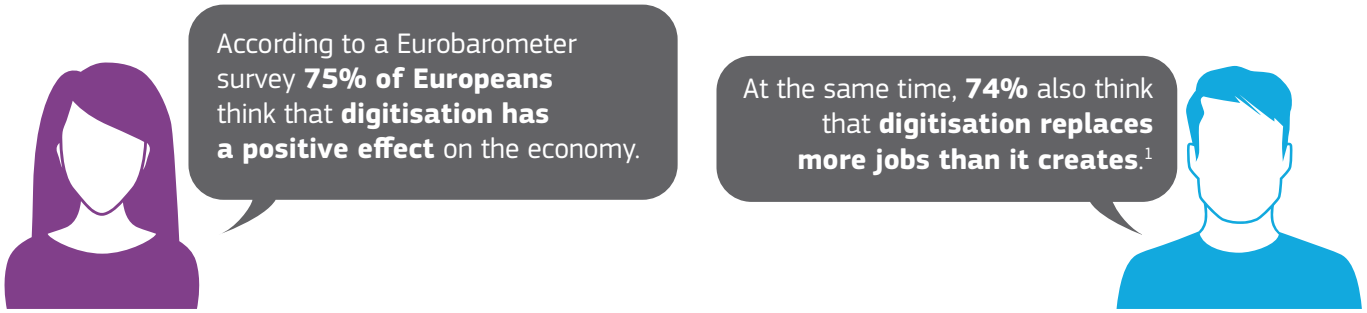
#DSM

Digital Single Market

DIGITISATION, EMPLOYABILITY AND INCLUSIVENESS – THE ROLE OF EUROPE

Digitisation is not a choice but a necessity for European businesses and economies as a whole. Digitisation brings plenty of opportunities, but also repercussions, and above all change: some jobs will be replaced, new jobs will be created, and many jobs will be transformed.



Digitisation is not a choice but a necessity for European businesses and economies as a whole. Its development needs to be accompanied.

According to an OECD paper, **9% of jobs could be automated**.[2]

Opportunities of digitisation

- Higher productivity, meaning lower prices and a higher standard of living
- Better products and more personalised services needing fewer resources
- Less physical work and fewer dangerous activities

Challenges of digitisation

- New jobs may not necessarily be created in the same areas where jobs are lost
- Workers will need to change jobs and adapt to them more frequently
- New forms of atypical work and self-employment pose challenges to social security systems

Key Policies for Member States, accompanied by the European Union

- Active labour market policies, to ensure an adequate level of social protection
- Fiscal policies, to ensure that redistribution smoothens inequality
- Education and training, to ensure people have the adequate skills to thrive in the digital economy

JOB CREATION

In 2017, nearly 8.4 million people in the EU were employed as ICT specialists. This represents 3.7% of total employment[3]. Digitisation creates many additional, well-paying new jobs for ICT specialists, but even more jobs in other fields of the economy. For instance, the increasing use of drone aerial cinematography creates new opportunities for hardware suppliers, event organisers or insurance companies.

The potential for **additional data workers in Europe: 1.3 million by 2020** (compared to 2015)[4].

According to a popular World Economic Forum estimate, **65% of children entering primary school today will end up working in completely new job types** that don't yet exist.[5]

Updated 18 September 2018

JOB TRANSFORMATION

The nature of some jobs will change...	...some roles will go, others will be created...	...and new kinds of work may earn compensation.
Predictive policing is already changing the nature of work in security services, from preventing domestic violence to detecting fraud and identifying hotspots for crime.[6] **Shipping companies** are increasingly automating long-distance transport of goods and shifting their workforce to managing pickup and delivering goods direct to the customer, with the help of artificial intelligence.[7] While **sports referees** could in theory be automated,[8] improved real-time data feedback to support a human referee is now becoming possible.	**Automated medical diagnosticians** are potentially more effective in checking for tumours than their human counterparts.[9] This could free time for doctors to carry out other tasks. A new type of medical worker, specialised in managing technologies, would be created.[10] Algorithmic search engines have already made many **junior legal positions** obsolete by automating document review for complex litigation.[11]	As the value and application of personal data continues to expand, new **"personal data marketplaces"** are offering direct financial compensation to individuals willing to give advertisers and research institutions access to their data.[12] New initiatives help individuals become **digital social entrepreneurs**, sharing time and talent flexibly in new networks.[13] Online platforms have enabled **experiments in local currency**, which offer citizens a range of compensation for publicly useful tasks, useable locally in the form of discounted or free access to traditionally paid services.

NEED FOR TRAINING

Training in digital skills is important for all and not only for the new generation. People in their 30s today will still work in 2040 and use e-services well into the 2060s. However, **training currently tends to benefit those who need it the least** and is dependent on the type of contract held: almost one in two employees on permanent contracts receive training compared to one in three with fixed contracts and one in five who are self-employed[14]. Well-educated workers are much more likely to participate in job-related training than low-educated workers.

43% of Europeans do not have basic digital skills

48% of companies recruiting ICT specialists have problems finding candidates with the required skills.[16]

USEFUL LINKS

#DigitalSkills #DigitalSingleMarket #InvestEU

1 Special Eurobarometer 460, 'Attitudes towards the impact of digitisation and automation on daily life', 2017
2 Arntz, Gregory and Zierahn (2016), "The Risk of Automation for Jobs in OECD Countries: A Comparative Analysis", OECD Social, Employment and Migration Working Papers, No. 189, Paris. http://dx.doi.org/10.1787/5jlz9h56dvq7-en
3 Eurostat 2017
4 IDC: European data market, http://www.datalandscape.eu/study-reports
5 "The future of jobs and skills" (World Economic Forum), http://www3.weforum.org/docs/WEF_FOJ_Executive_Summary_Jobs.pdf
6 Macauley, T. "How big data is changing the nature of policing from reactive to proactive," ComputerWorldUK (February 23, 2017). Accessed online March 2017 http://www.computerworlduk.com/data/how-big-data-is-moving-policing-from-reactive-proactive-approach-3655033/.
7 Executive Office of the President of the United States (December 16, 2016), Artificial Intelligence, Automation, and the Economy. Accessed online March 2017 https://obamawhitehouse.archives.gov/sites/whitehouse.gov/files/documents/Artificial-Intelligence-Automation-Economy.PDF
8 Frey and Osborne (2013), *The future of work: how susceptible are jobs to computerisation.* Accessed online March 2017 http://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf
9 Conger, K. "Computers trounce pathologists in predicting cancer type, severity," Stanford Medicine News Center (August 16, 2016). Accessed online April 2017 https://med.stanford.edu/news/all-news/2016/08/computers-trounce-pathologists-in-predicting-lung-cancer-severity.html
10 Executive Office of the President of the United States (December 16, 2016), Artificial Intelligence, Automation, and the Economy. Accessed online March 2017 https://obamawhitehouse.archives.gov/sites/whitehouse.gov/files/documents/Artificial-Intelligence-Automation-Economy.PDF
11 National Law Journal, "Number of Students Enrolling in Law School Basically Flat" (Dec. 2016). Accessed online March 2017 http://www.nationallawjournal.com/id=1202774844249/Number-of-Students-Enrolling-in-Law-School-Basically-Flat?slreturn=20170327025644
12 Nelson, P. "Three ways you can sell your own personal data," Networkworld.com (November 2, 2015).
13 Presentation of Dr. Maurizio Teli (PIE News), DG-Connect Workshop, February 27, 2017.
14 http://ec.europa.eu/epsc/publications/strategic-notes/future-work_en
15 Eurostat, 2017
16 Eurostat, 2016