

## Skills for Jobs in the Digital Era

Workshop, 8 November 2018, Brussels  
IT Tower, Av Louise 480, Room Louise I & II

### Synopsis

#### 9.30 – 10.30: Opening Session

##### **George Metakides (DigEnlight)** – Introduction

There is no shortage of studies on the issue of digital skills. While their analyses differ, they share a common conclusion that significant change is around the corner but that our vision remains foggy. Following job losses in agriculture and manufacturing, now the service sector too is being transformed. This DigiEnlight Workshop aimed to contribute to this debate, focussing on three key areas: policy; supply and demand for skills; and concrete ways of harnessing technology to solve emerging problems.

##### **Antti Peltomäki (EC/GROWTH)** - Skills and Jobs, Policy Initiatives in EC/GROWTH

Digital technologies are disrupting industrial value chains and powering wider economic transformation, and hence are a key focus for policy-makers. The EU's Digital Skills Action Plan, launched in early 2018, includes proposals for a digital education plan and a recommendation on key competences for lifelong learning. Another EU initiative is the European Digital Competence Framework for citizens and workers. Public and private stakeholders are working together on initial sector-based pilots, with further projects to be launched in 2019/20.

##### **Oliver Roethig (Uni Europa)** – Digital Skills for Jobs Coalition, Strategy and Actions

The key challenge in digital skills is not in schooling but in the 40+ years during which people are employed. The service sector is increasingly affected by skills issues, as are women. Given the speed of change, we can no longer afford to rely on the occasional leaps in skills as has been the case in the past. We need continuous incremental change, where skills are updated at the workplace with support from outside bodies. Essential is a company level approach combined with a sectoral one with close cooperation of employers and trade unions.

#### 10.30 – 10.45: Short Break

#### 11.00 – 12.30: Panel 1 - New Jobs, New Skills: Status and Prospects

##### **Chair: Paul Timmers (Univ Oxford)**

##### **Florin Lupescu (EC/CNECT)** – The Relevance of Training and Education in the Digital Era

In Europe, our approach to education still follows largely a conventional approach. The focus of the education system needs to shift from accumulating information and knowledge, to stimulating creativity and problem-solving. The EU and Member States should develop a common education policy with common instruments designed to emphasize digital education.

**Anders Flodstrom (EIT Digital)** – Policy and Actions on Training and Education in EIT Digital  
EIT-Digital works with more than 150 industrial partners and is pioneering innovative approaches to digital skills. These include certificated professional training programmes, and cybersecurity training for teachers. Blended contexts are applied: learning-by-doing, learning-by-developing, etc., where the emphasis is on entrepreneurship rather than solely on skills acquisition.

**Michel Servoz (EC/EMPL)** - AI and Labour Markets in Europe: Challenges and opportunities for policy-makers

AI will bring major changes for labour markets in Europe. The issue is not solely that of displacement – automata replacing workers – but also humans having to work alongside robots and AI systems. There is scope for action in youth education, equipping young people with creative thinking and the ability to ‘learn to learn’; improving access to and take-up of computer science in schools; and massive investment in adult education for both workers and the unemployed (mid-career schools).

**Fiona Fanning (Certiport, Pearson VUE)** – Future Proofing Digital Skills

The EU faces acute skills shortages and needs systems to acquire and validate digital skills at all levels. Yet only 25% of students are taught by teachers who are digitally confident. Digital needs to be integrated into teacher training at all levels and education should be digital by default. There should be more emphasis on ‘just in time’ learning, rather than set, monolithic degrees. And appropriate mechanisms need to be put in place to recognise and valorise learning in all forms.

**Andrea Parola (European eSkills Assoc)** – Future of Work and Job Skills: View of eSkills Association.

The economy is changing rapidly: in the automotive sector, for example, more than 90% of RDI is related to software. Workers continually need to be trained and retrained, and we should see skills as a safeguard for both workers and employers. EEA is working closely with the EC in areas such as competence frameworks and IT professionalism. The DSJC is an important initiative but it needs to be brought closer to funding initiatives such as ESF.

**12.30 -13.30: Light lunch**

**13.30 - 13.45: Heidi Cigan (EC/CNECT)** - Digital Skills – EC/CNECT Policy and Initiatives

This keynote was not presented as Ms Cigan was unable to attend.

**13.45 – 15.00: Panel 2 - Up- and Re-skilling: Innovative Approaches**

**Chair: Jacques Bus (DigEnlight)**

**Kostas Axaroglou (Alba)** – The Alba Approach to Up- and Re-skilling

Alba is a Graduate Business School offering academic and professional education programmes. The Alba Executive Development has pursued programme innovation with emphasis in employability through reskilling and upskilling in the era of Digitalization. The programs are offered through the Alba Digital Academy which aims to support managers in becoming continuous learners. Universities in collaboration with companies (forming a “learning ecosystem”) have to think in terms of ‘digital social

responsibility’, empowering young talents with the mindset, behaviours, technical skills and know-how to become employable and successful in the digital era. Under one such Alba learning initiative, young STEM graduates are coached in digital competences, with the best achieving a software testing qualification.

**Magda Rosenmöller (EIT Health) – The Future Health Manager**

Digital transformation will be crucial to the future of healthcare, opening the way to more personalised care and allowing patients to take a bigger role in managing their care and condition. Initiatives being pursued by EIT Health include: MTiH, a new transdisciplinary master’s programme; Starship, which brings together masters students from high potential regions; CRISH, a teaching programme that involves patients; and GENIE, the global educators’ network for healthcare innovation.

**Simone Vitiello (Open Evidence) - STEM4youth Project**

STEM4youth analysed the labour market for STEM skills, aiming to understand the factors influencing demand and supply. In 2015, STEM accounted for 9% of the total employment in the EU and STEM-based industry employed about one-third of the EU active population. STEM employment increased by 5% from 2011-2015, a trend that is forecast to continue. STEM employment drivers include replacement demand; trends in key STEM sectors; and cross-sectoral issues.

**Theo Mensen (ePortfolio) – ePortfolio Management for Life-long Learning**

[summarized by Jacques Bus in Mr Mensen’s absence] StudyBits aims to support the international mobility of students and professionals by developing more efficient and trustworthy procedures. Blockchain offers opportunities for better, faster and more efficient student services across a number of scenarios. One is to make credits and learning outcomes more transparent and trustworthy. Badges, secured by blockchain, are proposed as a means of certifying skills. Working demonstrations, known as open badges, have been set up.

**Patrick Hartigan (InnoEnergy) - Blending of Digital Course Content and Innovative Delivery Techniques for Professional Learners**

A true ‘blended’ approach to learning requires us to go much further than is currently common practice. As well as the blending of online and face-to-face learning, it requires the blending of technology and business; the blending of digitalisation with specific user communities; and the blending of stakeholder perspectives. Data is the glue that holds everything together: it enables innovation and allows stakeholders to contextualise the opportunity for their specific circumstances.

**15.00 – 15.15 Short break**

**15.15 – 16.30: Panel 3: New Generation e-Learning Tools for Career Development**

**Chair: Obhi Chatterjee (EC/HR)**

**Stefan Dietze (GESIS) - Using the Web for informal and everyday learning**

The concept of learning analytics has emerged to understand learning behaviour, especially in informal settings such as the web. Learning efficiently on the web means finding reliable and relevant information for a particular topic or learning need. User knowledge gain/state can be predicted from

user behaviour during search missions, in particular browsing behaviour and querying. There is a need to support learners/users to find information efficiently (“learning to learn”). Work is ongoing to investigate resource features as additional signals and to turn such models into actual applications.

**Aaron Wagener (MXC Foundation)** MXC Foundation gGmbH

IoT is essential to the future of AI. Blockchain is a key technology here but it needs to be used as a tool, not a purpose as has been the case up to now. Relevance, integration, and reward will be keys to driving take-up of blockchain technologies. MXC is taking IoT to the people, with an initial focus on smart cities, powering the data revolution. We need kinaesthetic learning (“learning by participating”), where citizens take an active role and the data networks are owned and operated by citizens, who use them and receive rewards.

**Xavier Letitia (SIVCO BE)** – The Challenge of Accelerated Capacity Building and Life-long Learning

Elearning has reached the mainstream and there are now many successful examples across a variety of channels and devices. Case studies include: learning nuggets for immigration officers; immersive environments for laboratory training and nuclear power plant design; educational games; and tax education for small children. Experience shows the importance of the ‘4Cs’ in creating value in e-content: collaboration, creativity, critical thinking, and communication.

**Bruno Koninckx (KnowledgeFlow i.o)** - Making Knowledge Usable on the Workfloor

KnowledgeFlow is a novel knowledge management platform that makes knowledge more accessible and usable by structuring it. Knowledge is presented as a series of microlearnings that are directly relevant to the user’s needs and circumstances. Users, especially younger generations, are turning away from traditional e-learning approaches: they are looking to learn ‘on the fly’ or ‘just in time’, acquiring knowledge at the moment they need it. The KnowledgeFlow solution is platform agnostic and enables on-demand and formal learning to be combined effectively.

**Greg Alpar (Open University, The Netherlands)** – Open Maths

Future jobs will need mathematics and mathematical learning skills but the current education does not prepare students for that job market. Open Maths is a new approach to teaching mathematics that teaches students not only the idea of real mathematics, but also other important skills. The course, which is being offered at two universities in the Netherlands, aims at changing the image that students have about mathematics and about themselves with regard to maths. It is a blended course, comprising a mixture of online and classroom learning.

### 16.30: Closing session

The workshop raised many important issues, such as joint policies for skills and education, including between Member States. Various examples were presented for blended education, reskilling, use of AI in education, as well as activities focusing on skill sets and employability, and reliable and secure approaches to certification. A number of questions remain, such as how to re-engage adults and mature workers. It is clear there is no “one size fits all” solution: different sectors, groups, labour markets will



require their own solutions. The discussion – which will be elaborated in greater depth in the workshop report – contributed to the debate that is so necessary.