



CEDEFOP

European Centre for the Development
of Vocational Training



The future of skills What does data tell us?

Sectoral skills for the future- Blueprint in the spotlight

DG EMPL

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European Centre for the Development
of Vocational Training



Cedefop

Helping develop the right policies to provide the right skills

- decentralised EU agency
- supports development of European vocational education and training (VET) policies and contributes to their implementation
- <http://www.cedefop.europa.eu/>





Identifying skill needs and trends

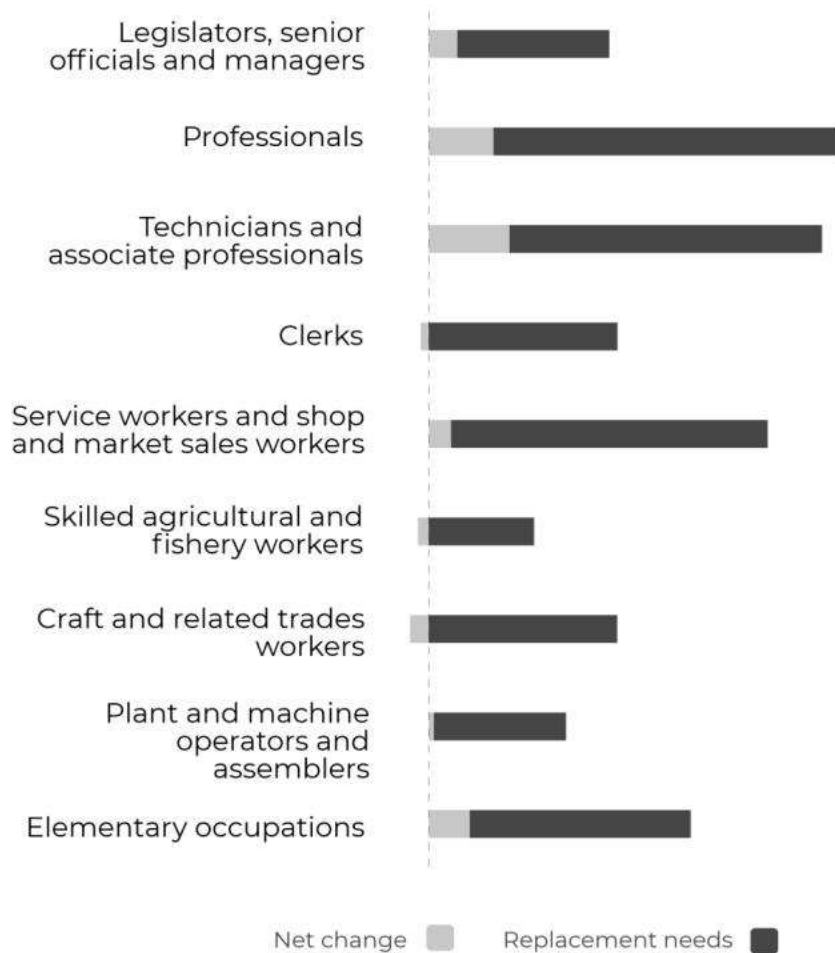
- Exploring trends, policy challenges and suitable responses:
 - [Cedefop skill forecast on demand and supply](#)
 - [Skills Panorama](#)
 - [Digitalisation and the future of the work](#)
 - [Assisting EU countries in skill mismatch](#)
 - [Big data analysis from online vacancies](#)
 - [European Skills and Jobs Survey](#)
 - [European Company Survey](#)
 - **Methodological guide on anticipating skill needs using automated techniques and skills / technology foresight** (forthcoming)

Four trends and challenges on the future of work (2016-30)

- 1. Future labour market participation rates** across all demographic groups are expected to fall
 - ageing workforce
- 2. Increased employment in high value added sectors**
 - optical and electronic equipment
 - skill shortages/recruiting difficulties?
- 3. Job polarisation** is expected to grow further
 - **4 out of 5 new jobs** in high-skilled occupations
 - technological advances mostly affect routine occupations
 - services sector: non-standard work, new forms of employment: precarious work? training offer?
- 4. Highly skilled workforce:**
 - about 36.5% of total employment to have high qualifications by 2030
 - rising skill needs at lower levels => mid-level occupations even more demanding

Net change and replacement needs by occupation

EU, 2016-30



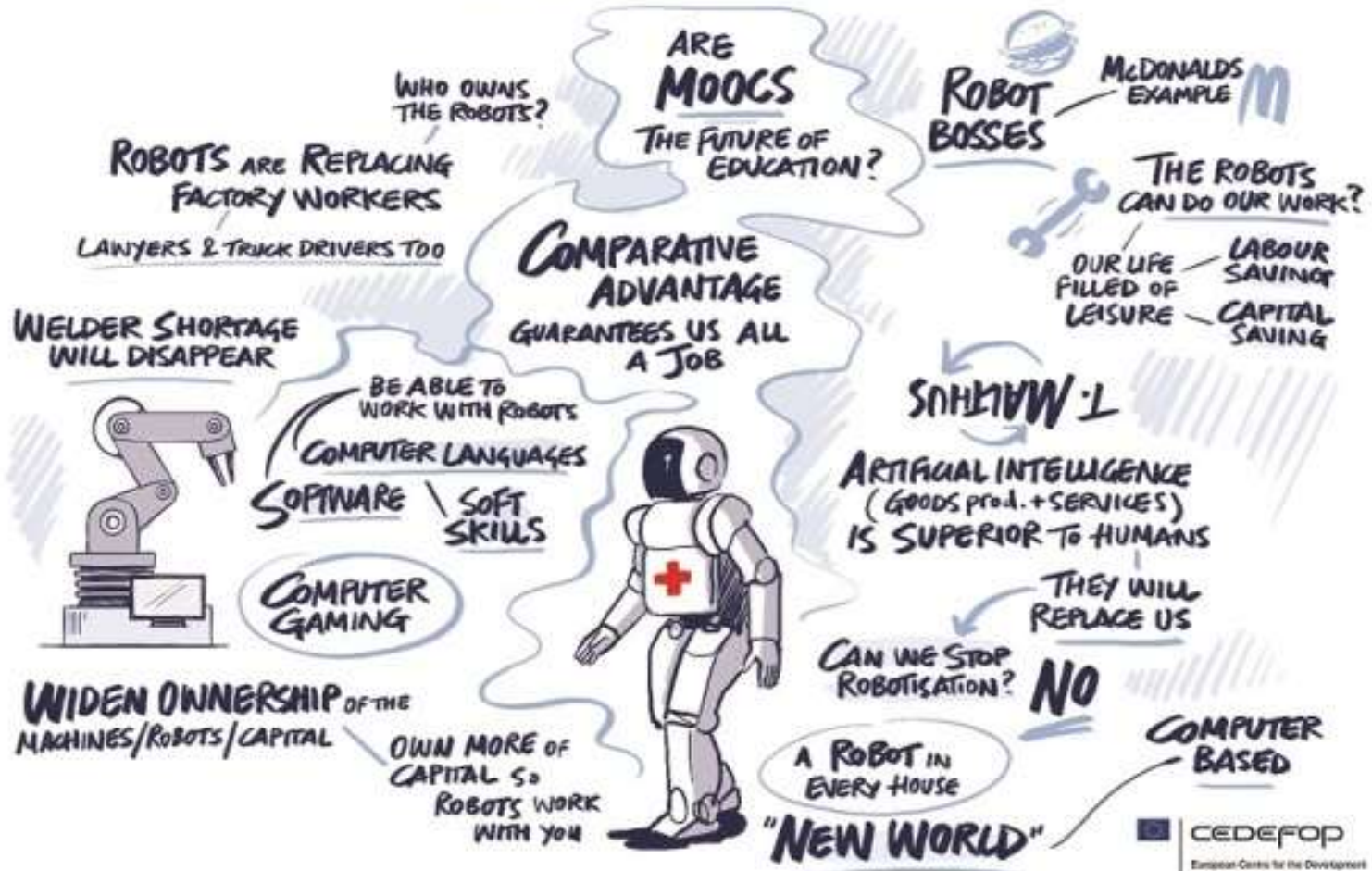


The automotive challenge





Robots and the future of work: is technology destroying jobs and skills?

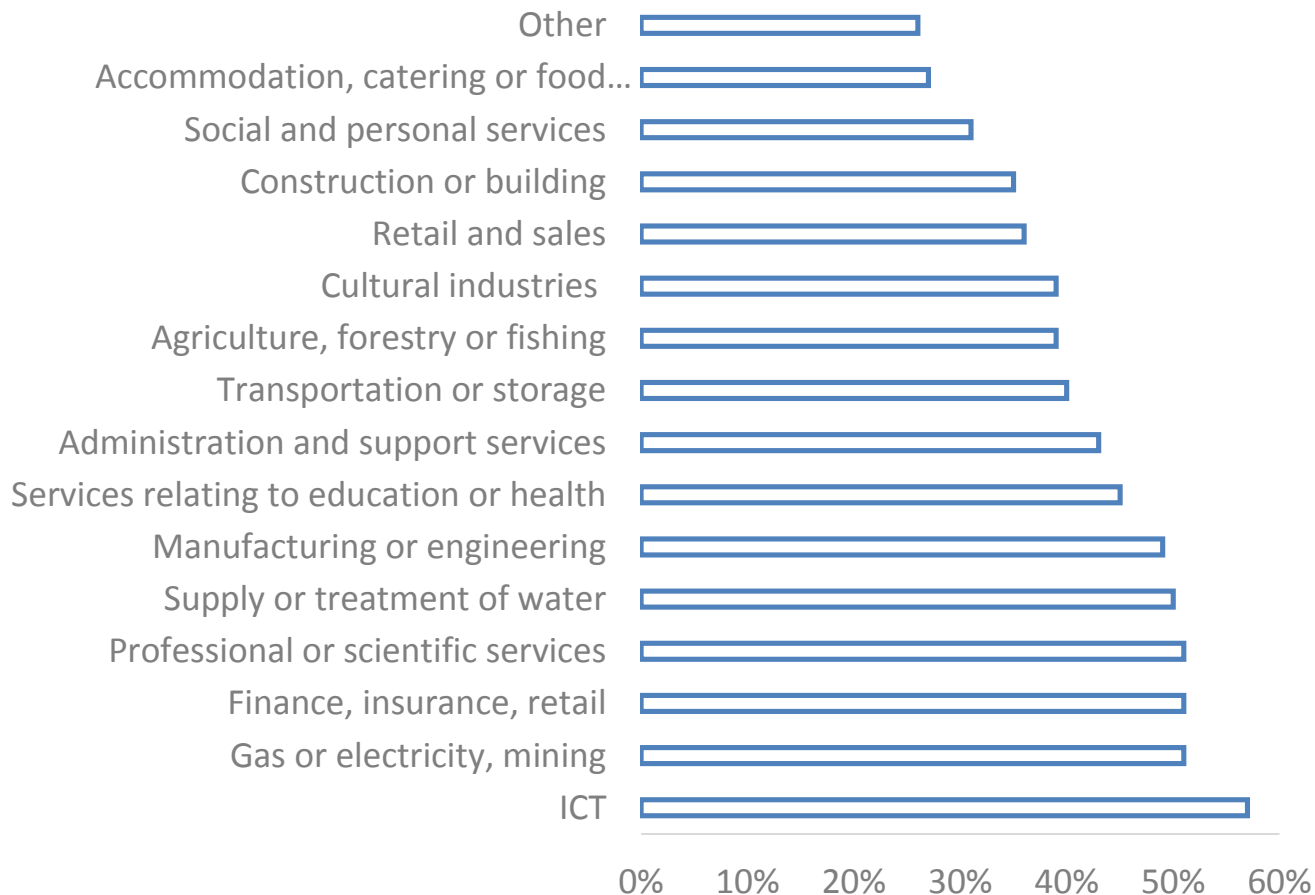


Technological change is affecting EU workers

Extent of changing technologies (machines, ICT systems) by sector, 2014, EU28

❖ 43% (47%) of EU adult workers experienced recent changes in the technologies (methods) used in their workplace.

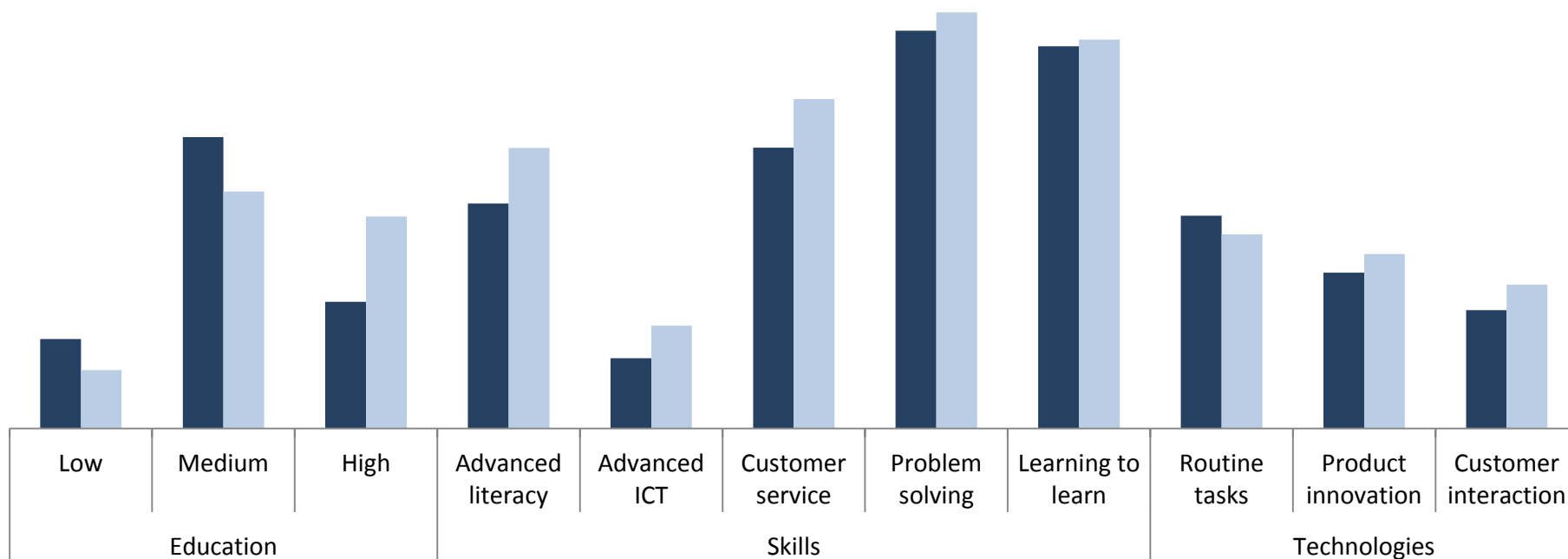
❖ From 3 in 5 in ICT to only 1 in 4 in hospitality and personal services.



Future jobs in need of 21st century skills

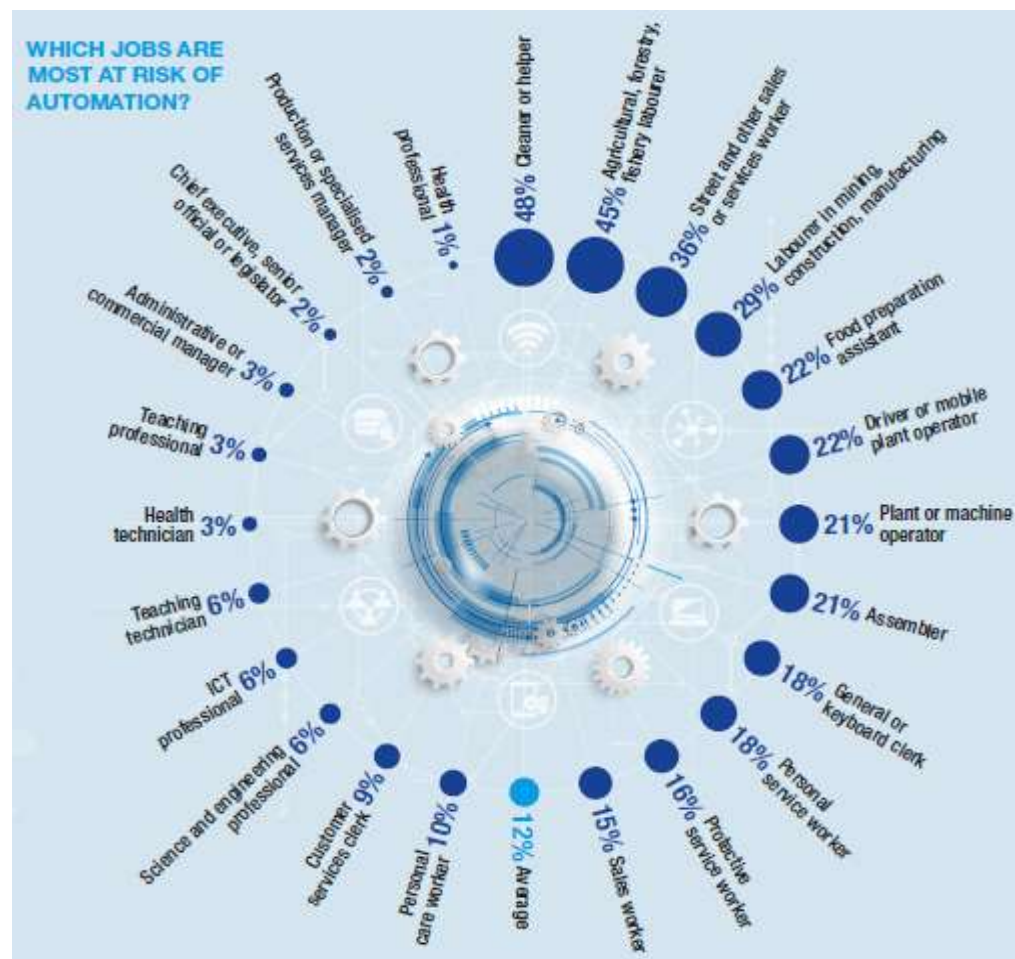
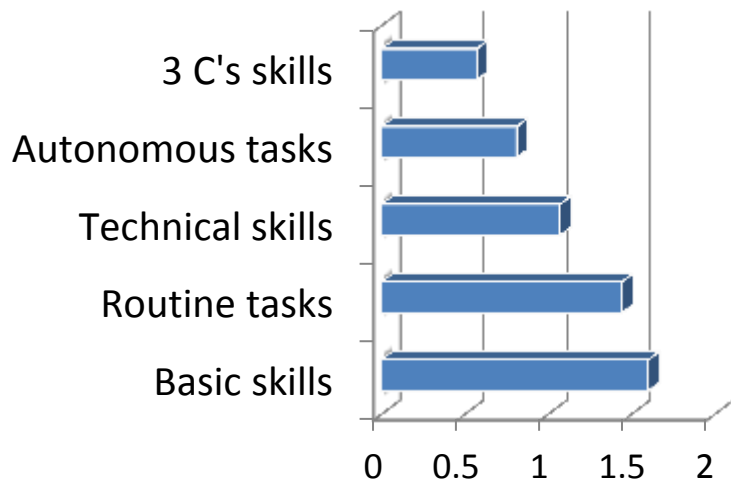
Difference between «jobs» with positive vs. negative anticipated employment growth rate, 2014-25, EU28

■ Jobs with declining projected employment ■ Jobs with rising projected employment



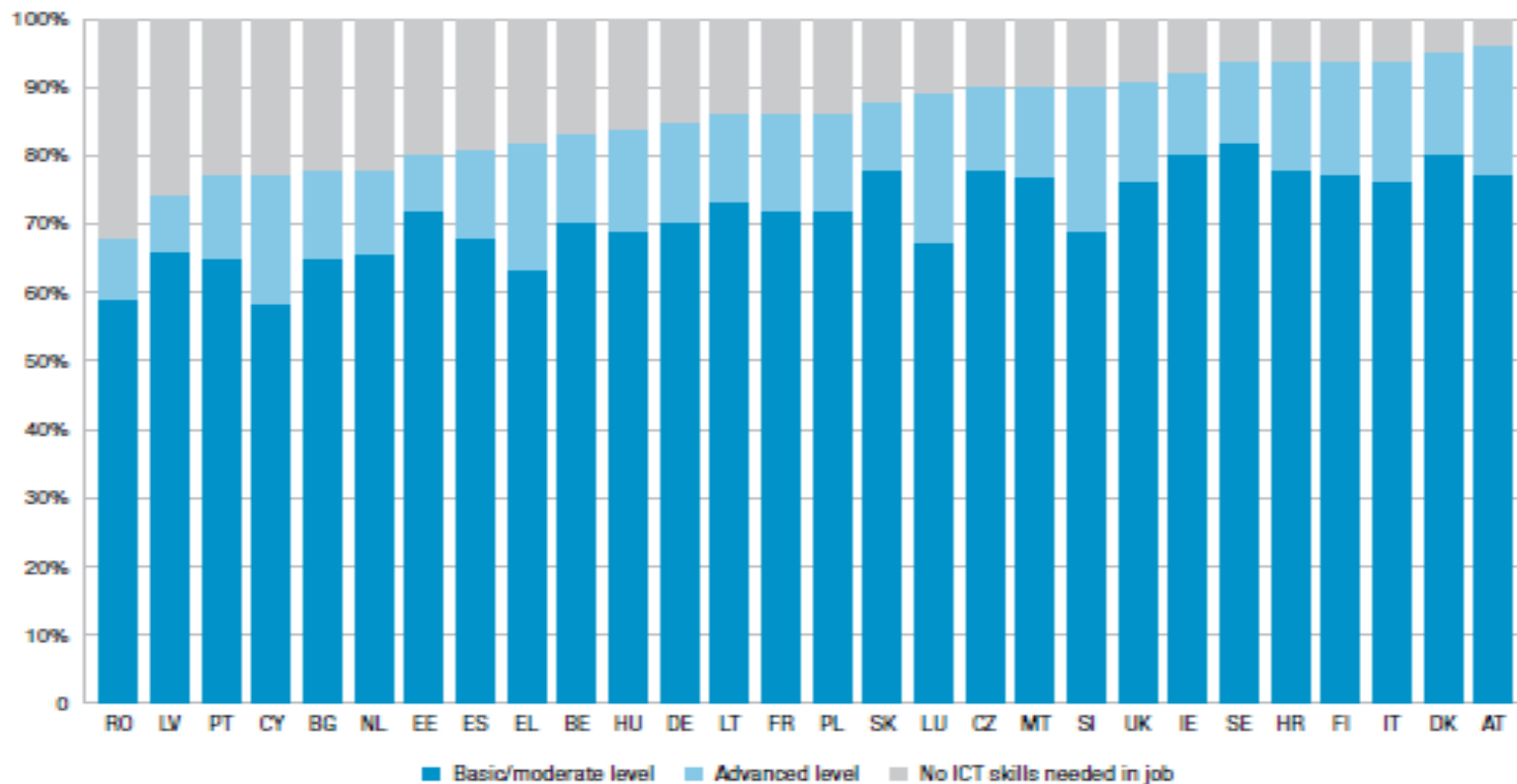


Automatability risk by skill needs in job



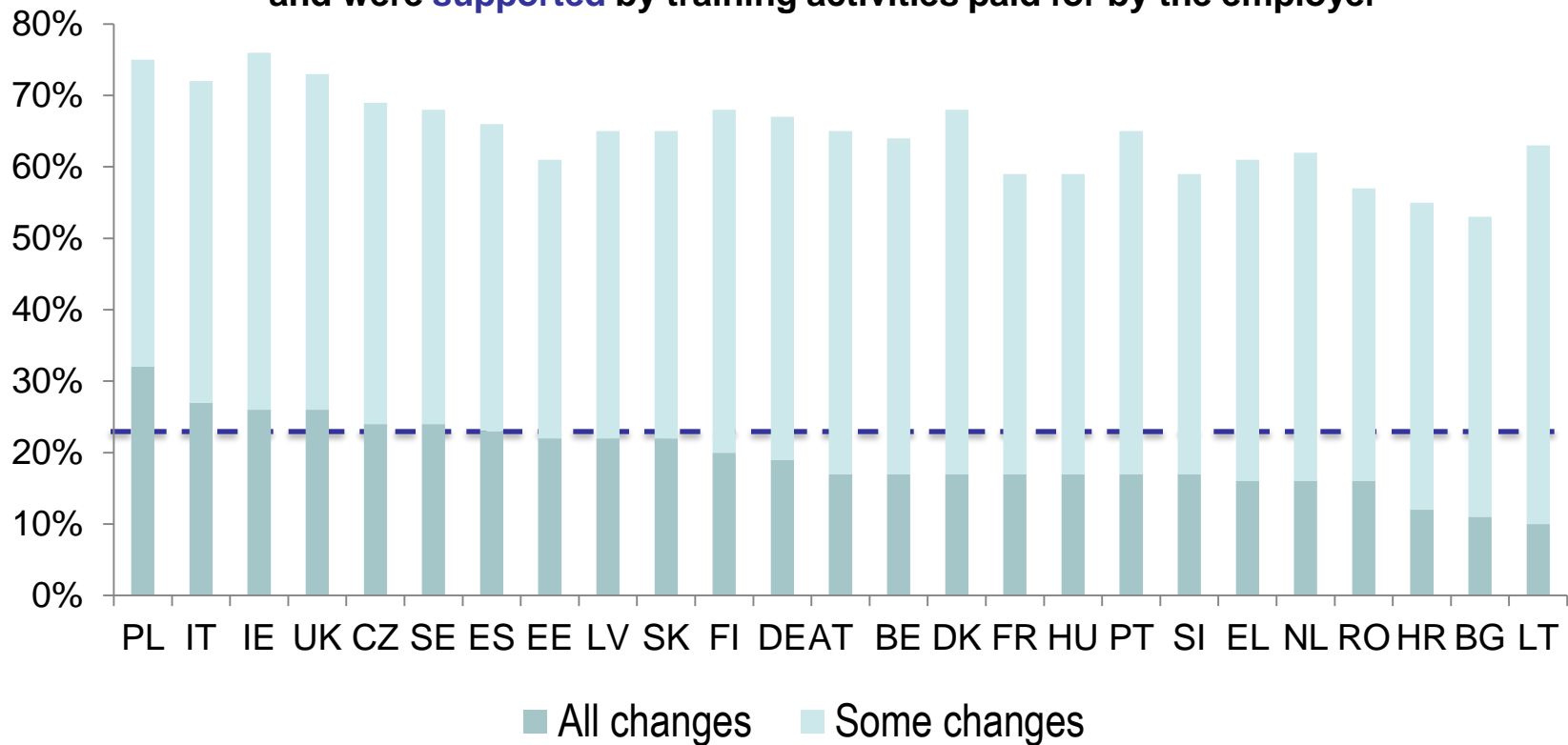
7 in 10 EU workers need fundamental digital skills for their jobs

Level of importance of ICT skills in jobs, adult workers, 2014, EU28



More supportive CVET needed

% adult workers who experienced changes (e.g. in technologies used) in workplace and were supported by training activities paid for by the employer



Training the 'homo adaptus': opportunities and challenges

- ▶ 'Individualisation'
- ▶ Massive, online, open
- ▶ Non-credentialism
- ▶ Real-time feedback
- ▶ Self-directed learning
- ▶ Experiential
- ▶ New learning platforms

but also

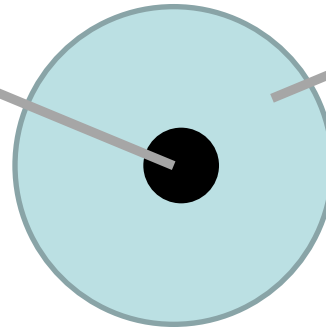
- ▶ **Biases**
- ▶ **Inequality**
- ▶ **Quality assurance**
- ▶ **Responsiveness of formal qualifications**
- ▶ **'Personalisation'**
(learning & career guidance)
- ▶ **Governance**



Skills anticipation and matching

labour market and skills intelligence

collecting and analysing data and information on current and future labour market trends and skill needs



skills governance

The system of institutions, operational processes and dissemination channels aimed at facilitating stakeholder interaction and policy responses based on labour market information signals

- **‘Traditional’ methods:** econometric skills forecasting, employer and employee surveys
 - valuable but not sufficient
 - periodicity doesn’t allow for up-to-date information
- **Skills foresight built on stakeholder consensus** more comprehensive overview



Cedefop's skills governance framework

culture

history

	Organisation	Resources	Stakeholders	Use of information
Foundations	A Legal and institutional framework	D Funding and human resources	G Cooperation arrangements	J Feedback mechanisms
Processes	B Management and control	E Data, methods and expertise	H Feedback and validation	K Customisation and dissemination
Sustainability	C Vision and strategy	F Stability	I Integration of stakeholder needs	L Reputation

economy

demography



Labour market and skills intelligence

- Quantitative and qualitative data and information on skills and labour market
 - meaningfully synthesised and analysed to support decisions
- Relevant, reliable, updated, accessible
- Skills assessment and anticipation: support decision making

Navigating the Skills Panorama

Dashboards: country, occupation, sector, indicators

Analytical highlights : up-to-date succinct analysis about a (group of) skill(s), occupations, countries, sectors

Resources : quick access to documents, websites, glossaries

Blog: analysis from skills experts

News and Events : most recent news/developments

Including sectoral evidence: practical framework





The *revamped* Skills Panorama

- [Task analysis for occupations](#) (Eurofound);
- Enhanced search and matching of occupations to ESCO classification;
- Redesigned dashboards of occupations, sectors and countries:
 - richer and visually more attractive information
- New set of indicators, such as:
 - [Employment growth in high-tech economy](#) and [high-tech occupations](#);
 - wages and unemployment levels for occupations
- Forthcoming:
 - visualisation tool: develop your own charts



Exploring new sectoral dashboards *Two Blueprint sectors*

- Challenging: going beyond classifications; less harmonised data available;
- Quantitative and qualitative information
- Automotive and tourism (early 2019):
 - Combined data from Cedefop Forecast, EU-LFS
 - Employment shares and future employment growth per country
 - Future employment by occupation (ISCO)
 - Education levels/demand for low-medium-high qualifications
 - Key trends and skill needs

tourism

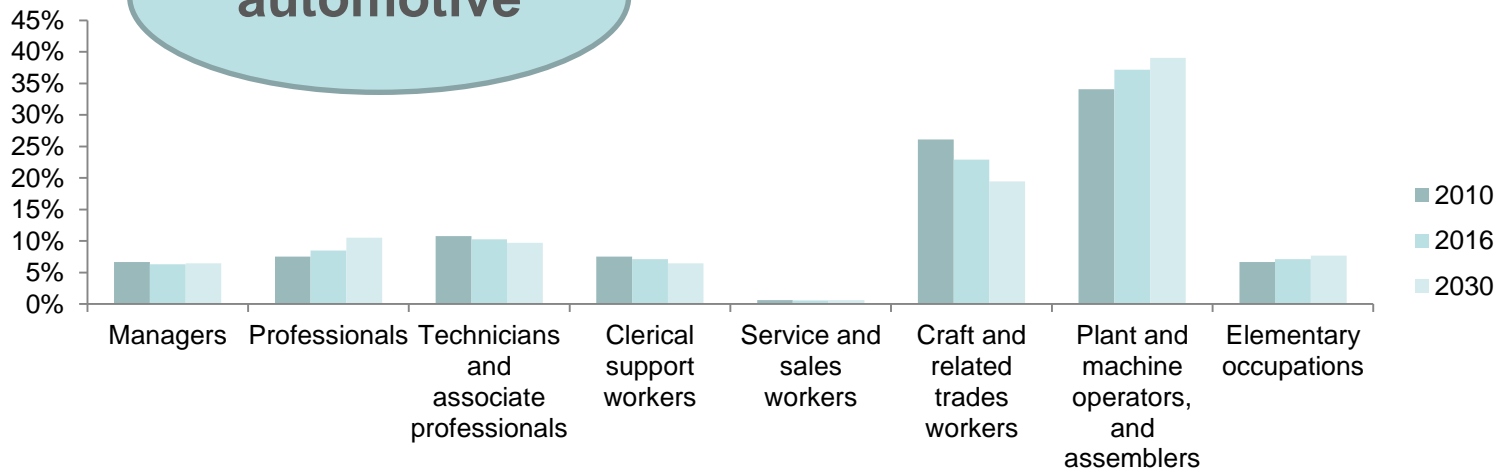
Majority of the workers employed in 2016 held medium (53.4%) or low (29.4%) qualifications.

2016-2030 the demand for workers with higher qualifications is expected to grow:

- share of workers with higher qualifications: increase from **17.1%** up to **26.0%**
- share of workers with lower-level qualifications: decrease from **29.4%** to **21.6%**

automotive

share of employment by occupation





Big data analysis from online vacancies

- collection/analysis of big data and use of machine learning;
- fully -fledged EU-wide system to collect and analyse data on skill demand using online job postings;
- information on skills in sectors, occupations, countries;
- first data expected 2019 on the Skills Panorama;
- fully operational EU system end 2020

[Learn more: Understanding the online labour market in the EU](#)

Thank you for your attention!

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