


## Cedefop Resource briefing note - Artificial or human intelligence?

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**Cedefop research shows that automation and artificial intelligence do not necessarily destroy, but rather transform jobs.**

“The 4th Industrial Revolution is here, and already disrupting the world of work. Cedefop’s first European skills and jobs survey (ESJS) found that 43% of adult workers across the EU saw the technologies they use change in the past five years, while 47% saw changes in their working methods or practices.”

People, businesses and labour markets will have to adapt and acquire new skills, enabling them to cooperate with machines. Education and training provision will have to offer ‘robot-compatible’ skills and competences, blending specific occupational skills with key competences such as entrepreneurship and learning to learn. Political decision makers must determine how to frame this continuing transformation, ensuring that nobody is left behind as new work methods are introduced.

Read more in [Cedefop’s briefing note](#) on “ARTIFICIAL OR HUMAN INTELLIGENCE?” on digitalisation and the future of jobs and skills: opportunities and risks.

### ARTIFICIAL OR HUMAN INTELLIGENCE?

#### Digitalisation and the future of jobs and skills: opportunities and risks

Did you know that artificial intelligence-based methods of image recognition – such as scanning X-rays for evidence of cancer or other diseases – have reduced the scope of error from 29% to less than 3% in the past seven years? Can you imagine how much such predictive capabilities would allow a physician to improve efficiency in his/her diagnoses?

##### The fourth industrial revolution

Most of us will recently have come across some manifestation of AI applications, be it virtual assistants on our smartphones, speaking to chatbots, translating foreign languages online, or unknowingly being targeted by specific adverts and media content <sup>(1)</sup>.

In fact, the 4th Industrial Revolution (or Industry 4.0) is here, and already disrupting the world of work. Cedefop’s first European skills and jobs survey (ESJS) found that 43% of adult workers across the EU saw the technologies they use change in the past five years, while 47% saw changes in their working methods or practices. With forecasts predicting that nearly half of all jobs in advanced economies may potentially be automated, it is no surprise that a 2017 Eurobarometer survey revealed that 72% of EU citizens fear that robots and AI may ‘steal people’s jobs’.

However, many scientists see fears of robots and machines breeding a jobless future as exaggerated.

The physician using the novel image recognition machine will recently have learned how to use it or, more precisely, how to interact with it, each playing their part in the diagnosis.

arguing that previous industrial revolutions caused this kind of 'alarmism' too. While no prediction about the future can be definitive, it seems reasonable to expect that both work and learning will increasingly be shaped by automation and AI applications in a wide range of industries. This includes education, health care, transport and manufacturing.

FIGURE 1. POLICIES FOR DIGITAL AND OTHER KEY SKILLS IN THE EU-28\*



(\*) The Oxford Dictionary defines artificial intelligence (AI) as the theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages (2017). AI may affect economy and society by being a general purpose technology, lowering the cost and increasing the predictive capability of decision-makers in complex, unstructured environments.

In the past four years (2015-18), most EU Member State training policy initiatives were geared towards providing people in initial and continuous VET with digital skills. Such policies had the highest rate of full-scale implementation and government regulation.

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