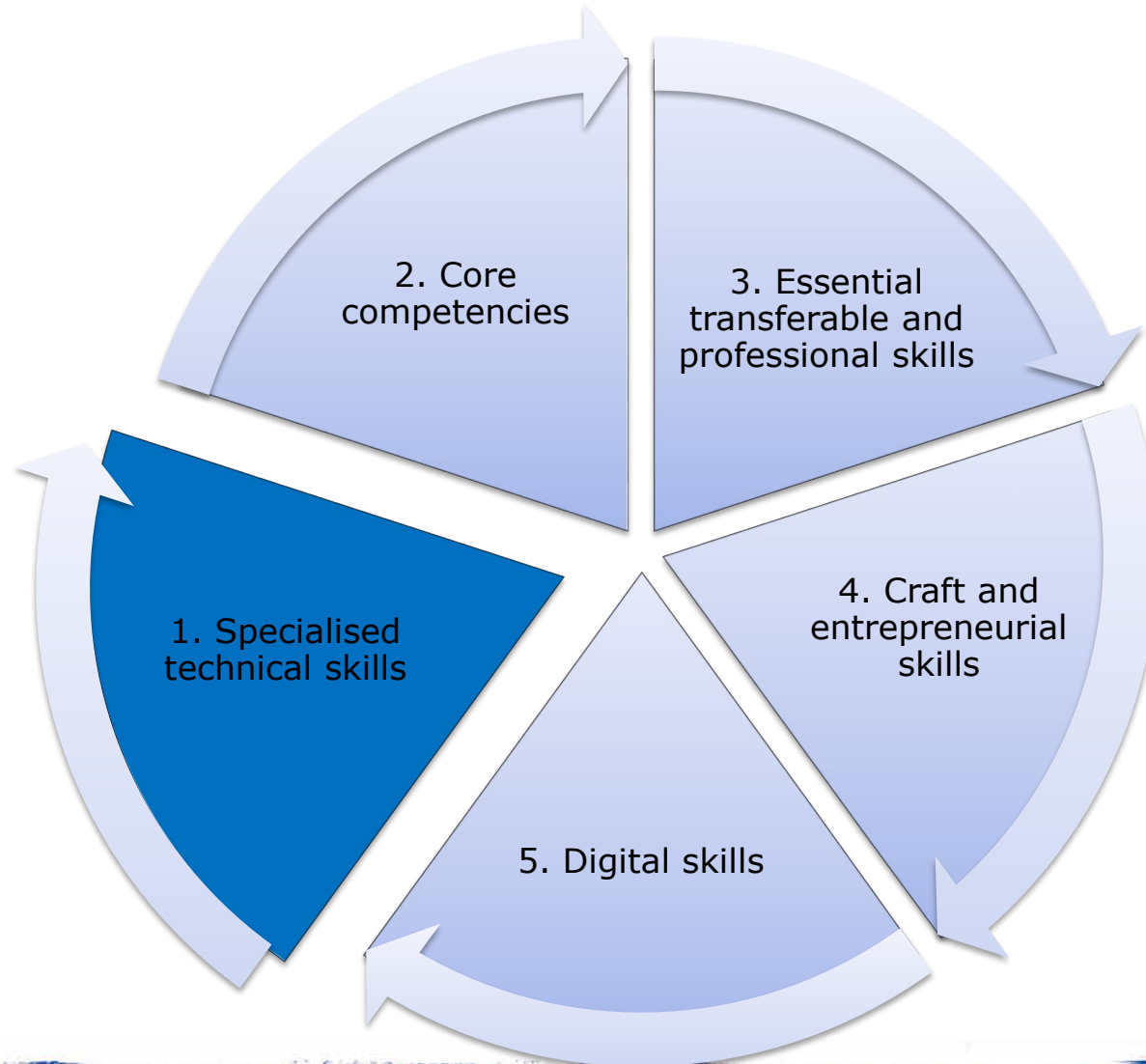
- A wide range of skills (beyond digital!)
- Core competencies
- STIAM (innovating with social responsibility)
- Technology Operation and Maintenance Skills (TVET)
- Design and systems thinking skills
- Transferable technical skills

Implications for skills needs
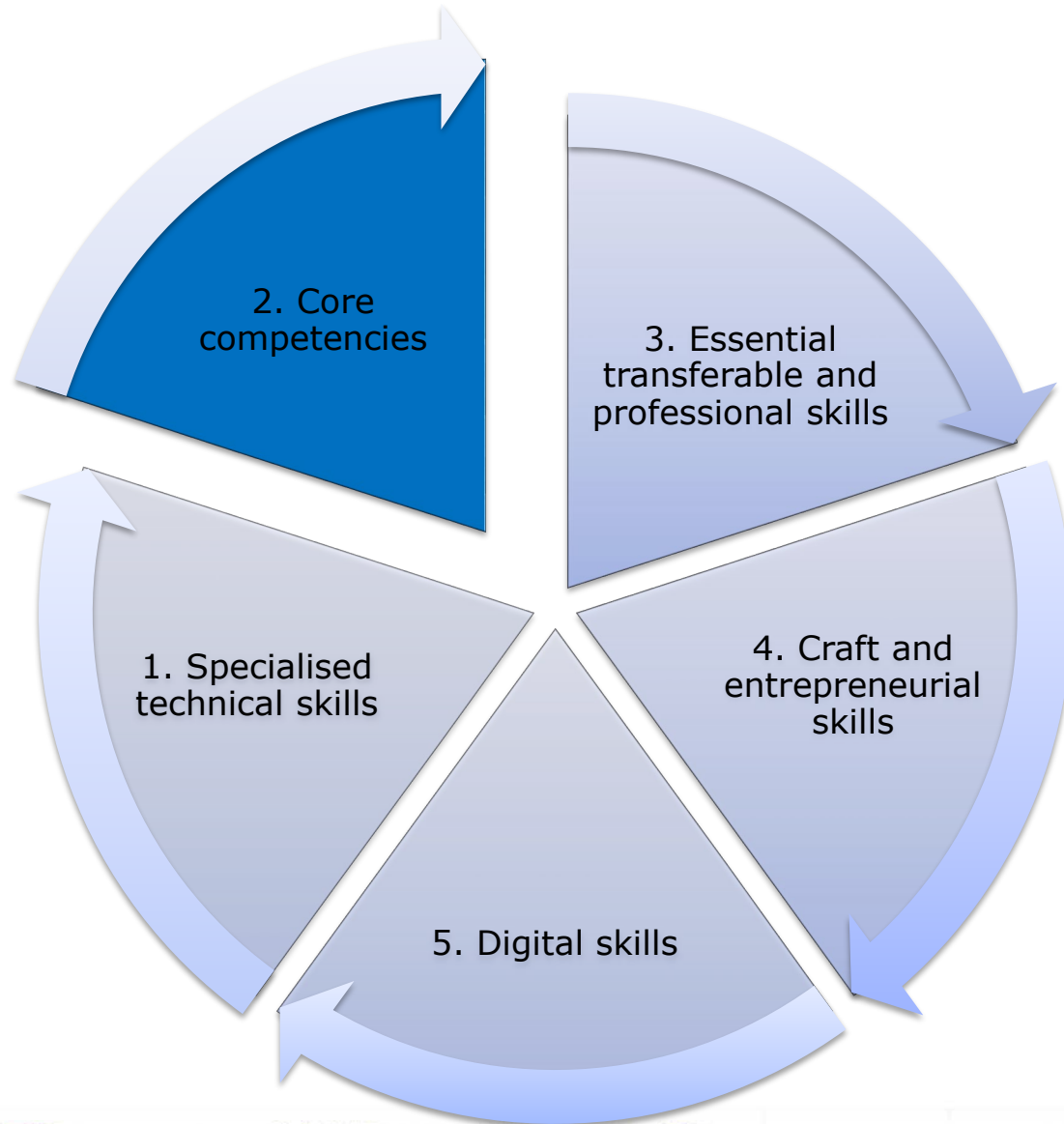
- ❑ Literacy
- ❑ Numeracy
- ❑ Digital literacy
- ❑ Research culture: important for self-directed learning
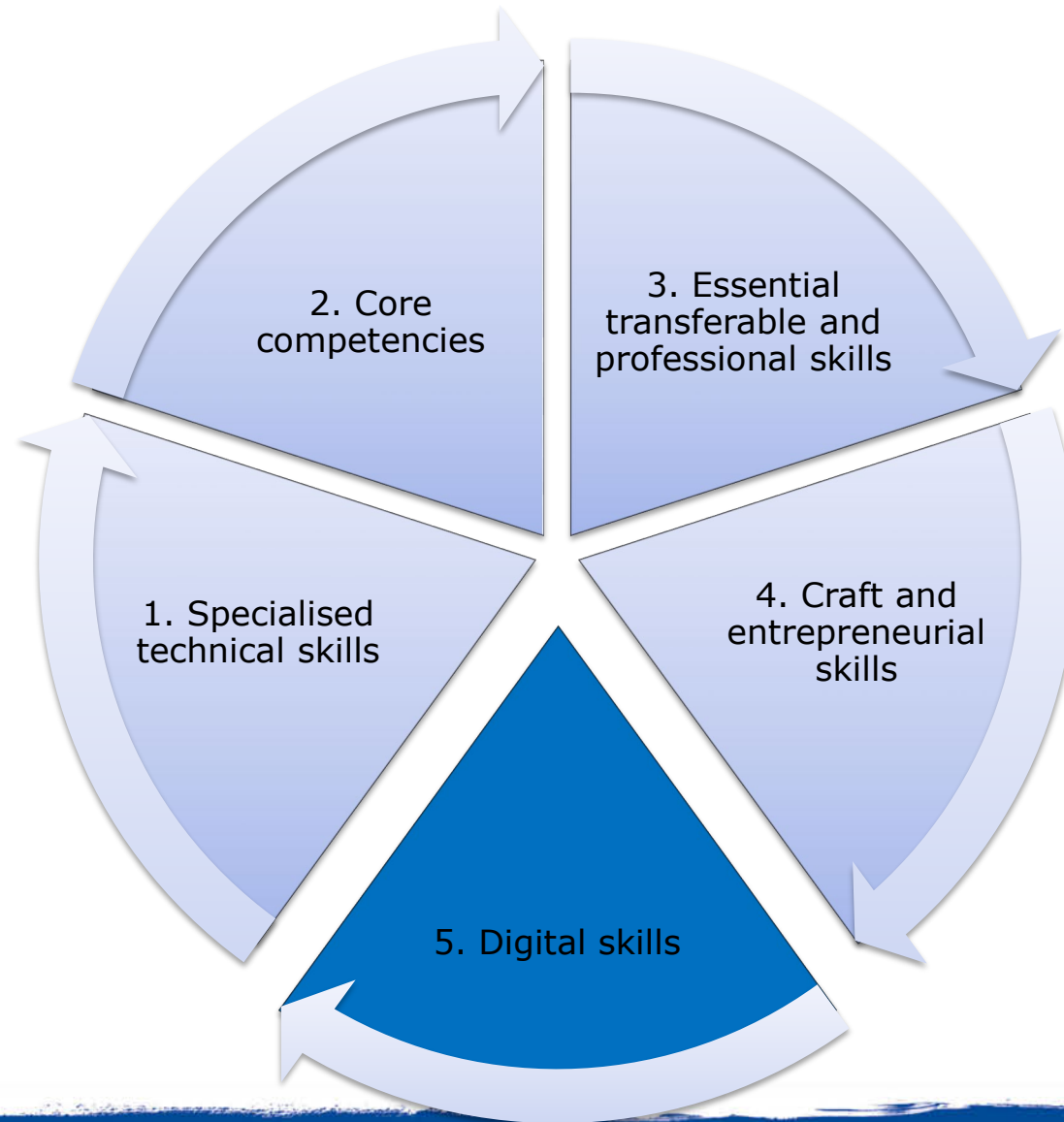- ❑ Environmental literacy

Implications for skills needs
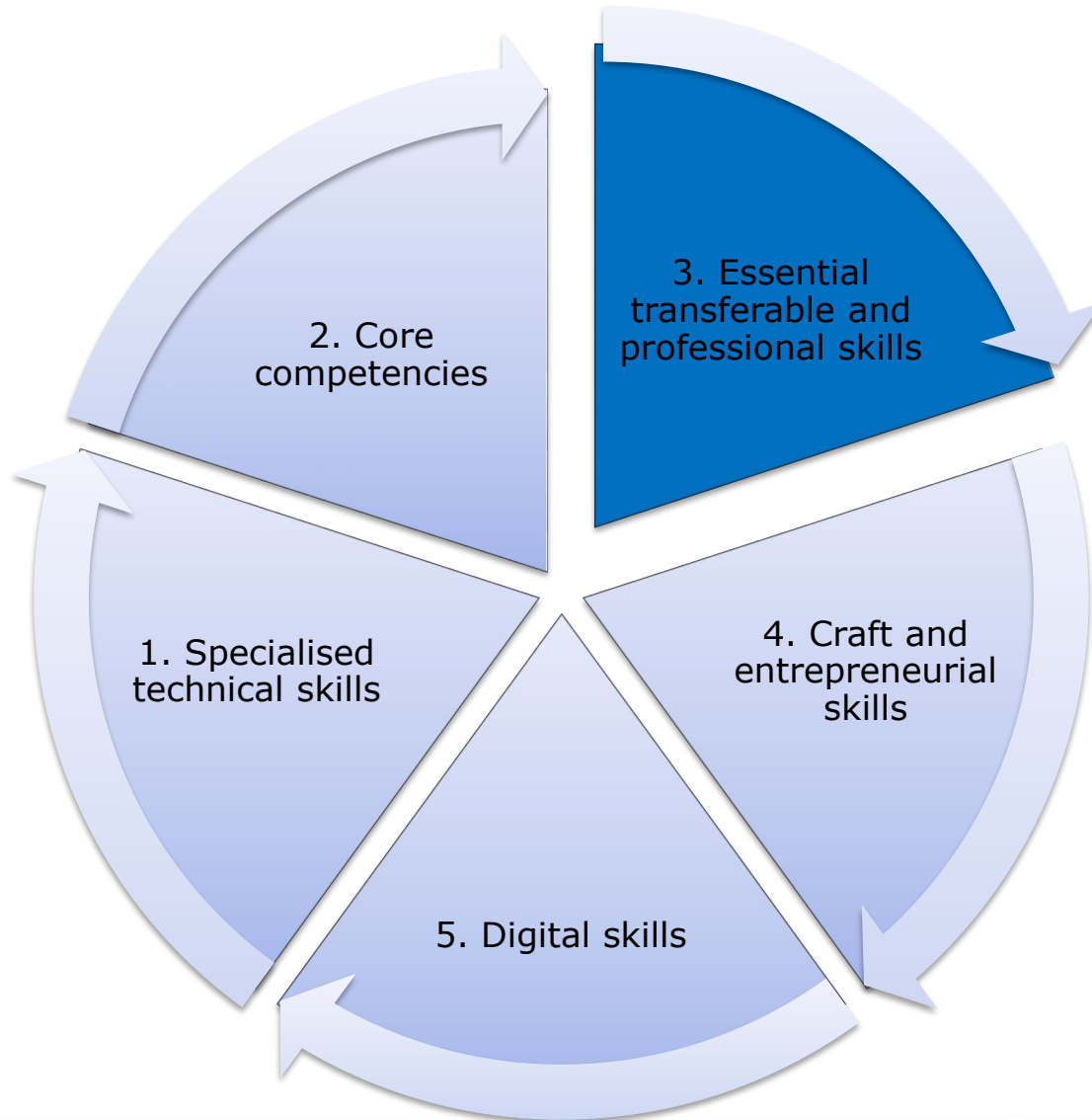
- Learning to learn
- Agility and resilience, stress resistance, persistence
- CCCC: Communication, Collaboration, Creativity & Critical thinking
- Future thinking (including own future)
- Adaptability / flexibility skills: curiosity and mindset to be open to change and innovation

Diagram labels:
- 2. Core competencies
- 3. Essential transferable and professional skills
- 1. Specialised technical skills
- 4. Craft and entrepreneurial skills
- 5. Digital skills

Implications for skills needs

Diagram (circular cycle):
- 1. Specialised technical skills
- 2. Core competencies
- 3. Essential transferable and professional skills
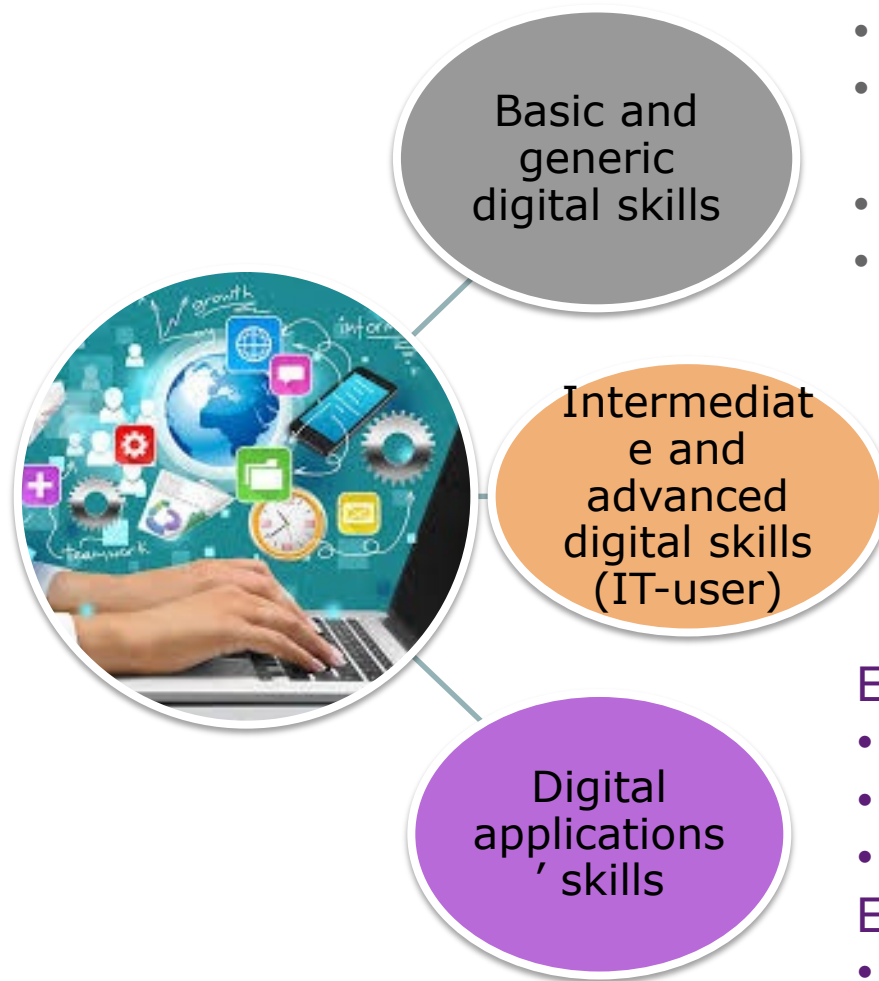- 4. Craft and entrepreneurial skills
- 5. Digital skills
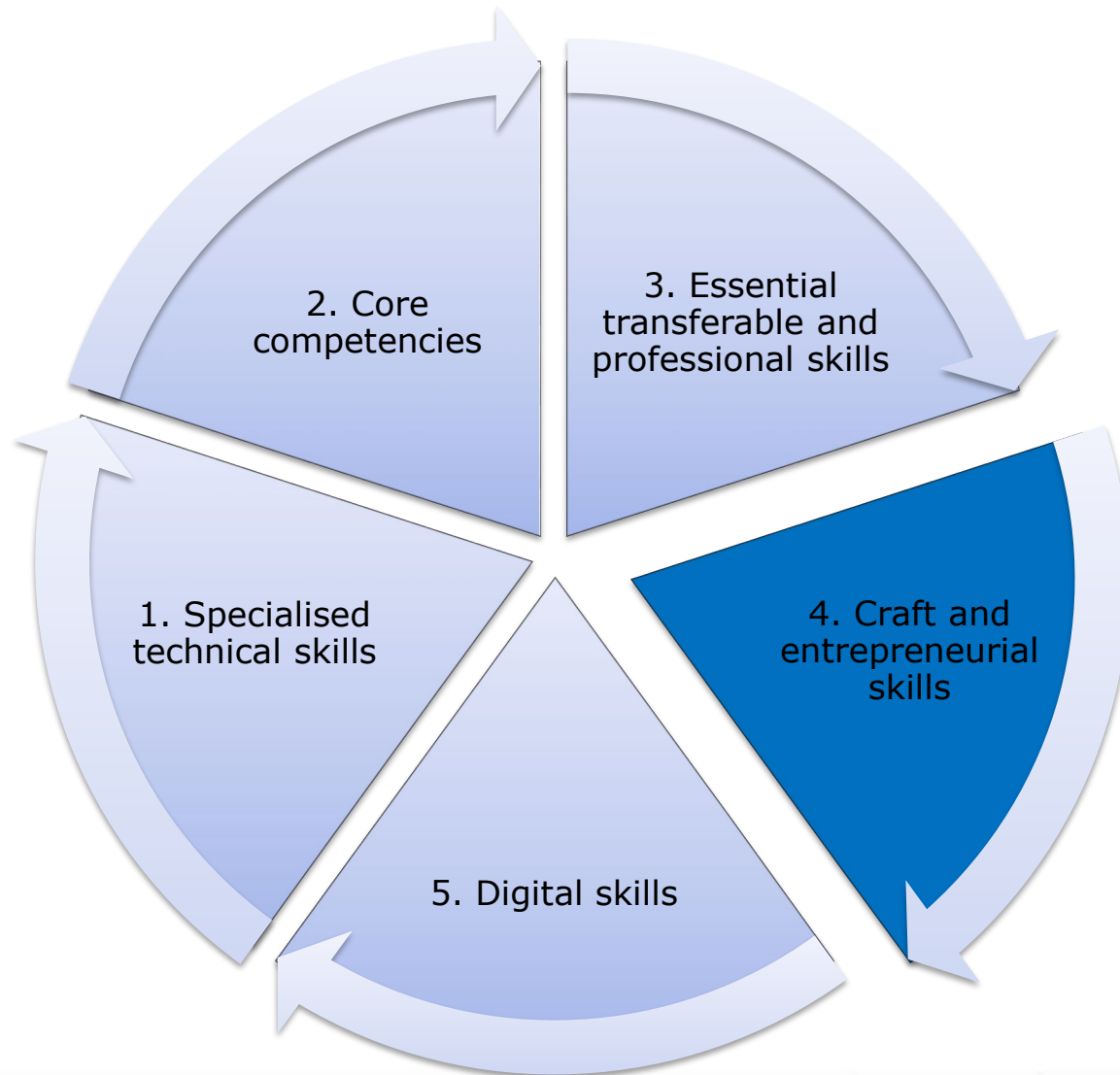
- ➢ Encouraging job creators, not just those who take jobs
- ➢ Deployment of technologies will depend on entrepreneurial and leadership talent
- ➢ Growing demand for customised craft products (alternative to competition in e.g. health, fashion, beauty)
- ➢ Customised solutions for industries
- ➢ Repair services
- ➢ New technologies for upgrading, increasing and reducing prices
- ➢ Digital entrepreneurship

Implications for skills needs

Digital Skills

Basic and generic digital skills

Intermediate and advanced digital skills (IT-user)

Digital applications' skills

Examples:
- Basic digital literacy
- Software-user skills such as Spreadsheets and World processing
- Internet browsing, Social media
- Email

Examples:
- Programming skills
- Networking support skills
- Customer Relationship skills
- Digital media and design

Examples – industry-specific:
- 4.0 (3D printing, IoT, robotics, AI)
- GRC in services
- BIM in building construction construction

Examples – intersectoral:
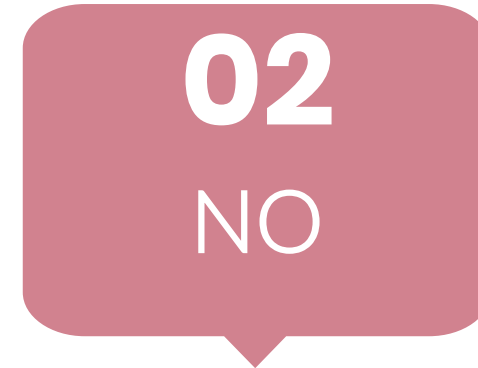- Big Data
- Cybersecurity

Is a perfect match even possible?

- **A certain level of mismatch is always present**

- **Challenge to minimise the problem and its consequences for the economy, society, enterprises and individuals (structural imbalaces)**

- **How?**
  - Inform policy / decision making
  - Inform individual decision making
  - Provide services in matching skills and jobs
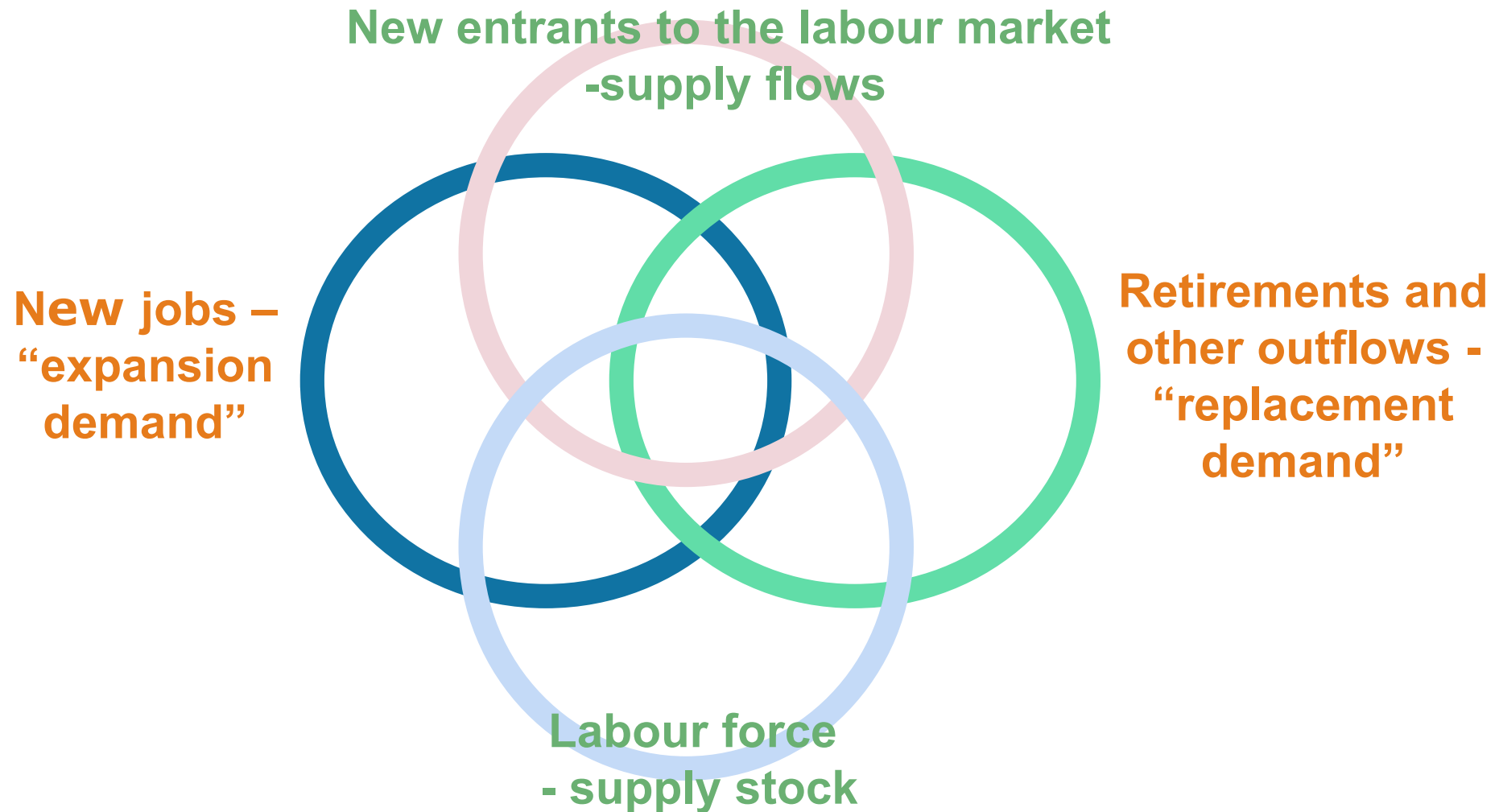 - Incentivize local development or industrial policies in close accordance with skill policies

Essentials components of skills needs anticipation

Institutions (Social Dialogue)

Analytical capacity

Methods & Tools

Data

Labour Market Information (LMI)

Skills needs assessment and anticipation

1. Skills needs = skills demand – supply

SKILLS NEEDS

01
YES

02
NO

4. Skills needs ≠ skills demand – supply

New entrants to the labour market -supply flows

New jobs – "expansion demand"

Retirements and other outflows - "replacement demand"
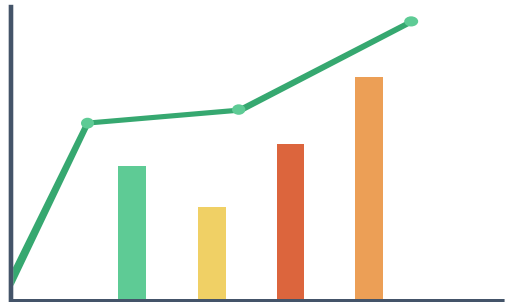
Labour force - supply stock

Implications

- No single measure of supply and demand will work to identify the mismatch!

- Flexible and multiple scenarios, assumptions and indicators

2. If one wants to know about the future, one needs to have data about the future

01
YES

02
NO
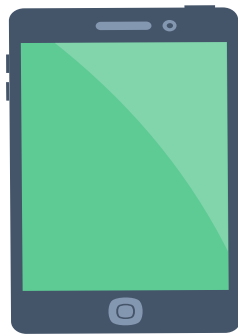
# 2. If one wants to know about the future, one needs to have data about the future

- The best way to know about the future is to know about **the past** and **the present**

- The more and the better we know about past and present, the more **robust our vision of the future** is

- **Caution with promising data** on the future

3. The market (labour market) eliminates the imbalance between supply and demand
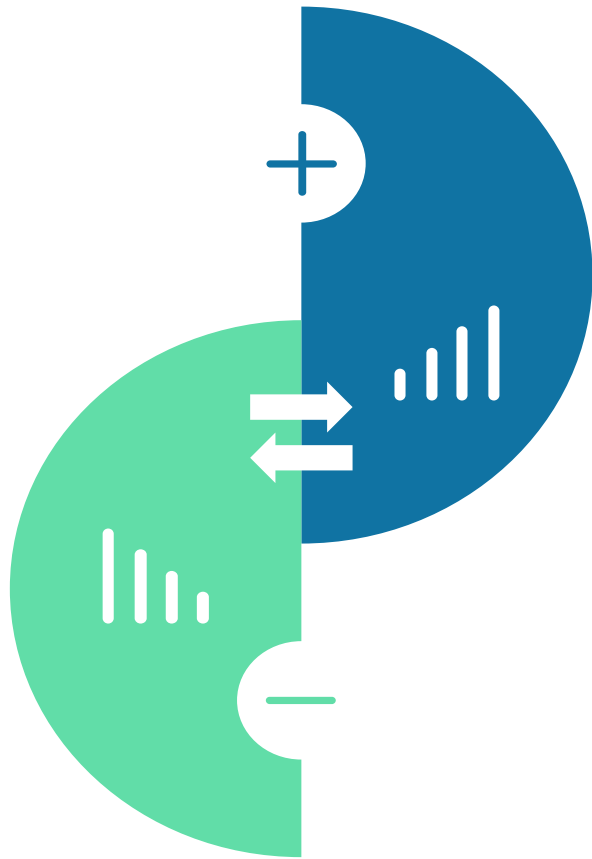
Labour market imperfections

- Public goods
- Positive externalities
- Industrial and investment policies
- Mismatch between skills supply and labour market demand
- Limited geographical mobility
- Behavioural factors: irrational decisions of labour market actors (careers, wages)
- Rigid wages
- Imperfect information on the availability of skills and jobs
- Imperfect competition (monopolistic companies)
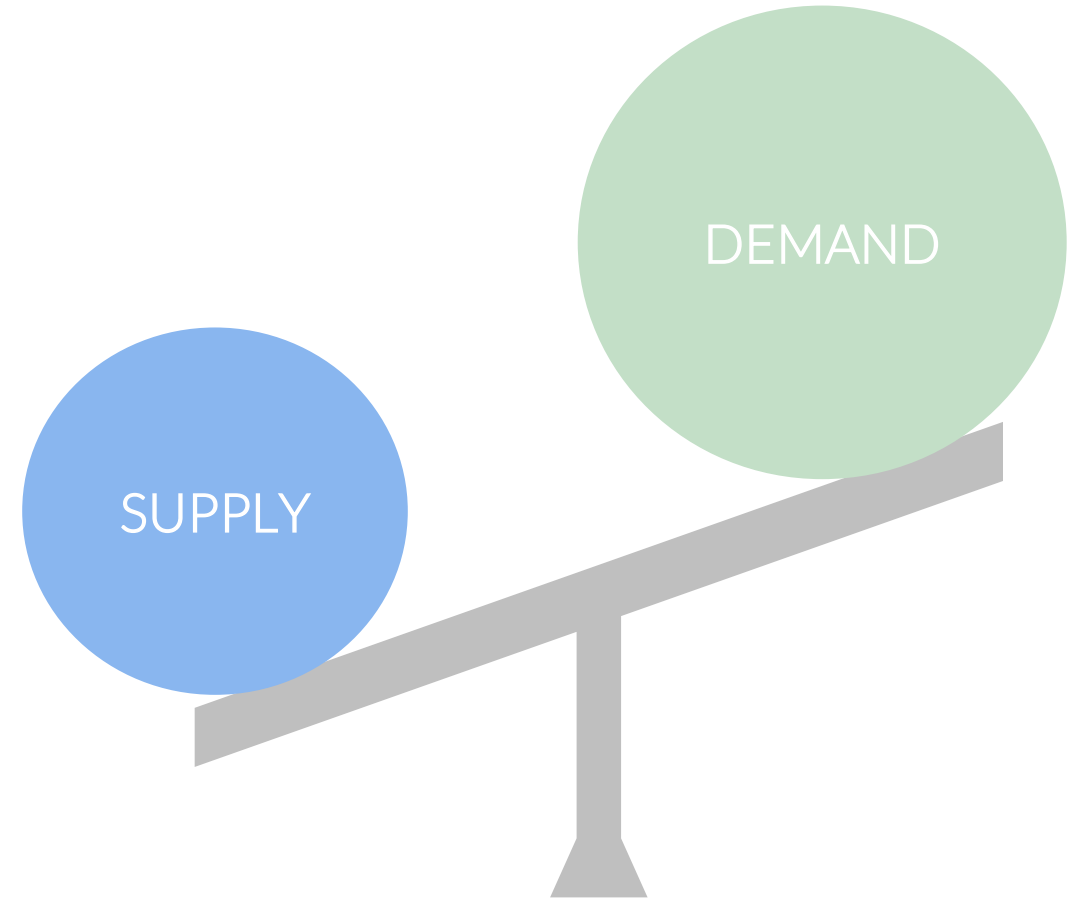
DEMAND

SUPPLY

Implications

By providing more information on future skills needs, we contribute to a well functioning market

Room for public policy and other incentives (e.g. financial, institutional) to match supply and demand

Thank you very much for your attention! ☺