



CEDEFOP

European Centre for the Development
of Vocational Training



Digital innovation: transforming jobs, supporting careers



This presentation

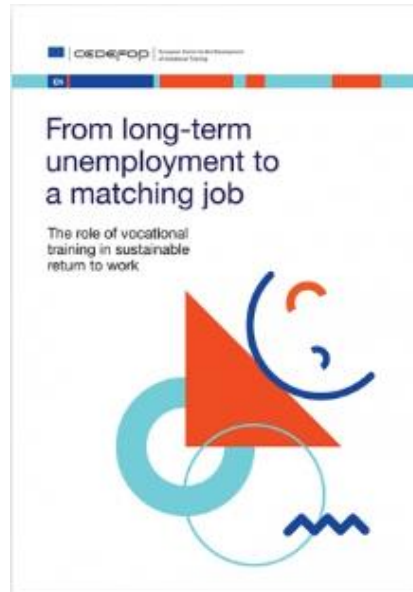
- Cedefop
- Digital innovation, jobs and skills
- Digital innovation and career support
- Conclusions



What is Cedefop?

It is a EU agency which supports development of European vocational education and training (VET) policies and contributes to their implementation

Expanded to include all skills related policies and employability



Skills forecasting

Career development support

Upskilling and labour market adjustment



Future of jobs and occupations





EU Scenario

- Moderate growth of economy
- Low employment growth
- Aging active population
- Employment creation mostly by replacement

Sluggish growth with aging population



Cyprus

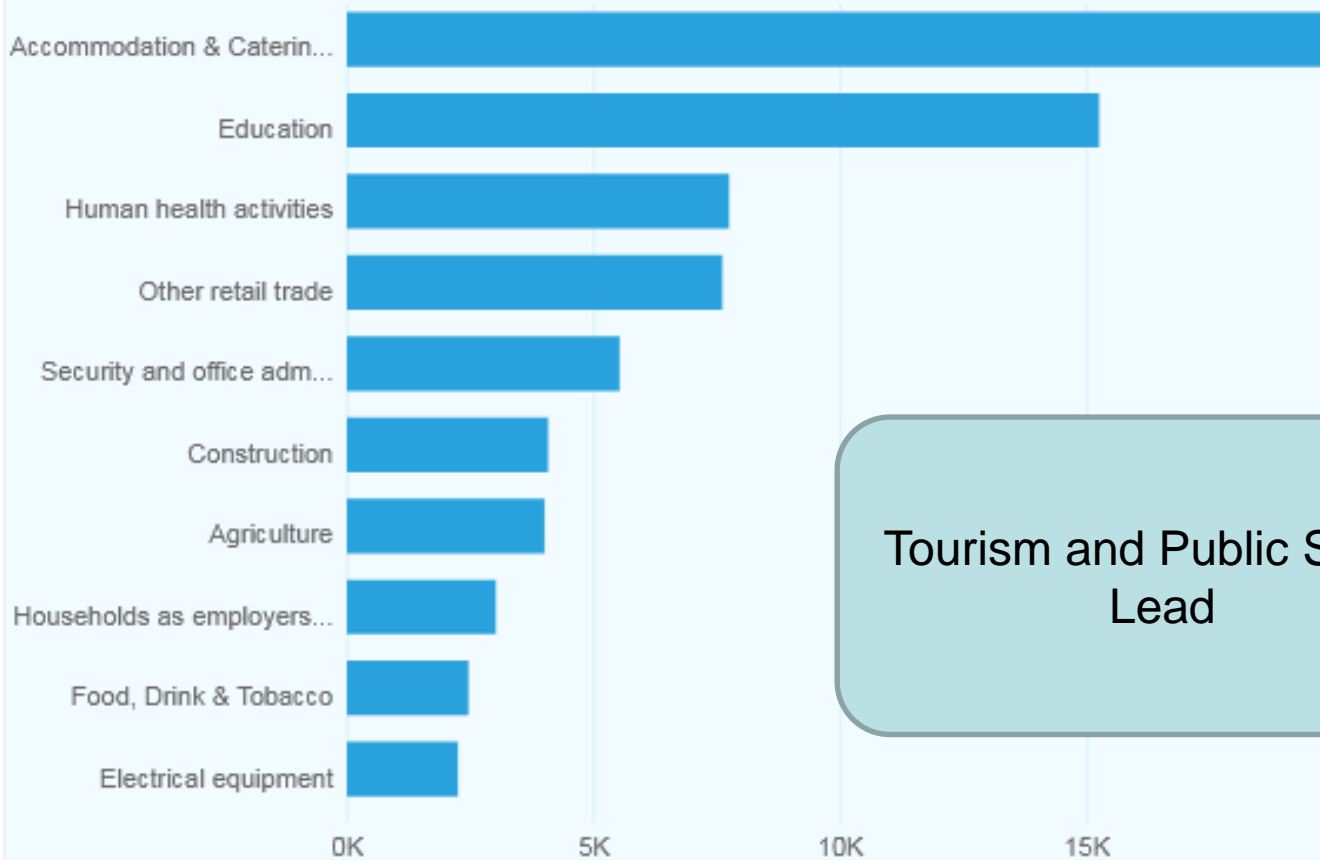
- Growth of active population up to 2030 (11.4%)
- Employment growth 3 times higher than EU in 2021-26 (9.8%)
- Manufacturing, non-marketed services, primary sector & utilities

Economic upturn after crisis



Top 10 sectors, employment change (absolute numbers)

Country: Cyprus | From year: 2018 | To year: 2030

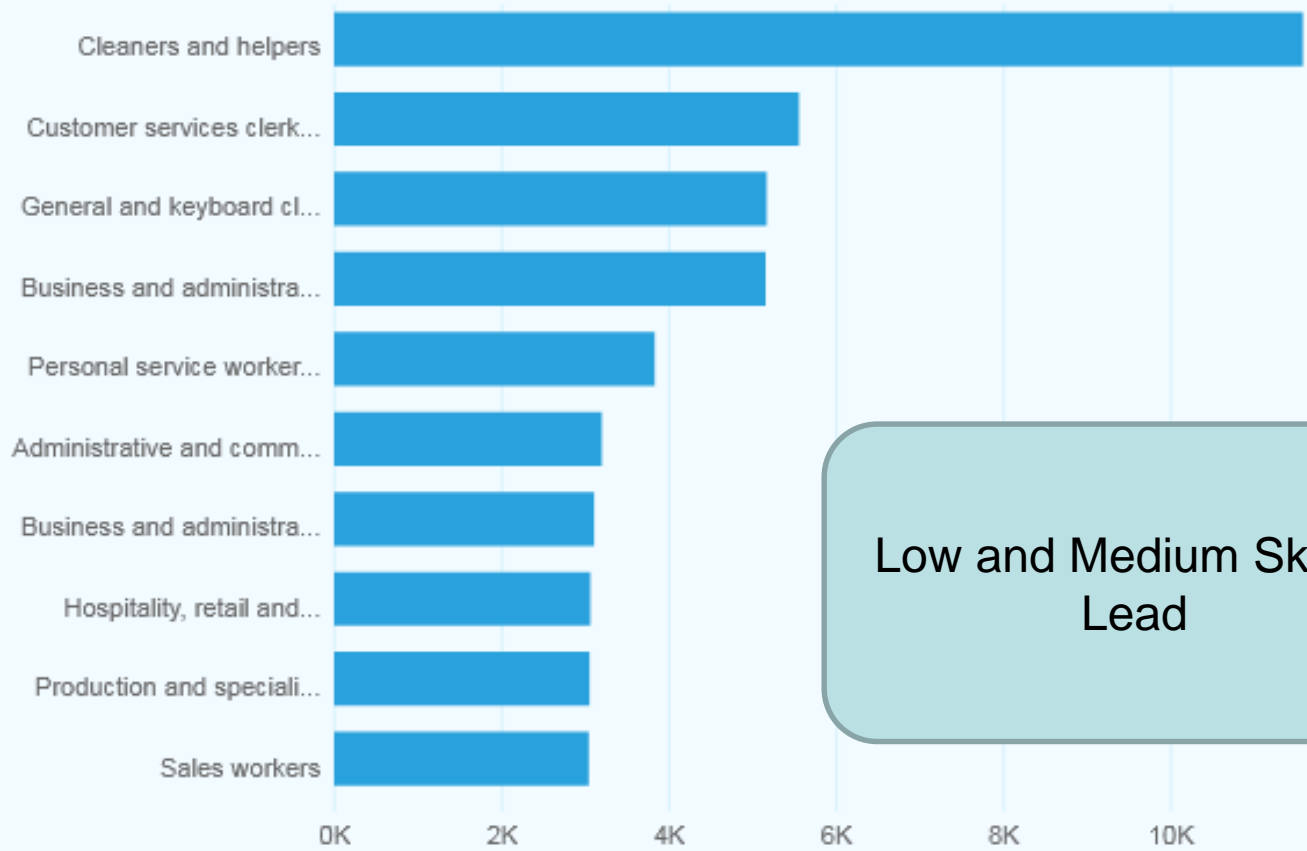


Tourism and Public Sector
Lead



Top 10 occupations, employment change (absolute numbers)

Country: Cyprus | From year: 2018 | To year: 2030



Low and Medium Skilled
Lead

But occupations **in shortage** are highly qualified

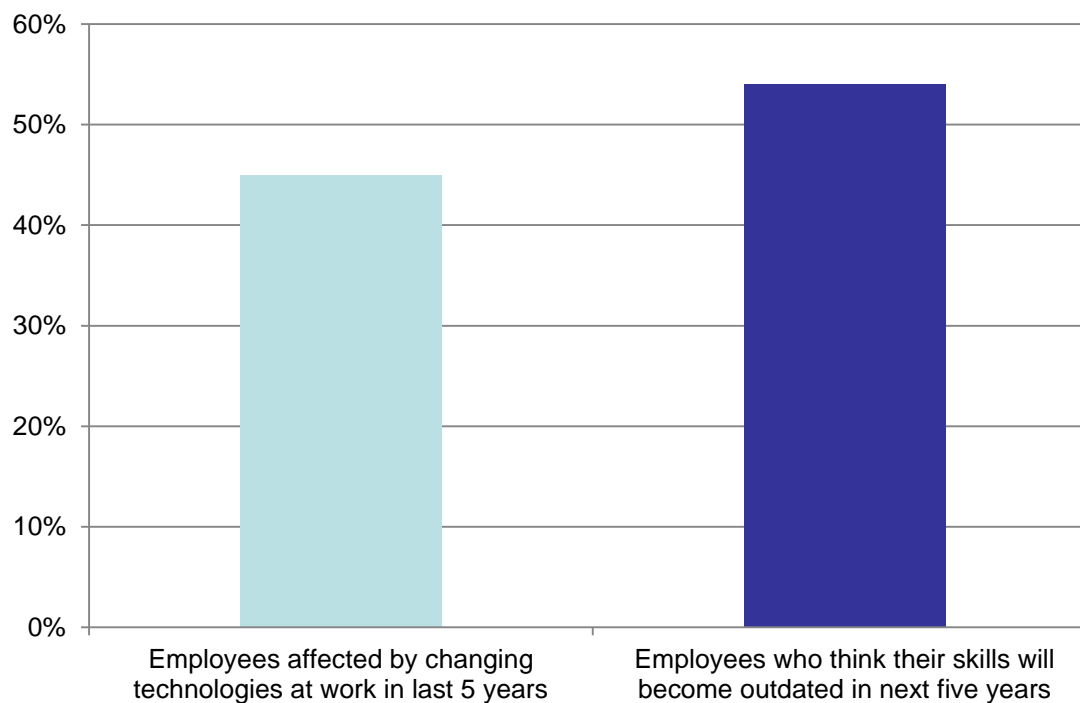
- Health professionals
- ICT professionals
- Financial professionals
- HE teachers
- Business service agents and secretaries

...and with digital technologies requirements

- Health professionals : e-health
- ICT professionals: e-tourism, e-learning, e-health, ecological technologies, e-governance...
- Financial professionals: Specialised software, communication
- HE teachers: statistics, qualitative analysis, communication
- Business service agents and secretaries: financial software, search, communication, analytical software



All are affected by the change



Source: Cedefop, European Skills and Jobs Survey

Also the low qualified

- Some job replacement – automation of routine tasks

but

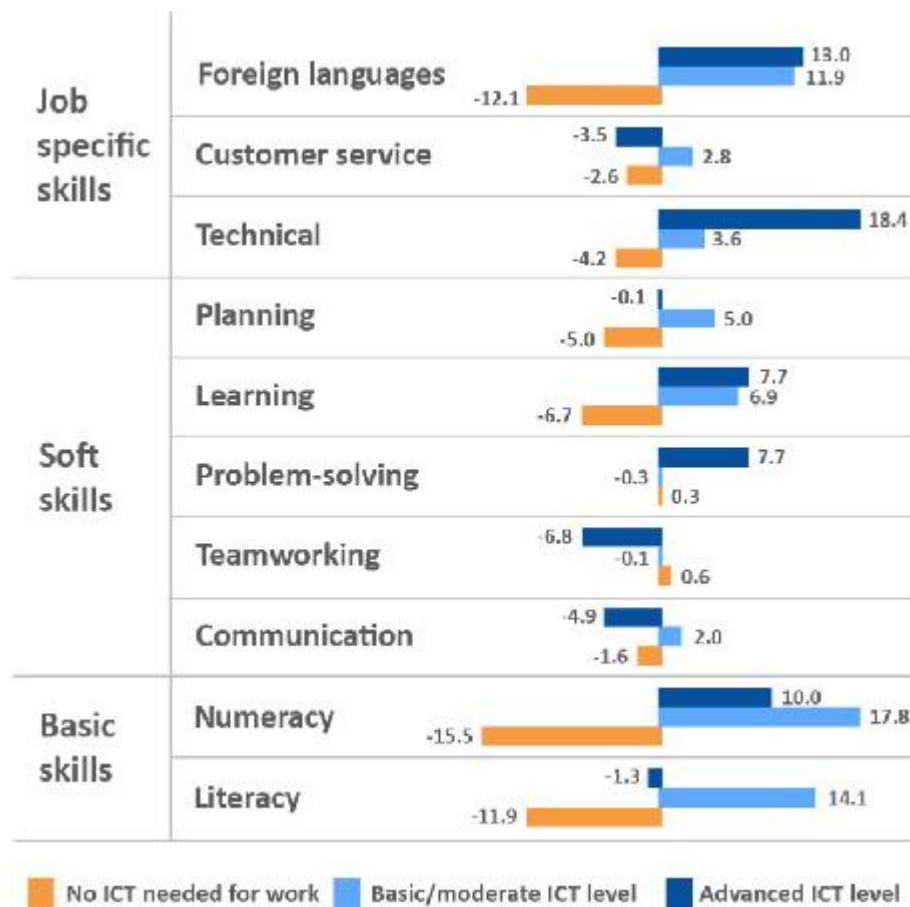
- Widening of skillset of traditionally low skilled occupations

Assemblers: digital competence for machine driving + communication, language, teamwork



Digital skills come in a bundle

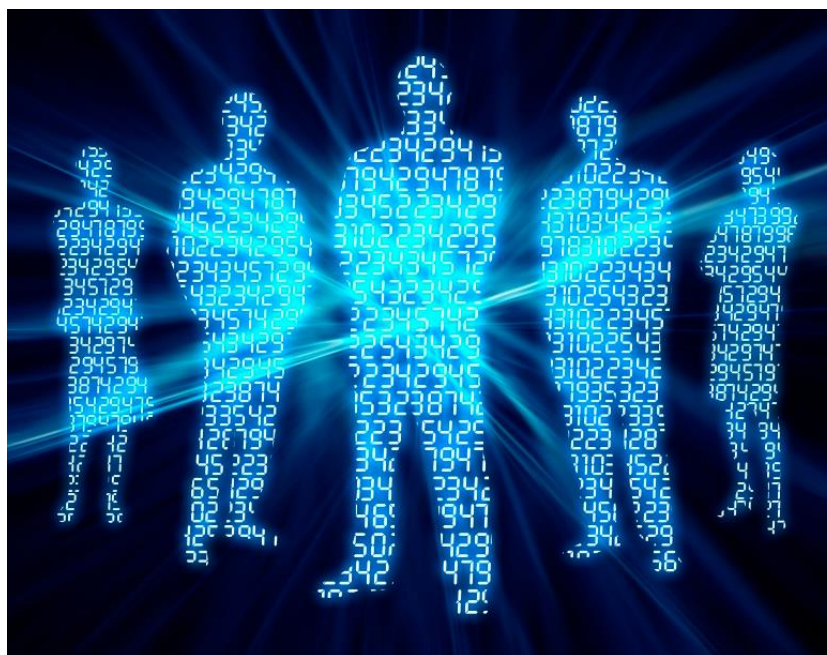
Complementarity ICT and non-ICT skills



Source: Cedefop, European Skills and Jobs Survey



Digital career support?



ICT can help

- Improve integration of at-risk and weakened groups
- Support career development of employed
- Support the work of practitioners
- Reduce labour market segmentation

Caveats



- ICT ≠ Access
- Holistic strategy for digital citizenship
- Evidence needed



Research results highlight that digital innovation...



Respects heritage

- Acknowledges complementarity of services
- Provides time for services to adapt tools and codes
- Acknowledges the existence of set expectations



Set an adequate pace + Cooperation

Reality, not “hype”

- Tools not created for their own sake
- Responds to local needs and challenges
- Embedded in methodologies and practices

User-centred

- Has response strategy based on survey of needs
- Assesses individual needs → Progressive approach
- Flexible multi-channeling

Professional careers service

- Contents managed by practitioners in cooperation
- Updated methodologies and contents
- Possibility to escalate support

Based on local capacity

- Makes use of existing LLG services
- Builds LMI and ICT competencies of practitioners
- Builds services ability to manage ICT based services
(equipment, technical support and management)

Solutions, not endless trouble

- Uncomplicated, user-friendly for practitioners
- Consistently supported and updated
- Assure embeddedness with activities
- Actually make some tools for practitioners!

National coordination, local action

- Align local with national targets
- Coordinate resources and harmonise QA nationally
- Cooperate locally
 - Local needs (challenges, information)
 - Practitioner development and activity
 - Stakeholder engagement

Engage everyone (1)

- Acknowledge silos and work to bridge them (portfolios)
- Generate common agreement
 - Needs addressed
 - Delivery modes
 - Outputs

Engage everyone (2)

- Employer participation in LMI and programme setting
- Practitioners help develop career information, tools and promote
- User participation in tool improvement

Career learning in context

- Careers education
- HR staff development
- Embedded in outreach strategies
(identifying, contacting, re-engaging, adapting learning)

Technical tips

- Mixed expertise teams
- Open source software
- LMI in a single access point

How to support change?

- Build an appropriate knowledge base
- Promote peer exchange
- Support transfer and adaptation





Caveat: Artificial intelligence



- Data mining: Improved LMI?



- Artificial Intelligence: Tailored solutions, career education?



- Machine learning: Adaptability to personal patterns and career management types (policy design)?

Data Mining – high potential for LMI

- Mainly vacancy analysis on internet and PES – Where are the jobs?

but

- High volume, low quality content (coverage, records), variability
- Anti-robot measures, copyright and privacy issues

AI and Machine Learning

- User information, preferences and assessment results
 - tailored responses
- Career oriented sampling, gaming and edutainment
- Creative solutions based on user patterns

But

- Variables and algorithms potentially skew responses
- Does not compensate for poor policy/tool design
- Depends on data accessibility (data mining)
- Data needs to be categorised and labelled
- Potential bias in data (e.g. social media based data)
- Low AI algorithm generalisation

Conclusions

- Professions in shortage in CY with digital skills needs
- Digital change affects both high and low skilled jobs
- Importance of complementarity of competences

Conclusions

- ICT can support careers if user centred, with innovation strategy and appropriate engagement
- AI displays high potential but requires investment
“All hat and no cattle”



Thank you for your time!





Iniciativas europeas

