



**European Commission**

# **FILLING THE GAPS e-SKILLS AND EDUCATION FOR DIGITAL JOBS**

Launch of the Grand Coalition  
for Digital Jobs

CONFERENCE REPORT

April 2013

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# OPENING SPEECH – 4 March 2013

## Job Creation Needs a Grand Coalition

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**By László Andor,**

European Commissioner responsible for Employment, Social Affairs and Inclusion

Ladies and Gentlemen,

Welcome and thank you for joining us at the launch of the Grand Coalition for Digital Jobs. Let me begin with two simple stories.

One of the colleagues involved in the organisation of this event has a sister, who trained as physiotherapist. When selling things on e-bay in her free time, she started to get interested in ICT. While taking a break to raise her three children, she followed a 3-year ICT training and graduated as Bachelor of Science. Today she is 38 years old and works as a software developer in a specialist German SME dealing in web2print solutions and product information management systems. In her new job she earns about 50% more compared to what she would earn as physiotherapist. She is more fulfilled and has a greater sense of productivity and skills utilisation.

My second story is about a company from a small town in the Czech Republic which specialises in industrial automation, employs about 85 people, and has recruited five ICT professionals from abroad in 2011 and 2012 with the help of advisers from the network of European Employment Services, EURES. This story is interesting in the sense that even an SME in a country with a relatively strong tradition of engineering education feels the need to look abroad in order to get the workers it needs. It also shows that smaller companies need support and assistance when recruiting beyond national borders.

These two anecdotes illustrate what we are actually trying to achieve with the initiative we are launching today: To help professional career transitions and to support job creation in the ICT world.

### **Boosting job creation**

Unfortunately we now have over 26 million unemployed in the 27 Member States. Yet, despite restructuring and job cuts in the ICT manufacturing industries in recent years, demand for personnel in software development, consulting and the ICT user industries has continued to grow. We have to work together to do all we can to meet this demand for the sake of getting more people into jobs and making Europe's ICT sector more competitive.

Unfilled vacancies for ICT professionals in Europe are estimated at hundreds of thousands and set to rise over the coming years, even as overall employment remains depressed. But we also know that job creation doesn't happen by itself. You need a company to create a vacancy. Then you need a person with the skills that fit the company's needs, and they both need to come together and settle all practicalities of recruitment. Only then you have a match in the labour market, and only then can we talk about a job being created.

In the Employment Package of last April, the Commission identified the job creation potential of the ICT sector (along with healthcare and the green economy) and advocated equal attention to labour supply and demand policies to achieve this. It's not just about skills supply, and it's not just about business' demand for labour. Employment policy as we see it must also improve the matching process between the two. Effectively, this means helping jobseekers acquire and develop the skills that are sought by companies and bringing both parties together.

The Grand Coalition for Digital Jobs we are launching today focuses on closing the gaps between expected vacancies for ICT practitioners on the one hand, and the supply of skilled candidates on the other. The estimate of 700,000 unfilled vacancies by 2015 is in the process of being updated, but more recent calculations show figures of more or less the same magnitude, possibly reaching up to 900,000.

### **Mobility & EURES ICT vacancies**

According to data on the EURES web portal, the total number of ICT vacancies was about 80,000 last week. Countries with the highest demand for ICT jobs per inhabitant are in the North of Europe and around Germany, while in the other countries demand is either lower or the vacancies are not reported in the EURES system. Intra-EU mobility can contribute to closing skills gaps by remedying geographic labour market imbalances and so reduce unemployment. In order to help boost labour mobility the Commission and Member States are working on the modernisation of EURES.

The aim is for EURES to become a real pan-European placement and recruitment service from January 2014, to help employers and jobseekers across Europe. This upgraded EURES service will include, among other things, targeted labour mobility schemes focusing on sectors with high growth potential but experiencing labour shortages, such as ICTs.

### **A reinforced push to create digital jobs**

The Grand Coalition we are launching today will build on long-standing actions and help develop solid partnerships with industry players, the education sector, the world of employment services and the social partners. Governments and the European Commission have been trying to address the issue of digital job creation through concrete initiatives for some time:

- we have built the e-competence framework for certification of digital skills
- we have also improved the monitoring and anticipation of skills needs through the European Vacancy Monitor and the EU Skills Panorama
- the European Social Fund is a major source of investment in up-skilling, re-skilling and labour market matching in all fields, including the digital economy
- and as far back as 2007 the Commission established a focused e-Skills agenda with the e-Skills Week having become a large-scale campaign across Europe.

The Grand Coalition will help bring all these pieces together by concretely acting on the job creation front. It is on this basis that we have identified five key policy themes and sets of action for the Grand Coalition:

- Training and matching for digital jobs
- Transnational mobility
- Certification
- Awareness raising and
- Innovative learning and teaching.

### **What is different about the Grand Coalition?**

The Grand Coalition we are launching today is different from earlier actions at least in two ways. First, we are bringing together a broad range of stakeholders: representatives of ICT companies, non-ICT companies, schools and universities, governments as well as public and private employment services. The coalition is indeed grand in its size and breadth. We consider that it is necessary to create this broad partnership if we want to exploit the full employment potential of the ICT sector. The second novelty is that we want to focus this multi-stakeholder partnership very clearly on every player's firm commitment and action. You will see later this afternoon that a number of large companies will make pledges to train and eventually employ a certain number of ICT professionals.

The Commission will also make a couple of pledges on what it will do to support creation of digital jobs. But this should be only the very beginning. As the Grand Coalition develops in the coming months, we would like to see also other, smaller stakeholders making a clear commitment as to what they can do for the cause. And something we should all try to keep in mind in developing the Grand Coalition is the potential of ICT to boost employability and social inclusion of disabled or handicapped people. The Danish software developer Specialisterne and Spanish ONCE Foundation are well-known examples which deserve to be widely repeated elsewhere.

### **Conclusion**

To make job creation happen, Europe needs a Grand Coalition. We need you all – and we need you to engage with the other players and act. If the ICT jobs gap is filled, everybody wins. So let's work together today, tomorrow and in the coming weeks and months to identify and implement concrete cooperation projects to fill that gap.

# PANEL DISCUSSION

## e-Skills in Europe: Current Situation and Future Needs

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**By Richard Straub**

Director EFMD and President of Peter Drucker Society Europe

### Background

ICT has evolved during the last two decades from being a tool for productivity improvement towards an enabler of innovation and value creation. E-Skills are now required in virtually all industries and all qualified jobs – not only in the ICT sector. Process management, change management, communication and interaction with business partners, virtualization and digital transformation – all require a deep understanding of not only the technical aspects of ICT but of the capabilities that this technology holds for value creation through productivity improvements and by enabling innovation. For the individual it has become a key component of long term employability and for companies and countries a lever of competitiveness in the global markets. Without innovation driven growth the huge issue of unemployment and in particular youth unemployment cannot be solved. Hence digital skills and competencies are not just important for digital jobs but for jobs at large. And we need both – jobs created by existing companies through innovation and growth and self-created jobs by entrepreneurs who leverage the limitless capabilities of ICT to create new products, services and new business models in both - the commercial and the non-business arena (government, education, health, social etc.).

Key questions to be addressed by the panellists from their specific perspective:

- What is the actual gap between demand for digital skills and competencies and the actual supply? Can we be confident to grasp the future needs in a very dynamic environment?
- How effective have the policies to support ICT skills and competencies been during the past decade? What can we learn from successes and challenges experienced?
- What can the industry contribute to solve the shortage – what type of actions and what partnerships should be envisaged?
- What are the obstacles to deploy effective e-skills education and training programs in Europe for creating the right technical skills and the capabilities to create value based on those? How can policies help to overcome those?
- Examples of good practices that panellists can contribute in their specific areas of competence? How can the balance between European policies and frameworks and the context specific self-organizing capabilities be struck by policy makers?

The panel participants were:

- Nils Fonstad, Associate INSEAD director eLab
- Freddy Van den Wyngaert - CIO Agfa-Gaeverst and EuroCIO
- Martin Curley – Intel VP and Director Intel labs Europe
- Richard Narine – Talent Sourcing and Mobility Solutions, Randstad
- Saskia Van Uffelen, entrepreneurs, Digital Champion Belgium
- Tapio Koskinen – Head of Technology, School of Arts & Design, Aalto University
- Ben Butters – Director EU Affairs & Eurochambres

## Main messages

A **professional who is e-skilled** is a professional who is both ICT-savvy and business-savvy.

To be ICT-savvy consists of several competences:

1. First, a person must know how to develop, apply and manage individual technologies, including being aware of trends;
2. Second, a person must understand how individual applications relate to each other- that person must be know how to use, develop, apply and manage systems of technologies.

**The gap between demand for and supply of e-skills is growing.** The situation is exacerbated by the global war for talent with regard to attract the best skills in the ICT field. Yet this gap is a huge potential for sustainable ICT job creation in Europe. In terms of numbers Empirica estimates that in 2012, demand for e-skills in Europe is around 255.000 greater than supply. In addition, they estimate that by 2015 that the gap between demand and supply will grow – ranging from 372K to 864K – depending on the forecasting scenario. This e-skills gap in Europe is not only getting wider but **also deeper and more complex**. In the world of HR and recruiting e-skills are in constant demand for all levels of proficiency. Taking a skilled ICT professional from one company and moving them to the next is common practice.

We should not confine the discussion to creating traditional jobs for employees. **Digital entrepreneurship** is both a key reason for and a key source of improved ICT skills. Most, if not all, start-ups in Europe now involve an online element and the internet makes creating a business and reaching potential clients a much faster, easier and cheaper process. Less well documented than the supply – demand gap is the “**Value gap**” with few CIO’s able to report the value delivered from IT. There is also a gap between the exciting potential of ICT and management’s capability to exploit that potential (the “**management gap**”). For the young generation and especially girls there is still a “nerd” image of ICT. With this too few of the youngsters feel motivated to move into optional courses or later studies of ICT. The teachers in the School system are not well prepared to address this.

## Conclusions

**IT does matter** for the future of Europe, not only for the ICT industry but for all industries as they are all powered by ICT today. We are talking about a cross-industry challenge that by definition needs a systemic approach driven by a coalition of stakeholders. More is needed than some incremental actions and initiatives. With the announcement of a “Grand Coalition” an important signal has been set. This challenge cannot be addressed by single stakeholders in isolation but it needs a joint approach where the stakeholders move out of their silos (including the DGs) and become and remain part of a joint and systemic initiative. I first step is taken but this is just the beginning. Much more is required.

The challenge is **focus, scalability and funding**. However, the latter must be addressed in new ways i.e. not just doing more with additional funding but achieving more with the same or less funding. This is possible if the right focus is being ensured. This focus must be based on agreements within the coalition. Which bring us to the challenge of coordination and decision mechanisms at a European level.

**All stakeholders must contribute.** Companies must place more focus on workforce strategy. This consists of workforce planning, workforce flexibility and workforce analytics. It is a challenge for companies/organizations to answer questions such as how many permanent staff do I need? What skills are key for my sustainability and growth? Likewise how much flexibility should I plan for? How many external workers should I budget for and what skills? There are simple questions but complex to address at a global, regional and local level. Schools and Universities must play their part to ensure the skills that they teach are relevant for practice and that motivation is created to take ICT careers. The EC needs to provide the European Frameworks and coordination mechanisms that help to move forward in a synchronized and self-reinforcing way as opposed to blocking each other.

### Recommendations and further activities needed

The good news is that Europe has several successes for filling the gaps; the challenge is to scale these successes. What needs to be done?

1. Building awareness of the strategic value of e-skills;
2. Tracking demand and supply of e-skills;
3. Developing e-skills for those entering and those in the workforce

**Leveraging the e-competence framework** is the first step in this journey. Being able to communicate with standardized and recognizable competency profiles will be our DNA in which ICT skills for a workforce strategy will start to take up a universal understanding. It will allow for better matching of demand and supply. It will allow for IT professionals from entry level to senior level to have a wider view on how they can obtain skills, be up-skilled or even re-skilled to pick alternative careers in ICT. We can be a creative industry, I am sure we will find a way to bring the x-factor back and attract new talent.

**Digital entrepreneurship must be promoted** to children and young people during primary, secondary and tertiary (academic, technical or dual) education. This should be done subtly and horizontally, by integrating the use of IT tools into the general curriculum, as well as elements that help develop a range of transversal competences, such as risk-taking, innovation, creativity, independence, lateral thinking etc.

**The CIO Community can significantly contribute** to address the issues from an industry perspective. Concrete actions have been suggested as follows

- Involve CIO's as stakeholder, i.e. through the CIO networks in Europe such as EuroCIO;
- Use the e-competence framework and ensure continuous funding from European Commission to build a consistent framework to be used by companies as well as governments
- Build on the existing education and training program set up by CIO networks such as EuroCIO with the European institutions and academic institutions

- Join forces and be efficient from European side by consolidating efforts and focusing on the e-skills gap;

**Quality frameworks at a European level** that can help organizations to achieve value from IT and to make IT a driver for productivity and innovation should get high focus. Use good practices such as the Innovation Value Institute's IT Capability Maturity Framework and the Euro CIO IT Master program to help organizations and CIO's close these gaps.

With regard to ICT Professionalism Europe can perhaps learn from the US, where to improve the acquisition and management of resources there is the Clinger Cohen law which specifies a minimum portfolio of CIO capabilities that organizations must be certified against.

The Internet also facilitates **collaboration between digital entrepreneurs** (so-called '[micro-multinationals](#)') and this alternative means of driving jobs, innovation and growth must be stimulated by **removing barriers to cross-border business-to-business activities**, both within the EU and globally. These current and future drivers of the digital agenda must in some way be integrated in the Grand Coalition and the definition of policy measures, not just established global corporations

In terms of long term measures the support of **grass roots groups helping kids** to acquire ICT skills at early age should be priority (such as Coder Dojo, Scratch etc.) – Schools alone cannot handle this requirement in the current way they are set up. Teacher community needs to be more involved in e-skills related initiatives, not only the ministries. The teachers need to become fully recognized stakeholders in this initiative.

# KEYNOTE SPEECH

## e-Skills and Education for Digital Jobs

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**By José Manuel Durão Barroso**

President of the European Commission

Ladies and Gentlemen,

I am particularly pleased to be with you at the launching of the Grand Coalition for Digital Jobs. And let me start by warmly thanking my colleagues from the Commission Neelie Kroes and Antonio Tajani, Androulla Vassiliou and László Andor, for their efforts in making this ambitious coalition really effective. This is indeed a significant initiative as we face the twin challenge of a rise of unemployment and a shortage of specific skills. Too many Europeans, especially young people, are unemployed - and yet sometimes employers cannot find people with the right skills. This means that as we focus on solutions to tackle fast-rising unemployment, we need to better address the needs of the economy.

The business community has expressed its concern about skills directly to me on many occasions, most recently when I met the European Roundtable of Industrialists in February. And last week I discussed these issues in a conference with Irish and European business leaders in Dublin. Also in my very frequent contacts with the social partners, the call is made for the Commission to come up with concrete labour and education reforms to stimulate employment.

Anticipating the need for skills and minimising mismatches with labour market demands is vital for the competitiveness and long term prospects of European companies. But it is first and foremost necessary to better foresee which skills and competences would be essential for young people and the future workforce. This is a challenge that calls for concerted action to design a system that works for the benefit of all stakeholders. And let's face the truth; this is a pressing and tough task, and one of real urgency given the high rates of unemployment of young people. Europe's citizens and businesses have been hit hard by the crisis. And young Europeans are certainly the ones primarily and worst hit.

Youth unemployment in the European Union is more than twice as high as the rate for workers in general in most Member States and has significantly increased over the last four years. This is a plague. Unemployment is unacceptably high in the European Union as a whole and even more so in the Member States facing the largest adjustment needs. We simply cannot leave our youth without the prospect of getting a proper education and training, getting a first job or getting a job back. This is an economic and social time-bomb. If unemployment becomes structurally entrenched, it will weigh down on our growth potential. And with high rates of unemployment also come higher risks of social exclusion and of poverty. With highly-skilled young people increasingly affected by long-term unemployment, we risk a brain-drain at a time when it is important that the European Union remains an attractive place to live and to do business. This is why boosting job creation and actively fighting unemployment is one of the Commission's top policy priorities.

Our growth agenda, the Europe 2020 strategy, seeks to support reforms, inspire confidence and restore investment; and to be fully implemented it needs your support - the support of the ICT companies, business associations, education authorities, public employment services, and web entrepreneurs. A new model of growth, underpinned by education and labour market reforms as the key drivers to boost European competitiveness, can only be achieved in partnership. And this concerns you, this very distinguished audience of relevant businesses, public and private stakeholders.

The Commission is acting. Let me recall some major initiatives that are connected to our grand coalition. In December 2011 the "Youth Opportunities Initiative" established Actions Teams composed of Commission and national officials that earmarked 10.4 billion euros in structural funding in the 8 Member States having the highest levels of youth unemployment. In fact, next week at the European Council I am going to report on the results of this initiative to all Heads of State or Government. In 2012 the Commission adopted an "Employment Package" with concrete proposals to strengthen employment, in particular on labour mobility, skills mismatch, and exploiting the employment potential of ICTs. In our "Re-thinking Education" communication we stressed the need to build a skills base for the 21st century, again focusing on the STEM related skills (Science, Technology, Engineering and Mathematics). Our "Entrepreneurship 2020" paper is a blueprint for decisive action to unleash Europe's entrepreneurial potential. And because Youth is at the centre of our strategy we adopted a specific "Youth Employment Package" including a Youth guarantee, since we have to reverse the flow of young people who are neither in employment nor in education or training. And I am particularly pleased that this Youth guarantee has been agreed by the Council, by all Member States, last week.

This is about giving hope to young people and assuring them that they will not have to spend more than four months out of useful employment or employment-related training activities. The European Social Fund (ESF) is Europe's main financial tool for supporting jobs and in investing in human capital, which is a prerequisite for a competitive workforce. Let me mention an example of digital skills investment from Ireland - not just because Ireland holds the Council Presidency and Minister Bruton will be addressing you after the break, but also because Ireland offers a wealth of good examples in this area. In the urban brownfield of a former Guinness brewery in Dublin, there is now a Digital Skills Academy. It provides ICT training for unemployed young people and afterwards links them with SMEs. This project activates both the youngsters and the local companies, and this is exactly the type of thing we are promoting with the Youth Guarantee. The European Social Fund supported the Digital Skills Academy with 450,000 € in 2010-11, and this formed part of a 20 million € programme that the Irish government ran to help unemployed people. This shows that even at a time of fiscal consolidation, governments can make smart investments that boost growth and jobs, if they prioritise spending well and use the available EU funding.

A final agreement on the EU budget for the period 2014-2020, the Multiannual Financial Framework (MFF), is instrumental in the implementation of our policies. It will give us the financial means and give you the confidence to invest.

The budget the Commission proposed was geared to make EU spending a tool for competitiveness and growth with a pan-European logic. Whilst the Member States in their negotiations have cut the overall amount of funding, many of the growth and jobs-boosting measures have been retained. There is a significant increase for research and innovation, compared to the current period, under the Horizon 2020 programme and for education

under the 'Erasmus for All' programme. For the first time, we will also have a dedicated programme for SMEs in the shape of the COSME programme. Importantly, we created a new Youth Employment Initiative, with a budget of 6 billion €, to support for young people in regions with youth unemployment rates above 25%.

But let's look at the broader picture. The fact is that despite the crisis there are over two million unfilled jobs in the European Union. The reason is that employers are often simply unable to find job seekers with the right skills. Moreover sectors with significant job creation potential require an increased number of qualified workers in the years to come. New jobs and new skills are emerging as globalisation, technological changes and ageing societies generate new demands.

This is particularly true for the ICT sector. In today's technological environment, the capacity of industry and services to compete and evolve is becoming increasingly dependent on the innovative and effective use of ICT tools. ICT is everywhere. ICT jobs are everywhere. It helps growth across all sectors thus creating further employment. It is in high demand in industry and will continue to offer vast and diverse employment opportunities. It also allows for new work patterns and greater social inclusion. Most jobs already require some kind of computer-related knowledge and it has been forecast that by 2015, 90% of jobs will need at least basic computer skills. Studies have also shown that ICT-related occupations are much more resistant to crisis than most other jobs.

This clearly means that e-skills are definitely key in reducing the risk of unemployment including for senior workers. More and better qualified ICT practitioners, researchers, entrepreneurs, managers and users are needed and will increasingly be needed. But we have also to recognize that often students entering the job markets are unaware of the very wide range of ICT jobs available. The stark reality, exposed by the latest study, is that Europe faces up to 900,000 unfilled ICT jobs. When the number of digital jobs is growing by 3% each year – even during the crisis – the number of new ICT graduates and other ICT workers is shrinking.

The conclusion to be drawn from such a paradoxical situation is clear: there is a pressing and crucial need to address the shortage of job seekers with critical skills, as well as the growing gaps and mismatches between the supply and the demand of specific e-skills. The Commission's Digital Agenda for Europe has precisely identified the lack of e-skills as one of the most important obstacles to harnessing the full potential of the digital benefits of today's rapid technological changes. And we have fully recognized, promoted and defended the need to invest in ICT training for the jobs of today and tomorrow.

At the risk of pointing out the obvious, let me say that clearly this is not something the European Commission or the European institutions can do on their own. Nor is it something any Member State can do on its own. It is a task which can be addressed only by bringing all stakeholders together: businesses, vocational, education and training providers; public and private companies and services. That is why we are here today.

If we want to bridge the gaps and mismatches between the supply and the demand of specific skills, we need first to build bridges between the worlds of education and work. This is why, over the last years, the Commission has been actively engaged in promoting different forms of partnership at EU level. But we do not stop here; soon we will launch a "European Alliance for Apprenticeships", to improve the quality and supply of vocational education and training, and promote partnerships on dual education. Also of importance

was also the creation of the European Institute of Innovation and Technology (EIT). I proposed this in 2005 to boost Europe competitiveness by intensifying the interaction between higher education, research and innovation with a strong emphasis on entrepreneurship. The Knowledge and Innovation Communities (KICs) supported by the EIT bring together education, research and business to address the development of skills in a highly integrated manner consistent with the needs and challenges of the relevant economic actors.

The partnership approach is also key here. Education and training providers need to be part of a concerted effort with other stakeholders – including in the ICT sector with its great potential – to put in place such comprehensive schemes. In a nutshell, a multi-stakeholder partnership approach is the right way to develop a skills agenda in a targeted, innovative and sustainable way.

It is in this very spirit that the Grand Coalition for Digital Jobs is formally launched today with a mandate until 2015. Some stakeholders have already pledged to carry out specific actions - on new jobs, internships, training placements, start-up funding, free online courses, among others. I would like to thank them and congratulate them for their vision and their commitment. Synergies at all levels must be fully exploited. Like the involvement of the EIT ICT Labs in the Academy Cube project promoted by SAP.

I am confident that this Grand Coalition will be a source of inspiration to attract many other stakeholders. For those of you who have not yet become active in this Grand Coalition, it is not too late. I hope that today's pledges can inspire many more of you to undertake similar actions, or to join pledges from other stakeholders.

One of the founders of the European Communities, Alcide De Gasperi used to say: "A politician thinks of the next election, a statesman of the next generation." This is a quote that is attributed to many different sources, but apparently this is the real one. I think it is with this spirit, the spirit of thinking about the next generation, that we have to move forward this very important agenda.

The strength of the Grand Coalition for Digital Jobs stems from our common concern for the next generation. Let's make a shared commitment to help the young Europeans of today get the skills they need for tomorrow because we all have an interest in a strong European economy of the future. I thank you for your attention.

# EU Presidency Speech

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**By Richard Bruton T.D.**

Minister for Jobs Enterprise and Innovation, Ireland

Commissioner, ladies and gentlemen, it is a great pleasure for me, on behalf of the Irish Presidency, to be able to join you today and to be part of the launch of what I believe is an exceptional initiative - the Grand Coalition for Digital Jobs.

Our Presidency is focussed on Stability, Jobs and Growth and therefore we strongly support this initiative. We have already been active to support you. Building on the work outlined in “e-skills for the 21<sup>st</sup> Century” and “Towards a Job Rich Recovery” I took the opportunity of the Informal EPSCO Council held in Dublin last month to organise and Chair a workshop of employment ministers focussed on ICT Jobs and the actions that are needed to meet the skills deficits Europe is experiencing. I will refer further to the outcomes of that discussion in a few moments. I also chair the Competitiveness Council and have responsibility for Internal Market, Trade and Research so I get the opportunity to see the ICT sector from many perspectives.

I say that the Grand Coalition is exceptional for many reasons. Firstly, it brings together the efforts of four Commissioners (Kroes, Tajani, Andor and Vassiliou) with the strong support of President Barroso, as you heard earlier this afternoon. It brings together four very important directorates to tackle a challenge, that each recognise they cannot deliver alone, but know they can deliver by working together. Even more importantly, the Coalition brings together ICT companies and ICT-user companies in industry and CIO associations, to work with educationalists and trainers and national and regional authorities. It is indeed a Coalition that can have immediate impact. The third reason I see this Grand Coalition as exceptional is the extent to which it is to be driven, from the very outset, by clear targets and indicators of success that can and will be measured and evaluated. In my experience, it is only when you start to work with very clear targets, indicators and timelines for delivery that you move from rhetoric to successful action. This cross-cutting and target driven approach has been the hallmark of the Irish Government’s Action Plan for Jobs, the second instalment of which we launched in the past week, and which I have the pleasure of leading.

## **The Issues**

We see every day how smart technology is transforming every sector and the way we work, live and consume products and services. Success is increasingly going to those who develop and adapt new technologies to achieve a competitive edge; get a lead in the marketplace. We know ICT is one of the central enabling technologies of economic growth and that for Europe as a region, the better use of ICTs will be critical to enhanced competitiveness, growth and jobs.

We cannot afford to allow European labour markets to fall behind or lose job opportunities in favour of other regions of the world if we are to achieve the Europe 2020 employment target. In today's technological environment, most jobs require some kind of computer

related knowledge across all sectors of the economy. We see increased automation in manufacturing, the exponential growth of e-commerce, animation, digital media, e-health, gaming, and the transformation of financial services, to mention but a few. It has been forecast that by 2015, 90% of jobs will need at least basic computer skills. Acquiring these skills is becoming essential for workers to become and to remain employable.

The statistics show that ICT is one of the sectors of Europe's economy that has been expanding even during the economic crisis: the number of ICT practitioners has been growing at around 3% per annum. We hear that the 2009 estimates, currently being updated, are of the right order of magnitude - that there will indeed be 700,000 unfilled vacancies in the EU for ICT professionals by 2015.

Yet we see the number of ICT graduates in Europe has decreased from 127,000 in 2006 to 114,000 in 2009 despite the growing pervasiveness of high level ICT occupations across all economies. One aspect of the challenge we face in tackling this skills gap is that, among young people, there is a surprisingly poor awareness and perception of the career opportunities in ICT. We also know that the percentage of women working in the ICT sector, at 22%, remains too low and that it correlates with very low proportions of female graduates as ICT professionals.

### **Informal Council Workshop**

I asked my employment Ministerial colleagues if it could be credible that we would preside over a Europe that would simultaneously have high unemployment, extremely high youth and long-term unemployment and hundreds of thousands of vacancies unfilled in dynamic sectors such as ICT, and of course the answer to that question is no. Therefore the time for action is now.

The workshop in Dublin highlighted a number of issues that I am delighted to see are reflected in the work of the Grand Coalition being launched today but there were also wider issues for future consideration.

- Ensuring more intensive engagement with enterprises to precisely define their needs before education, training and retraining programmes are designed and delivered came out from the discussion as a key requirement. We explored how the separate universes of enterprise and education can be brought together – so that each understands the other's needs and role including upskilling and reskilling roles, and that students and employees can move easily between the two throughout their working lives? However difficult, that bringing together must be achieved.
- It became clear that better intelligence on the skills gap at EU level would be critical and it became clear that foresight work is at different levels of sophistication in Member States and this could be a productive area of mutual learning. It was recognised that foresight is difficult because technology changes rapidly and consequently responsiveness to change is important.
- While advanced ICT professions undoubtedly require a graduate degree in a computer-related field, for many other ICT occupations, short tailored training combined with work experience can be designed to upskill or reskill jobseekers especially those with former experience in technical or scientific areas. ICTs can therefore be a promising option even for workers who become unemployed.

- It was clear that enhanced focus on the unemployed, both young and mid-career unemployed from related fields, and provision of short intensive conversion programmes with job placement opportunities were seen as part of the answer and a win-win opportunity. Ministers found sharing best practice on programmes that work and practical design issues in, for example, conversion programmes to be of benefit.
- Member States lauded the approach of contracting with education providers for precise ICT skills needs identified by industry and allowing universities or vocational training institutes or IT Academies respond through a bidding process.
- The workshop highlighted the need for all actors (EU, Governments, educationalists and companies) to mobilise to increase the awareness of young people, their parents and teachers of the nature and variety of ICT roles available and career opportunities that follow.
- It was suggested that the apprenticeship model should be better explored as an alternative route for young people to enter ICT. This was in the context of existing routes having failed to deliver the required numbers and part of a desire for new thinking to be brought to the fore.
- It was also suggested that ICT should become the 4<sup>th</sup> pillar of education in our schools. For example, in some Member States programming is taught from as young as 8 years of age.
- It was accepted that actions are needed to improve the mobility of European workers to take advantage of opportunities in other regions and yet a balance was called for between the actions needed to bring workers to where jobs are available with the need to bring jobs to where the unemployed are located. A further complication in this debate is the importance of the clustering in ICT which has tended to thrive in regional clusters with intense interaction and networking between players.

As this short flavour of our debate reveals, there was a good appreciation of the issues and for that reason ministers were reassured that the Grand Coalition for digital jobs would be launched by the four Commissioners today to take forward the challenges arising.

### **The Irish Experience**

As an Irish Minister it would be remiss of me not to say something about the Irish experience. Ireland is a successful major centre for ICT operations. Nine of the top ten US and numerous European ICT companies having substantial operations alongside a strong indigenous sector in Ireland. The ICT sector itself employs around 75,000 people in 8,000 companies. The large talent pool of ICT professionals that exists in Ireland is valuable for foreign-owned and Irish companies both in the ICT sector and across many other sectors using ICT talent. The cluster of internationally renowned firms and Irish start-ups offer a range of attractive career opportunities for professionals in software applications and systems, IT services and consulting, electronics, hardware, and communications services.

Even during the recession, employment increased in the ICT sector and is forecast to continue to increase over the coming years due to the worldwide exponential growth in demand for next generation internet, mobile ICT, social networking and information security technologies.

We too recognise that the key to the successful exploitation of these opportunities is the need to ensure that our labour force is appropriately skilled and that the education system remains responsive to the needs of this expanding sector and the ICT needs of other sectors as they arise.

An increasing share of employment within the ICT sector is comprised of people with high level skills, and as opportunities are growing faster than supply, skills gaps have emerged over the last few years. So we share this European and global problem.

The ICT sector has recovered from the global downturn experienced in 2001 but we find there has been a substantial shift in the skills mix and levels required by businesses. There have been patterns of simultaneous creation and loss of jobs within ICT companies, with lower skilled jobs being replaced with higher skills as companies move from a hardware manufacturing model to a software/services model and offshore low value-added activities.

Ireland uses an Expert Group on Future Skills<sup>1</sup> to identify the nature and scale of the ICT skills demand. This is done through intensive engagement with foreign-owned and Irish companies, with key trade associations, chambers of commerce, education and training providers and other stakeholders. This research has allowed specific identification and naming of the job opportunities out there – not vague references to ICT roles. It should be remembered that soft skills are also increasingly important, such as, analytical and problem solving, creativity, initiative, team-working & communications skills.

Demand is set to exceed our domestic supply, due partly to the lower than previous numbers of high performing school leavers choosing to study in computing and electronic engineering disciplines. The decrease in interest in Ireland has been steeper for females. In 2010 the numbers entering honours degree computing programmes were 20% less than ten years previously. However, in the last three years the numbers entering these programmes have increased. Nevertheless, it will take time for increased enrolments on ICT courses to feed through into increased graduate supply. Inward migration is addressing some of the skills gap and continues to be an important source of skilled professionals in the short term. Companies advised of the need to plan five years out for the building up of the high-level ICT skills pipeline and it was recognised that boosting the domestic supply of high-level ICT skills would be the most sustainable way forward.

In response Ireland has had to establish its own Coalition and I, with the Minister for Education and Skills launched a Joint Government - Industry ICT Action Plan last year.

### **The ICT Skills Action Plan**

Ireland has found it necessary to increase ICT skills supply through:

- increasing numbers and quality of students enrolling on ICT related programmes;
- doubling by 2018 the annual output of honours degree ICT graduates; and
- expansion of conversion courses for graduates from other disciplines and reskilling opportunities for jobseekers who had worked in other sectors;

Specific initiatives include:

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<sup>1</sup> The Expert Group on Future Skills Needs advises the Irish Government on current and future skills needs of the economy and on other labour market issues that impact on Ireland's enterprise and employment growth.

- Improving retention and quality of students - halving drop-out rates -improving the maths proficiency of students and almost doubling of higher level maths take-up by 2020;
- Establishing an ICT Foresight Group comprising industry and academia ;
- Attracting more students to ICT through Government and industry sponsored initiatives;
- Up-skilling and Conversion Programmes

### Conversion Programme

A crucial and exciting element of the Plan is the **Up-skilling and Conversion Programmes** where to date more than 4,000 honours degree level reskilling opportunities including 1,500 conversion places to talented graduates from non-computing / IT disciplines who are unemployed. It is designed and delivered in partnership with industry.

### Conclusion

As I mentioned earlier, last week, my Government launched its Action Plan for Jobs 2013. As part of that Plan there are seven disruptive reforms planned, one of which is to **make Ireland the most attractive location in the world for ICT Skills availability ensuring continued success of the ICT sector**. We intend to build our supply of high level ICT skills including graduates and experienced personnel so that Ireland becomes internationally renowned as a location with the appropriate supply of skills/talent. By 2018, we aim to have the highest percentage of computing graduates as a proportion of all tertiary graduates.

We have already looked to the work programme of the Grand Coalition for inspiration for many of the actions we will take whether matching, training, innovative learning, and use of the e-competence framework or attracting young people to careers in ICT. In Ireland the Coalition is already impacting.

We will support the work of the Coalition both as Presidency and as an interested Member State and we wish all of us working together every success with this exceptional initiative.

# SPEECH

## The Digital Economy Delivers Jobs: Facts

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**By Neelie Kroes**

Vice-President of the European Commission responsible for the Digital Agenda

Ladies and Gentleman,

So we agree that unemployment in Europe is unacceptably high and at the same time unfilled vacancies in ICT are growing. We also acknowledge that our competitiveness as a region is under threat if we're short of digitally skilled people. We cannot go on this way. Doing nothing is not an option: and that is why we are here today. Not to talk and analyse but to decide, commit and act. We are here today to work together, in a totally new way, to deliver the jobs for our economic future, and to stem unemployment. This coalition is not about reinventing the wheel. It should be about building on existing success. I want people to be open in their commitments, join forces where they see the chance, and recognise we need to do things differently. Quite simply, facing hundreds of thousands of unfilled vacancies, we cannot continue as we were; and we must all do our bit. I know it needs us all to invest resources: but the payoff will be for everyone. So what are the issues we need to address in order to fill the gap? I see five. And for each of those issues, we have potential solutions – the five work streams of today's event.

- First, some people just aren't aware of ICT careers as an option: for them, we must raise awareness. Current initiatives like e-Skills week and Get Online week are not stemming falling graduate numbers. Here, industry can take the lead: and fast. Like by school visits: I know they already happen; I know they are successful: why not have twice as many of them this year? Or even dedicate 1% of your advertising budget to a joint campaign on the attractiveness of digital careers?
- Second, sometimes people are aware of ICT's potential, but don't have the background to dare embark on an ICT career. So we must modernise education, mainstreaming ICT for every pupil. That's a huge task, ranging from curricula to teacher training, and it will take time. But it needs to be done.
- Third, even if they follow all the right courses and tick all the right boxes – some people still don't get the skills industry actually needs. We must better match what ICT training offers and what the labour market needs: that needs training providers and industry to work together to look at skills needs and define programme content, jointly.
- Fourth, sometimes someone has the right training and the right skills – but isn't where the jobs are. Today some countries face a surplus while others a shortage. We must encourage mobility for ICT workers, and fix that problem. Of course, supporting free movement, in any sector, is the EU's core business. And so I welcome that several national employment services are already actively helping.

- And last, maybe someone has the right awareness, the right skills, and is prepared to move to the right country – but can't demonstrate their skills and qualifications to a potential employer, at least not without prohibitive paperwork. Recognising qualifications in ICT isn't easy: it's a fast-moving world. But we have found a European solution through the e-competence framework: a common system so employers can transparently understand people's ICT skills, wherever they're from in Europe. That's a powerful tool – now we need to commit to use it, employers, candidates, governments, agencies, and more.

This isn't just about work streams and processes though. It's about action: pledges. That's my favourite part today. Not just talking about needs and hopes, but commitments: to new platforms, new programmes and new partnerships. Moving from “wouldn't-it-be-nice-if” to, “here's-what-we-are-going-to-do”. And I am aware that I cannot make such a call without making a pledge myself. The Commission will not just coordinate the work strands and governance of the Coalition. We will also directly support the Grand Coalition through our sectoral policies: from the digital agenda, education, and employment, to innovation and enterprise policy. For instance this year, we will allocate €1 million from the Competitiveness and Innovation programme to support a Thematic Network on the Grand Coalition. We will use Horizon 2020 to support the Grand Coalition, as part of tackling our societal challenges. The Lifelong Learning and 'Erasmus for All' programme will promote using ICT in mainstream education and training. We will fund projects to fill the digital skills gap under the PROGRESS programme this year. We will propose a targeted intra EU mobility scheme focusing on ICT jobs, in 2014-15, under the Programme for Social Change and Innovation. And finally, we will make € 3.5 million available this spring for a pan-European awareness-raising campaign next year and for new initiatives to make progress on ICT Professionalism and ensure that SMEs have the right e-leadership skills. Those are our pledges. And for yours, I'm particularly pleased to see the pledges from industry in this first round. It shows the industry recognises this imperative - and is stepping up to meet it. You are well placed to take action – and even better placed to profit from the results. So, I'm going to invite those companies who have already made concrete pledges to briefly present their plans.

These are very promising projects indeed, which I'll follow closely. But let me underline that this is only the first round of commitments. Those of you who have not yet entered a pledge: ask yourselves, what can I do to fill the gap? And by this I do not mean: how can I re-brand what I am doing anyway as a pledge? I mean doing something different, or something extra, or something better than business as usual. Otherwise we will all be here ten years from now with exactly the same problems we have today, only worse. Nor do I just mean industry; I hope other stakeholders as well will come forward and make concrete pledges. You have from now until 31 May that leaves nearly three months' time for preparation; we will then present all pledges together at the Digital Agenda Assembly in June.

This is serious: it matters to our people, to our global competitiveness, to our very future. But the European Commission can't do it alone. We can only reach our goals if all of us work together. So those of you, who have already pledged, thank you: those remaining, I hope I can count on your support.

# THE PLEDGE CEREMONY

In order to launch the activities of the Grand Coalition rapidly, the Commission invited stakeholders to submit pledges: commitments for action to tackle the e-skills gap. Most potential actions take their value added from the sharing of market intelligence and opening up of hitherto unexplored cooperation avenues. It is exactly those new unexplored cooperation avenues the Grand Coalition is mostly aiming at. The Commission cannot do it alone. A prerequisite to tackle the digital skills gap is stronger collaboration at all levels, including new forms of cooperation, between the corporate world, on the one hand, and the education and training sector and employment services on the other hand. It is essential to bring on board stakeholders from education and the employment services.

**VP Neelie Kroes presented twelve pledges.** The companies along with their pledges are listed below by the main theme.

## TRAINING AND MATCHING FOR DIGITAL JOBS

- **Cisco Systems** committed to develop an education curriculum addressing smart grid networking skills and enable usage of Cisco Networking Academy programme to train smart grid professionals.
- **Fast-track to IT (FIT)** will apply the FIT training and support model to secure employment for 12,000 marginalised job seekers in Spain, Portugal, Greece and Ireland by 2016.
- **Hewlett-Packard** pledged to scale up HP programmes to develop up to 1 million students and professionals with entrepreneurial and technology skills by the end of 2015.
- **Microsoft** will increase the number of high quality apprenticeships and internships by 50% over three years, from the current 9000, thus providing an early career lever to help European youth into digital jobs.
- **SAP** will create the Academy Cube, an online learning platform for ICT practitioners open to all ICT companies.
- **Telefónica** committed to create a Career Fair at Campus Party 2013. It will also roll out across Europe a programme of teaching Digital Literacy Skills and launch a pan-European start-up internship scheme.

## ICT CERTIFICATION

- The **Council of European Professional Informatics Societies (CEPIS)** will launch the CEPIS e-competence benchmark, a free online interactive tool for ICT professionals to identify their competences.
- The **European Computer Driving License Foundation (ECDL)** pledged to launch the new ECDL, a flexible certification that allows the creation of profiles matching individual or organisational needs.
- The **European e-Skills Association** (which is bringing together ten leading organisations in the field of e-skills) is going to set up national roundtables to push for a European standard and a European governance platform for the e-competence framework.

## INNOVATIVE LEARNING AND TEACHING

- The **European Schoolnet** will create Massive Open Online Courses (MOOCs) for secondary school teachers, to support students in acquiring science and technology skills and increase the attractiveness of ICT jobs.
- **Oracle** is going to hold a pan-European roundtable among ICT vendors, Ministries of Education and other stakeholders to share best practices for training in computer science and ICT skills
- The **Corporate IT Forum** committed to fund a programme of work in 2013 (120 000 £) that will bring together major employers in the UK to provide input on ICT curricula so as to align education and training with the needs of businesses

Many more organisations are expected to join the Grand Coalition. Stakeholders who enter a pledge by 31 May will be invited to present their pledges at the Digital Agenda Assembly on 19-20 June 2013 in Dublin, which will also include an update on the current pledges.

## NEXT STEPS

The first post-conference action is the creation of a roadmap for the Grand Coalition.

This roadmap will specify the governance of the Coalition, the implementation plan of the various pledges that were announced at the conference, and the resources committed from the Commission and the participating stakeholders. This roadmap will be updated in order to include new pledges.

The Commission along with the "pledgers" will continue making targeted efforts to engage and secure the commitment of stakeholders from the education and employment services to the Grand Coalition.

# PANEL DISCUSSION:

## Key Priorities and Emerging Trends

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**By Peter O'Donnell**

Associate Editor, European Voice

### Background

The panel was conceived as playing a critical role in moving the discussion forward from consensus on the needs, and momentum from a range of pledges, to plans for converting goodwill into real commitments and concrete actions from all players.

The three main questions related to

- The priorities, pathways or implementation plans each of them envisaged – at European level, and at national level, and how they saw their role;
- How willing – and how equipped - the education and vocational and training sector is to provide people with real IT skills, and to build closer cooperation with businesses to give students an accurate and real understanding of potential demand;
- How employment agencies can best offer guidance to their clients on opportunities in the IT sector, and what sort of communication, tools and training might be appropriate to prepare people for jobs in the sector.

The panel participants were:

- Peter Olson, President, DIGITALEUROPE, VP and Head of European Affairs, Ericsson
- Markus Schwarz, Vice-President, Global Education, SAP
- Sabine Everaet, Europe Group CIO, The Coca-Cola Company
- Christoph Möller, Bundesagentur für Arbeit
- Yvon Leroux, Vice President Cyber Security, Cisco Systems
- Paul-Andre Baran - Romanian digital champion

### Main messages

- There is an inevitable divergence of IT demand across companies and geographies and disciplines because of the diverse nature of IT itself;
- A clear map is needed of both the end goals and the current state of play, so as to identify the gaps and what needs to be done to fill them, and to help maximise the effects of the current and future pledges;
- It is important to avoid silos in ICT-user companies in implementation of career planning;
- ICT can become an agent of valuable social change;

- If labour services were given the necessary mandate, they could provide transparency about vacancies and necessary qualifications, develop specific profiling for the ICT-sector covering both hard and soft skills, support skills migration across Europe, and increase awareness of STEM professions among young people, with a special focus on women;
- Labour services could also provide guidance for employers and employees, and develop self-assessment tools for jobseekers that could match labour market monitors showing relevant opportunities.

## Conclusions

The following conclusions emerged from the interventions:

- A longer term approach to tackling the skills gap is needed throughout the education lifecycle, so as to create a "hunger" for working in ICT, and generate high volumes of prospects to go through the funnel from secondary to university education;
- More females should be attracted to the sector;
- The ICT sector should also explore how far it could agree on what basic skills ICT professionals employers might be required to possess, and what further specific skills employers might be willing to impart.

## Recommendations and further activities needed

- DIGITALEUROPE plans to set up project teams to help create this roadmap, with wide engagement, since industry cannot solve it alone and all stakeholders have a role, including the public sector, civil society, the European Commission, and member states;
- In the immediate, greater transparency is needed about available education, certification, and about tangible initiatives like the Academy Cube;
- The ICT sector could usefully reflect on its image, with a focus on what employers offer in life-long learning, conditions for women who wish to combine a career with having children.

# OPENING SPEECH – 5 March 2013

## Making Education Fit for the Digital Age

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**By Androulla Vassiliou**

European Commissioner for Education, Culture, Multilingualism and Youth

Ladies and Gentlemen,

I'm delighted to be here with you for the second day of our Conference launching the Grand Coalition for Digital Jobs. Yesterday afternoon, you had the pleasure of hearing from President Barroso as well as my two colleagues, Vice-President Kroes and Commissioner Andor, on how important it is that we all pull our forces to tackle the skills mismatch in digital jobs. A number of key stakeholders also presented pledges and outlined the current situation and the priorities for the future. Today, you will have the opportunity to take part in workshops and discuss synergies across the field of ICT. But before that, I wanted to discuss, this morning, the crucial importance of rethinking our educational systems to make them fit for the digital age, in order for the younger generation to be well-equipped for the digital jobs that exist now, and the far more numerous opportunities that will be soon created. We will then look at what we are doing at EU level for this.

At political level, the importance of the topic is well-known. Last December, at a ministerial conference in Oslo, I had the opportunity to discuss with European Education Ministers the growing impact of ICT on education.

We all agreed that we need more innovative ways of learning and teaching in Europe and that a greater use of ICT was essential. **Digital competence has become a core skill that everyone should be learning at school - it is essential to our economic growth and to people's employability and inclusion in society.**

This is not a hypothetical challenge that we expect to be facing sometime in the future. The challenge is before us right now. Almost unnoticed at a time of financial trouble and economic slowdown, there is a silent crisis that is calling into question our ability to bring about a better future. It is a crisis over skills. A gap is growing between the skills that many new jobs require and the number of people who have those skills. The gap is wider for jobs that require mathematical, computing and technical skills.

A fundamental re-shaping of our economies is taking place. The pace of change is quickening, and we are not keeping abreast. If this is a race, we are not winning.

In Europe, we have more than one out of five young people jobless and over 2 million job vacancies unfilled. For unfilled digital jobs, we are looking at a situation where there is barely one ICT graduate for three digital jobs. This is putting Europe at a growing disadvantage with other parts of the world. This is not just a missed opportunity; it is a direct threat to our future prosperity. There is more at stake than simply filling the vacancies. What is at stake is Europe's capacity to create jobs in the first place. The enterprises that will create new wealth and employment over the next decade will depend

on people that have a deep understanding of science and technology: but we are not creating enough of them.

Let's look at the practical steps we can take to improve the situation.

Last November, I presented a strategy on '**Rethinking Education**' to give momentum to reforming efforts. I have made it clear that we need to develop all skills relevant to our future growth, including digital competences as a key transversal skill for growth and jobs. I am urging Member States to embed these digital skills at all levels of education.

**This takes a lot more than just putting more computers in the schoolrooms – but that's of course a welcome first step. In fact it is striking to note that almost one student out of three has little or no access to ICT at school.**

But another fundamental step is to ensure that teachers are trained sufficiently to provide quality ICT and STEM education. Too often these subjects are considered useful, yes, but hard and even boring. Teachers have the vital task of making their pupils discover the beauty of mathematics, the marvels of science and the magic of computing. Without good teachers the best-designed reforms do not stand a chance. This is why we are urging Member States to invest in the recruitment and development of high quality ICT and STEM teachers at all levels, and some ideas will be presented at the conference on this. There is particular emphasis on improving the capacity of teachers to use ICT in their daily teaching.

ICT-proficiency should be considered a basic skill, but this is not to deny the need for specialised skills in this area. Many initiatives are already being taken by higher education and industry to stimulate ICT graduates; I find the sharing of these experiences among Member States of particular value. The digital economy is a major driver of growth in Europe, growing several times faster than the overall economy. We need the people that can put Europe to the forefront of this revolution, and keep us there.

Most of the new digital jobs will not be pure technology jobs in hard computing science, but they will involve applying computing and technology to almost every other industry. This is the import of the revolution we are witnessing. This is what we should be preparing for. This means that we cannot leave vocational education out of the picture. On the contrary, a very promising area for further action could be work-based learning and apprenticeships for digital jobs. I look forward to the discussion of this by stakeholders at the conference. We need more of this kind of learning in Europe.

The European Commission fully supports the Memorandum on European Cooperation in VET, which was signed by several ministers of education in Berlin last December. It was the first step towards the establishment of a '**European Alliance for Apprenticeships**'. Commissioner Andor and I are working closely on this Alliance, which will be officially launched during the World Skills competition in Leipzig on 2 July. And as concerns more specifically universities, last September, I set up a **High Level Group on the modernisation of Higher Education**. The group is chaired by Mary McAleese, the former President of Ireland, and it is working on issues such as the quality of teaching and the adaptation to the digital era. It is expected to provide recommendations before this summer.

At EU level, we want to do our part to the full. We are committed to using more of the Union's budget to support the Member States in their effort to provide education and training that teaches skills for employability. The EU's Lifelong Learning programme is currently funding a range of activities to promote ICT in education. And the new EU

programme for education and training '**Erasmus for All**' that I have proposed for the next funding period 2014-2020 will support even more actions for developing e-literacy, creativity and open education. This includes adopting new models of cooperation between the worlds of education and work, such as alliances between educational and training institutions and business, to nurture innovation and improve the learning and teaching environments.

This is what we want to encourage with our new scheme, the Knowledge Alliances - partnerships which bring together partners from business and academia committed to delivering new and innovative teaching methods and approaches. Sectoral skills alliances will bring the same approach to the world of vocational education and training.

The new '**Opening up Education**' initiative that Vice President Kroes and I will be presenting this year will examine how Member States can maximise the contribution from new technologies. It will look at new learning pathways, new resources as well as a new generation of educational providers.

Ladies and gentlemen,

The active involvement, engagement and collaboration of a whole range of stakeholders are vital for achieving these objectives. The main spirit and aim of this conference is to make this dialogue work at EU level by setting up a Grand Coalition and identifying key actions to be taken. Strong partnerships between the public and private sectors are needed to ensure the best possible match between supply and demand of the labour market.

The challenge we face today is too great to be resolved by any one country or any one policy area. This conference illustrates how important it is to pull our forces together. I am certain that your discussions will be a source of inspiration for our future proposals. By working together in this way, we will help Europe remain innovative and competitive. Because if it is a race, it will be won in the school-rooms - but not necessarily in the traditional ones.

# WORKSHOP: ICT Training

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**By Vincenzo Spiezia**

Senior Economist, International Labour Organisation

The workshop discussed how to foster better cooperation between training providers and employment services to design and offer trainings that meet employers' skills needs as well as which forms of ICT trainings work best.

## Background

We are faced with a paradox that at a time of growing unemployment, companies find it increasingly difficult to find people with the right skills - particularly ICT professionals and practitioners. While a number of individual initiatives to provide ICT training, e.g.: the SAP-lead Academy Cube, the IBM-sponsored World Smart College or the AMETIC's University Center for Technology and Digital Art, are showing good results, there is a need to extend the coverage of these programs, to increase their effectiveness and to strengthen their connections to existing educational institutions as to meet the evolving demand for ICT skills.

## Conclusions

1. **Cooperation between business and higher-education should be strengthened throughout lifetime learning.** This objective calls for university to be more open and responsive to evolving business demand. But also for business to value more ICT skills in their recruitment, even when these skills have not been acquired through a formal university course.
2. **ICT courses at the university level should be modernised, as to meet the new expectations from digital-native students and the new demand from firms.**
3. **The articulation between higher-education and business-led ICT training should be developed.** This requires the definition of a **core of common skills** for university-thought courses, upon which business-led training could build to meet specific or emerging demand from firms. "Dual" PhD courses, combining research at university and work in firms, would be instrumental to this objective.
4. **Local and national job agencies should be more strongly involved in the design and implementation of ICT training.**
5. **EU-wide measures to support training, like a training voucher, should have a stronger target on ICT.**
6. **The design and implementation of an effective ICT training system require an assessment of the causes of the current ICT-skills shortage.** In a context of high unemployment, it should be easy and inexpensive for firms to fill the ICT skill-shortage with training. The fact that this is not happening at the necessary scale may have different causes, e.g.: credit rationing for small firms, unclear training content or poor expectations due to the crises, which call for different policy measures, e.g.: training voucher for SMEs, definition of ICT-core skills, public investments in ICT, etc.

## Actors

A multi-stakeholder partnership should be established among:

- High-education and research institutions;
- Business (ICT and ICT-user industries)
- Local and national employment agencies
- EU institutions responsible for ICT, higher education, research and industry.

# WORKSHOP: LEARNING

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**By Jim Devine**

Former President, IADT Policy Projects Innovation

The workshop focused on how education and training can contribute to filling the gap for digital jobs. Firstly, the workshop explored the potential of apprenticeships for training skilled ICT practitioners and, secondly, the workshop discussed how the teaching and learning of digital skills in general could be enhanced in the education and training sector and what concrete actions could be taken.

## Background

Marina Kuttig set the scene with an overview of a 'best practice' model: the Deutsche Telekom's (DT) apprenticeship scheme for Vocational Education and Training (VET) (known in Germany as the dual system) and DT's provision of cooperative degree courses in collaboration with universities. Arguably a factor in the prevailing low rate of youth unemployment (currently 8.1% in Germany, compared with more than 30% in the worst affected regions of Europe), the dual VET system adaptively aligns skills/occupational competencies development with the evolving demands of the workplace by blending practical vocational training at work with theoretical training and general education provided in vocational schools. At the level of higher education DT offers nine cooperative bachelor degree programmes, again blending direct in-company experience and training in the workplace with studies in partnering universities. In addition to providing relevant training at significant scale, a feature of the DT model is the inclusive approach to the recruitment of apprentices (attracting talent from four categories: 'high flyers', international apprentices, under-represented groups and weaker/disadvantaged groups). Moreover, DT has a successful model for attracting women into ICT through targeted recruitment events and has doubled the intake of women in 2 years. DT has also radically overhauled its model for training delivery. Trainers use ICT innovatively in their training (e.g., through learning platforms) and act as coaches and mentors to support the individualised learning paths of the apprentices. Trainers themselves must hold a masters level qualification in education/training and participate annually in workshops to refresh and update their practice.

The potential for improving the contribution of public-private partnerships to addressing the digital jobs skills mismatch problem was addressed by Danny Gooris (Oracle), who offered further insights into the Oracle 'pledge' to orchestrate an inclusive stakeholders' Roundtable, to take place in May 2013; this pledge had been confirmed during the opening plenary session. The aim is to facilitate a dialogue between the worlds of education and work and to provide an opportunity to showcase curricula and training programmes offered by major private sector ICT vendor companies/associations and to map them against the requirements of Ministries of Education in the Member States. The idea is to identify grassroots ideas and best practices and to uplift these towards more large-scale and systemic actions. An example of good practice is the DIVA project in Scotland, see: [www.sqa.org.uk/mini/26864.html](http://www.sqa.org.uk/mini/26864.html) More effective engagement among stakeholders (public

and private), spotlighting best practice, can be the lever to increasing high value youth employment in Europe. Roundtable stakeholders should include Directors of ICT Curriculum, ICT Industry Representatives, Member State Ministries of Education, European e-Skills Association, European Schoolnet, European Commission DG's, other bodies involved in young people's ICT and Computer Science skills and, not least, learners themselves. The role of the employment services or at least the services guiding young persons towards a job and career should also be involved.

## Key Points emerging in Discussion

Some further examples were provided of good practice in bridging the worlds of education and the workplace:

- Latvian university programme, where all students must undertake substantial projects and/or internships that have been sourced from and negotiated with relevant companies; students value the network of contacts they can build in the world of work, and develop skills they know to be of value to employers.
- Curriculum design/updating in a Swiss university that includes consultation with alumni of the programme who are now practitioners in industry. This is an example of how university curricula are moving more in the direction of competence-based outcomes.
- It is not just a matter for big companies. For example, Microsoft underpins the BizSpark programme, <http://www.microsoft.com/bizspark/>, which supports smaller companies and entrepreneurial start-ups. What is of most value is the transfer from large to small companies of expertise in 'people issues'.
- European initiatives, such as the University-Business Forum, Knowledge Alliances and Sector Skills Alliances bring together relevant actors.
- Ministries of Education have given pledges to work on the recognition of non-formal and informal learning (gained in the workplace or through personal motivation) and to link this with credits for formal education.
- The forthcoming 'Opening Up Education' initiative by the Commission will focus on transformation of learning for the digital age.

There are, however, significant barriers to the wider adoption of best practice models:

- Using the metaphor of baking cupcakes, if the oven is of uneven temperature, not all cakes rise together: the diversity in circumstances between European regions and countries means that many are starting from quite different positions. Barriers can be systemic, e.g., inflexibility in public education and training systems, under-developed industry presence, insufficient number of teachers/trainers conversant with current directions and innovative practices in teaching and learning (and therefore rooted in traditional/outmoded practices).
- Embedding the 'European' at local level continues to present a major challenge, i.e., translating policies, principles and good practices 'accepted' at the macro level to tangible actions at the meso or micro level.
- A related, somewhat intractable, problem is that of completing broadband penetration of homes, schools and businesses in remote, rural regions. Such isolated regions are at a particular disadvantage in availing of opportunities for digital learning (leading to digital jobs).
- The education and training policy environment must be disposed to building public-private relationships; this is not always the case.

- For more innovative public-private engagement in work-based learning to flourish (e.g., the DT model), change and modernisation of curricula and practices in school education (kindergarten to lower secondary) are also an imperative.
- The agenda for ICT/digital skills must be seen to apply across businesses of all sizes; there is a perception that this is an agenda for 'large organisations' only.

Changing patterns of thinking (cultural shifts) about learning in the digital age are also factors to be taken into account:

- Tensions are acknowledged that can hinder closer involvement of companies (particularly the major ICT/digital industries players) with primary and secondary schools. On the one hand, sensitivity to the wider personal and societal goals of education can be a constraint on both sides in pursuing a more open, disinterested, dialogue. On the other hand, lack of closer engagement may be limiting opportunities for innovation and modernisation of curricula and teaching/assessment practices.
- More generally, there is a need to change the conditions of learning. If digital technology has transformed workplaces, the same cannot be said for education (all levels) where in schools (general and vocational) and universities, traditional teaching practices and assessments based on testing only for retained knowledge still prevail.
- Approaches may still be too hierarchical? A more networked perspective on learning is emerging, and the role of non-formal, informal and formal learning needs to be balanced. Lessons can be drawn from disruptive models, e.g., democratic schooling or the un-college movement, see <http://www.uncollege.org>. Top-down must be balanced with bottom-up.
- Other enablers (STEM) must be part of a cohesive approach to ICT/digital skills.

## Further Activities and Actions Needed

1. The Roundtable, to be facilitated in the first instance by Oracle by the end of May 2013, can provide a starting point for regular structured dialogue between ICT/digital industries vendors and associations and public sector actors, including policy makers. The desired outcomes will be:

- Specific actions (more than a 'talk shop');
- Improved digital skills and substantially increased numbers of young persons with those skills, matching evolving demands in the workplace;
- Curricula that are co-created and regularly reviewed, improving the bridge between the worlds of education and work;
- Mapping of curricula, aligning with e-competence framework, EQF, ECVET, EQAVET and national qualifications frameworks, to ensure transparency of certification and opportunities for mobility for individuals;
- Modernisation of teaching, learning and assessment practices at all levels, to harness digital learning opportunities.

Critical to the success of the Roundtable will be the engagement of diverse stakeholders. A particular recommendation from the workshop participants is that adequate provision be made for the voice of learners to be included and heard, as they should be considered primary stakeholders in their own digital futures.

Putting the Roundtable on a sustainable footing must also be a priority, with any future 'convenor' being identified and acknowledged by all stakeholders as 'neutral'.

## 2. Building the right foundation: modernising schools and the teaching profession:

- Actions must be intensified to bring about transformation and modernisation of formal education systems (schools, VET centres, universities). The implementation at scale of Innovative Learning Environments/Creative Classrooms that take full advantage of digital learning opportunities must proceed with the least delay.
- Digital learning should also involve the development of a broad range of key competences and, in particular, should prioritise transversal skills, such as collaboration, communication and entrepreneurship.
- The teaching/training profession requires reinvigoration. Teachers/trainers may be personally competent in the use of digital technologies, but it requires a further step up to understand how to make digital learning a reality in their professional practice.

### Actors

The inclusive and sustained involvement of stakeholders is required to move beyond individual 'best practice' exemplars to a more widespread and systemic engagement between the public education/training sector and the ICT/digital industries.

- The Roundtable could potentially benefit from the drafting of a MoU to underpin its goals, future operations and the commitment of its stakeholders.
- Member States, supported by the Commission, hold the key to modernising education and training systems. While the need for change is urgent, transformation at this scale is not a short-term project. However, enablers are already in place, e.g., EQF, ECVET, quality systems and others, e.g., e-competence framework and the digital competence framework are at an early mature stage of development, ready for more widespread deployment.
- The European Commission must continue to play a catalytic role by supporting policy innovation (e.g., Opening Up Education) and through financial support for innovative and/or upscaling actions in the field of digital learning and education/enterprise engagement.

# Workshop: Digital Entrepreneurship

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**By Vincent Fosty**

Partner Deloitte

This workshop discussed how digital and web entrepreneurship can fill a significant portion of the gap between demand and supply of e-skills and education in the digital age. The discussion took into account the current state of the European business landscape, largely composed of SMEs, and looked at the business landscape as a whole: including traditional industries and business sectors as it is stated that more than 75% of the value added created by the Internet and other digital technologies can be found in those industries<sup>2-3</sup>. Additionally, the discussion also looked beyond filling the gap and discussed some of the more structural changes that need to take place in order for digital and web entrepreneurship to grow.

## Background

Most jobs nowadays already require some kind of computer related knowledge. Whilst ICT specialists<sup>4</sup> accounted for around 3-4% of EU employment; OECD estimated that in 2010 some other 18.5% of employed persons rely entirely on ICT to perform their task, ranging from 9% in Romania to 31% in Luxembourg<sup>5</sup>. Additionally, it has been forecast by IDC that by 2015 90% of jobs will need at least to some extent basic computer skills<sup>6</sup>.

The transition to a knowledge-based and innovation-driven economy will have a clear dependence on technology. Nevertheless, high-tech skills and human capital are arguably required for successful doing business in the digital age as well. In this respect, digital and web entrepreneurship require to have access to a specific and scarce set of skills and talent, centred around mathematics, science and technology (MST). Acquiring those skills is thus rapidly becoming a precondition to become and remain employable.

## Conclusions

### A world of untapped opportunities

Despite the current economic climate, resulting in high youth unemployment in Southern Europe, this is not doomsday but rather the kind of challenging times that we need in order to move the lines: a world of untapped opportunities.

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<sup>2</sup> McKinsey & Company (2011). Internet Matters – The Net’s sweeping impact on growth, jobs and prosperity. Full report available:

[http://www.mckinsey.com/insights/mgi/research/technology\\_and\\_innovation/internet\\_matters](http://www.mckinsey.com/insights/mgi/research/technology_and_innovation/internet_matters)

<sup>3</sup> See also [Value of the Web](#), collecting research that Google has supported to value the Internet and that sheds new light on the economic impact of the Internet.

<sup>4</sup> Defined by OECD as those people who have the ability to develop, operate and maintain ICT systems; ICT constitute as the main part of their job.

<sup>5</sup> OECD (2012). ICT Skills and Employment. New competences and jobs for a greener and smarter economy.

<sup>6</sup> IDC (2009). Post Crisis: e-Skills are needed to drive Europe’s Innovation Society

## **A blend or mix of skills is required in the digital and knowledge economy**

The expanding digital economy is increasing demand for individuals with a blend of skills, covering:

- Creative skills, in addition to STEM (Science Technology Engineering Math), as solving today's problems require creativity and out-of-the box thinking;
- Technology skills with a particular focus on applied technologies (i.e. beyond coding);
- Business and entrepreneurial skills, required to turn an idea or a project into an enterprise.

### **This blend of skills can be developed at a few 'moments of truth'.**

As digital technologies become more and more embedded in our daily life and way of working, a set of skills will need to be developed during early education by including digital technologies both in courses and in teaching methods, i.e. using digital technologies as enablers that help teaching, which is besides becoming an industry per se.

Additionally, the emergence of those digital technologies creates the potential for entrepreneurial and ICT talented practitioners to start up their own (digital) companies. Nevertheless, one should realise that an entrepreneurial mind-set is still too often lacking, amongst others, as entrepreneurship is not fully embedded in the school system. According to the 2012 Eurobarometer Survey on Entrepreneurship for instance, only one third (28%) of European respondents agree that school education made them interested in becoming an entrepreneur. In this respect the importance of young people being more exposed to entrepreneurship while they are still in school was discussed; in particular by looking at opportunities to improve access to entrepreneurship, develop collaboration skills, working in teams, solving problems, legal knowledge, etc.

Upon graduation and entering the job market, the European commission can take action to promote entrepreneurship as a desirable career path. Changing mind-set and aspirations towards entrepreneurship will be key to achieve this, for instance by supporting the conversion of ideas into enterprises, taking the UK initiative "Entrepreneur First" as an example, or by promoting internships with SMEs.

However, one should realise we are not all natural born entrepreneurs. Therefore, fostering an entrepreneurial mind-set along the way and ease the process of creating an enterprise and jobs is necessary as well. Actions could be taken to encourage and facilitate networking in order to support people with good ideas find and meet the right partner(s) and skills or by stimulating interdisciplinary, complementarity and teaming-up of people with different skills.

Whilst being active in the job market, actions can be taken to encourage and enable 'intrapreneurship', i.e. taking initiative and developing new ways of working, products and services within existing enterprises, as well as to leverage valuable skills of senior workforce and immigrants.

### **Across those 'moments of truth', a few enablers can have an impact on the development of digital entrepreneurs and enterprises, eventually resulting in job creation.**

- Increasing media attention for entrepreneurship and business making by celebrating success, entrepreneurial icons, raise entrepreneurial aspirations, etc.;

- Facilitating lifelong learning of the right blend of skills for digital entrepreneurship, spanning from creative and technological to business management and entrepreneurial skills;
- Improving the ease of doing business such as the harmonisation of different standards in tax regimes and administrative requirements across Member States;
- Pro-actively encouraging private sector / traditional industries to take their responsibilities in improving the availability of skills among SMEs in particular;
- Stimulating mobility and immigration. This has been a successful instrument for attracting talent in some parts of the world but needs to be looked at with a long term perspective.

# WORKSHOP: Recruitment & Matching

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**By Jiri Branka**

Senior Analyst, National Observatory for Employment and Training, Czech Republic

This workshop addressed the importance of services to companies and jobseekers in order to achieve a better matching between jobs and skills on the labour market in ICT sector. Possible solutions, such as conversion programs with work placement and mobility schemes were presented and discussed.

## Background

ICT sector provides excellent employment opportunities in Europe. In almost every EU country the share of ICT specialists on total employment increased significantly in last 10 years and especially in Northern and Western Europe this share exceeded 3 %<sup>7</sup>. ICT sector offer prospective and well-paid jobs despite renewed recession and growing unemployment. However, increased demand for ICT specialists is difficult to satisfy as initial education provides insufficient number of information technology and computer science graduates. There are also significant differences in demand and supply of ICT specialists among EU member states, influenced by different situation on national labour markets and level of development of ICT sector across Europe.

## Conclusions

This situation calls for new approaches for better matching between jobs and skills in ICT services. As an example Anne Forde from the Irish Department of Education and Skills presented two programs from the Irish governmental "ICT Action Plan", based on two approaches - (i) short term conversion programs aimed at intensive training of prospective candidates for most demanded ICT jobs including placements in the industry and (ii) medium term programs aimed at increasing of quality and quantity of tertiary graduates in suitable fields of study.

The importance of the combination of these two approaches lies in bringing the solution to the general slow responsiveness and reactivity of education system to the rapidly changing labour market needs. Once the labour market needs are defined, it still takes some years before significant improvement of quality and/or quantity of university graduates may contribute to solving of the problem. In the meantime, the conversion programs can bring a relatively quick short term solution to fill the already existing gaps.

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<sup>7</sup> Source: Labour Force Survey statistics, 2012.

The Irish case also showed the importance of close cooperation with employers - not only in placements of trained persons, but also in the initial identification of their needs and support in development of education and training programs.

The third important finding of this example highlights the importance of exploiting the potential the skills transferability. Although core ICT specialists are a bottleneck supply in Europe, a number of professionals from other knowledge-intensive sectors are available on the (European) labour market. They often possess skills that are applicable in ICT sector and that may facilitate their training and reconversion to ICT jobs, such as problem solving, analytical skills or logical thinking.

Eva Op De Beeck and Soren Vester Kibsgaard, International Recruitment Consultant & EURES Advisors from the Swedish Eures (<https://www.workindenmark.dk>), presented the services for recruitment and matching of ICT specialists in Öresund region and from Europe. Both Sweden and Denmark - countries with the highest share of ICT specialists on total employment in the EU<sup>8</sup> - face difficulties with hard-to-fill vacancies in the ICT sector. Therefore, a cross border initiative in Öresund region focuses on matching and recruitment of ICT specialists using as one of the tools the professional network LinkedIn. This approach is based on smart utilization of social network features – search for the candidates and right match in the available profiles, creation and sharing of profiles (both of companies and of candidates), instant messaging, sharing of information and invitations to events, newsletters and advanced search functions. “Workindenmark” helps to bridge the gap also from broader regional point of view via mobility, assisting to find prospective candidates from Spain and Portugal. The job prospects in these countries are significantly worse - even for the job seekers with high qualification levels. The program offers to the candidates also the necessary adaptation support. Öresund example further shows the use of social media not only as a tool for smart matching but also as a tool for enhancing labour market mobility across Europe.

In successive discussion, different views on some mobility aspects were presented. From the short term point of view, mobility might be seen as less advantageous for the countries with a lower attractiveness of working and living. However, from the job seeker point of view, mobility is an alternative to the unemployment and inactivity. Thus, in the long term, the benefits of getting a job in other country should be seen as clearly positive - for example in gained labour market flexibility and work experience that will be applicable after the return to home country - and greatly exceeding possible drawbacks.

With regard to this topic, Wallis Goelen, European Commission, explained how the Commission will support the mobility via EURES targeted mobility schemes in the following years. The mobility scheme for the recruitment of workers for ICT jobs includes services in the areas of information, advice, job search, matching, post-placements assistance and as well as limited financial support for the jobseekers and the employers.

John McGrath informed about the “Momentum” programme organised by FAS, Irish public employment service will support free education and training projects to allow 6,500 job seekers (who are unemployed 12 months or more) to gain skills and to access work opportunities in identified growing sectors including ICT. The programmes will include on-

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<sup>8</sup> Source: Labour Force Survey statistics, 2012.

the job training in the form of work experience modules as well as the development of the workplace skills required to obtain and retain employment.

An example of an interesting use of Facebook for recruitment and matching has also been shown in the discussion - by a company using this social network as a platform for searching for prospective candidates. The candidates were not searched in the traditional way by posting job offers and sending of CVs, but by inviting network members to participate in solving problems related to the company core activities. Using this approach, the company was able to identify best candidates for vacancies - not by analysing their education and professional experience, but rather by evaluating their competence to solve problems related to jobs tasks in question. Furthermore, this case proved that the competence to solve ICT related problems can be possessed by people without any ICT professional background or education – as for example in that case, by a student of medicine. It confirms that potential for skills transferability is high even in such knowledge-intensive sector as ICT and may show one of the ways how the lack of specialists may be solved.

## The way forward

Better and more effective recruitment and matching with regard to ICT jobs is necessary for improvement of current and future labour market mismatches. Presented examples show the way how these tools may be designed; however a special attention should be paid to several key factors:

1. Intensive cooperation with employers may significantly improve the effectiveness of matching in three aspects:
  - (i) Deep knowledge of employer's needs both in short- and medium term is necessary for proper design of tools that will be used to solve the imbalance;
  - (ii) Cooperation of employers with educators on design of education and training programs will enhance their quality and relevance to labour market needs and
  - (iii) Cooperation of employers on placements, internships and apprenticeships will ensure that the candidates will have not only theoretical background, but sufficient practical experience as well.
2. Focus on skills and their transferability will make the pool with potential candidates much larger. However, two important conditions may greatly influence the utilization of these skills:
  - (i) Suitable candidates with other than ICT professional experience need to be supported in identification and assessment of their potential for employment in ICT;
  - (ii) A way for acquiring formal recognition of gained e-skills must be widely available for these candidates.
3. Better use of ICT may help the companies to find right candidates for the ICT specialists' jobs and present-day tools within social networks for searching, communication, sharing of information or video streaming may greatly support the process of matching.
4. Mobility may also contribute to bridging the gap. Especially in ICT services sector with its high level of international cooperation and demand for qualification and languages the impact of mobility supporting tools may be of great importance.

# Workshop: The Role of Member States

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**By Elizabeth Pollitzer**

Director Portia Ltd

This workshop discussed the role of Member States in the Grand Coalition and the areas where action at this level is needed and can be taken by national and regional governments to make progress towards establishing a sustainable supply of appropriately skilled ICT practitioners and professionals with digital competencies, which are needed in different countries to develop knowledge-based economies.

## Background

The European Commission has taken the lead to develop an e-skills agenda for Europe including the ability of all key actors and stakeholders to work together to identify and overcome well-identified gaps in the supply of skilled ICT practitioners and professionals with high-level competence in digital technologies through the Grand Coalition initiative. The scope of the problem ranges from ensuring the supply of e-leadership skills for competitiveness and innovation and matching new requirements that are emerging from different industry sectors to also ensuring an effective supply of technically trained people needed for developing, maintaining and enhancing the ICTs already in use. This diversity of needs and the differences between Member States in relation to the supply and demand skills model requires that opportunities for taking action are developed through good understanding of the local, regional and national conditions, who the key actors are, and who are the stakeholders. This knowledge is needed to develop effective short-, medium- and long-term strategies and action plans that reflect the needs of individual Member States and the regions they operate within.

Much can be learned from the many cases of “best practice” that have been developed and tested across Europe over the last 6-7 years, many of which have been described in the 2010 report “Evaluation of the Implementation of the Communication of the European Commission E-skills for the 21st Century”, as well as those that have been reported during the 2-day Grand Coalition conference. Six diverse and successful initiatives have been described during the workshop on the Role of Member States. Yvonne van Hest described the **Brainport Development** initiative in the Netherlands ([www.brainport.nl](http://www.brainport.nl)) based on the triple helix innovation model involving industry, universities and government. Mark Heholt reported on the successful industry-led approach developed by **e-skills UK** ([www.e-skills.uk](http://www.e-skills.uk)) to create a sustainable supply of ICT skilled people for the ICT sector by developing university courses (implemented in 14 universities so far) as well as apprenticeships and computer clubs for the young. Thanassis Papadimitriou described the on-line initiative [www.GetBusy.gr](http://www.GetBusy.gr) involving different stakeholders, which targets young people and offers free access to educational materials and raises awareness of career opportunities in ICTs and green economy, as well as other participatory activities. Manus Hanratty described the 13 years of experience in Ireland of the **Fast Track to IT** scheme ([www.FIT.ie](http://www.FIT.ie)) that targets long-term unemployed and returns them to the labour market by establishing their employability through ICT courses. 2500 individuals benefit from this initiative each year. Lucia

Klestincova described an industry-led initiative in the Slovak Republic called **Do Not Ignore Your Future**, which is building regional capacity for e-skills by promoting technical degrees and developing digital champions and global shapers. Audrey Crosbie reported on the initiative at the Trinity College, Dublin, to promote commercialisation of ideas by creating an entrepreneurial **incubator for students** and offering services advising on IP issues.

## Conclusions

The workshop identified 12 specific areas where local, regional and national governments of the Member States can take on an important role in delivering the goals of the Grand Coalition. For each of the areas listed below a good business case can be constructed and examples of best practice are available to help develop specific actions.

1. Mainstreaming development of ICT and digital skills within the national educational system, in educational strategies, and in the school curriculum, as well as in the mechanisms for teachers' career progressions development.
2. Integrating relevant policies, regulations, legislations, e.g. in the areas of tax, welfare, migration, employment into strategic approaches for developing sufficient capacity in the provision of ICT and digital skills.
3. Integrating goals for the supply of ICT skills into the strategies for labour markets development and job creation, e.g. through support for businesses, entrepreneurs and self-employed persons, and targeting key industries where new needs for ICT and digital skills are emerging, e.g. health services, green economies.
4. Creating better conditions for the long-term survival and growth of SMEs by incentivizing them to invest in ICT and digital skills. (800,000 SMEs were created during 2007 – 2013 under the EU Cohesion Fund, which could benefit from such actions).
5. As employers, governments can set the lead in creating ICT skilled workforce by promoting workplace ICT training for public service employees and promoting innovation of services through digital technologies (e.g. to develop e-government at local level).
6. Increasing the value of intellectual and human capital by investing in digital skills. Women, whose participation in higher education has increased dramatically over the last two decades in all Members Sates, represent a largely underutilised source of talent needed for developing knowledge-based economies. Almost 60% of university graduates across Europe are women, but among ICT professionals they are a minority, everywhere.
7. Developing strategy for brain circulation through workforce mobility as an opportunity to diversify and tap into the intellectual capital of those who leave their country to pursue work opportunities in other European states and can bring new experiences and knowledge on their return.
8. Investing in broadband infrastructure and, in particular, delivering fast Internet access to rural regions to enable people living there to access and interact with modern, media rich ICT educational materials, and to explore possible employment opportunities.

9. Develop strategies for transferring and sharing best practice in developing sustainable collaborative structures and frameworks for creation of skills and jobs that can operate at local, regional and national level.
10. Develop triple helix clusters, and other proven successful forms of multi-stakeholder partnerships, to maximise available resources and opportunities for developing knowledge-based economic activities at local and regional level, with opportunities for consolidating different experiences.
11. Promote mechanisms for engaging key actors and stakeholders in a dialogue to establish consensus on the short-, medium- and long-term goals, priorities, opportunities and needs at local and regional level.
12. Become a stakeholder, facilitator and co-funder in initiatives that can establish new best practice in areas where these are needed.

### Further activities and actions needed

The Grand Coalition brings together a wide variety of stakeholders and actors to ensure more effective supply of digital skills and jobs across Europe. To translate this agenda into implementable actions, it is important that discussion and shared learning forms part of the overall strategy. The workshop recommends that:

- Stakeholders and actors sharing specific interests or concerns (e.g. employability, innovation, education) have sufficient opportunities to discuss together on a regular basis what the goals are, what roadmap to use achieve these goals, and how to consolidate the different experiences through mutual learning.
- Whilst there are many examples of excellent initiatives and best practices, a thorough evaluation of their potential to achieve specific goals has not been conducted so far but is needed to establish for example which initiatives are best for skilling the long-term unemployed for ICT jobs, which multi-stakeholder structures are most effective, what kind of computing curriculum works well in school, etc.
- The capacity to effectively address the anticipated skills gaps and emerging skills demands, when the background technology and the labour landscapes continuously change, is a challenge that requires specific attention so that wheels are not re-invented and the accumulating body of experience is consolidated in a way that can benefit different groups of actors and stakeholder operating in different regional, national and international contexts.

# WORKSHOP: ICT Industry Certification

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**By Werner Korte**

Director Empirica

This workshop discussed how to foster ICT professionalism in Europe based on the European e-competence framework and a proposal on quality labels for ICT industry training and certifications.

## Background

We are currently faced with the paradox that at a time of growing unemployment, companies find it increasingly difficult to find people with the right skills - particularly ICT professionals and practitioners. At the same time interest in ICT education and careers is declining in Europe. The number of computer science graduates has been falling steadily since 2005. The rate of decline in ICT graduates is exceeding any forecasts, and threatens to create a dramatic shortfall of skills. What may help to counter the problem is a much clearer and crisp view and understanding of the ICT profession as it stands today and has evolved over the past decades so that people know what to expect when starting a career in this area. The prevailing view is that ICT jobs are those of nerds. This view needs to be corrected and aligned with reality. Professor Martin Curley, Director of Intel Labs Europe, IVI Director, and NUI Maynooth has made the point when stating that "over the past 40 years the ICT industry has completely transformed the world, but the ICT profession itself and how it is organized has not evolved at the same pace" (see video: <http://ictprof.eu/>). Fiona Fanning, Secretary General, Council of European Professional Informatics Societies, CEPIS adds: "There is a need for organizations to align against a common ICT Competence model in order to facilitate transparency both within organizations, across regions and across Europe".

## Conclusions

**Inhibitors and constraints which need to be overcome to allow ICT industry training and certifications to help closing the e-skills gap**

1. Starting a career as ICT practitioner or advancing towards those areas of highest demand is constrained by the fact that the ICT certification world lacks transparency. There are thousands of different certificates, ranging from technical ones (almost every ICT provider offers some) or those offered by foundations in information management, to high-end certificates. Moreover they seem to exist in a parallel universe to that of vocational and higher education.
2. An ever-increasing number of ICT providers offer thousands of industry-based training and certification courses (IBTC).
3. Human resources departments face challenges in recruitment, particularly across borders. Curriculum developers are uncertain about how to provide entry points for interested individuals and organisations. But most of all, small and medium size

enterprises (SMEs) are impeded in their search for talent, and ICT practitioners desperately need orientation and guidance in taking further career steps.

The speed of technological change means that it is increasingly difficult for practitioners to keep pace with the release cycles of vendor-specific certifications. Although it is the clear responsibility of ICT vendors to mitigate risks for their customers by driving rapid release cycles the gap should be addressed by a closer alignment of vendor certifications to generic industry certifications and these industry certifications should be more closely related to the e-competence framework to drive clarity. The affordability of ICT certifications was addressed. More voucher and discount programs should be coordinated between vendors and the member states to make certification more affordable for undergraduates, graduates and the unemployed.

### **The role of IBTC in general and the e-competence framework, European quality label and self-assessment tools in helping close the e-skills gap**

The above inhibitors and constraints can be overcome with a clear understanding of the ICT Professionals and concerted action on each component. A recent project identified four key building blocks of the profession, these are: bodies of knowledge, education and training, ethics and competence. IBTC plays a role in the education and training area, and the e-competence framework is a key component of the Competence building block. Under each of these components there is the potential for services to exist. An example of one such service, that relates to the education and training component, is the recent European quality label project (see: [www.eskills-quality.eu](http://www.eskills-quality.eu)). This provides an example of how the e-competence framework along with other criteria can be used in the market to help elucidate the transparency of certification programme content along with other aspects of certification providers themselves. The EC funded project proposed distinguishing different types of certification against the e-competence framework and a self-assessment tool (see: [www.eskillslandscape.eu](http://www.eskillslandscape.eu)) which is also based on the e-competence framework as a common competence framework allowing for the profiling of existing or required skills. The e-competence framework provides a common competence framework and language. The need to ensure that the e-competence framework is applicable across regions to avoid a fragmented global competence landscape was discussed. And it was agreed that the e-competence framework could build the foundation for the competence element of the ICT Profession and the development of associated services which could bring orientation and transparency in the opaque ICT training and certification landscape since industry-based ICT training and certification can play a role to fill the identified e-skills gaps likely to even further grow over the coming years.

### **Further activities and actions needed**

#### **Multi-stakeholder partnership for the governance of the e-competence framework and associated services**

To ensure that the e-competence framework is promoted so as to facilitate the emergence of an ecosystem of associated services and tools as services in the market, a European multi-stakeholder partnership of key actors is needed. The e-competence framework is readily available and currently being further developed to its version 3.0 within the CEN workshop on ICT skills. However, currently there is no organisation which has responsibility to promote the use of the e-competence framework, support its uptake at the European/national level.

The European e-skills quality label has been developed and specified in terms of criteria, processes and including a proposal for the necessary structures needed for services based on the e-competence framework such as quality label awarding, renewal etc. within a European initiative launched by the Commission (see: <http://eskills-quality.eu>; and also the brochure: [http://eskills-quality.eu/fileadmin/eSkillsQuality/downloads/e-Skills\\_Quality%20Labels.pdf](http://eskills-quality.eu/fileadmin/eSkillsQuality/downloads/e-Skills_Quality%20Labels.pdf)). It is likely that in the future different tools will co-exist and form an eco-system of e-competence framework based tools operated in the market. The e-competence framework platform has an essential role in facilitating this through the promotion and marketing of the e-competence framework. Concerted action and partnership among key stakeholders would be necessary to establish management and governance structures. The result would be to attract more people to become ICT practitioners and professionals, help them to up-skill themselves, and further advance their careers to match the e-skills and e-leadership skills increasingly demanded by industry. Companies in the sector, as well as employment agencies and the recruitment / staffing industry, also stand to benefit in their own recruitment and job placement processes.

Europe's industry should be asked to build on the e-competence framework when recruiting or promoting employees. This can provide the European bridge across national and corporate frameworks, by describing professional ICT-related skills in terms of competences and levels that can be understood across the whole of Europe, and may also be promoted and used internationally too. In Italy a network for competences in the the digital economy: "Rete Competenze per l'Economia Digitale" has been established. It is a precompetitive network of the most representative ICT SMEs and Industry associations, namely: Assintel, Assinter Italia, CNA, Confindustria Digitale, UNIMATICA and Fondazione Politecnico di Milano (FPM) with a scientific role. SMEs and Industry associations have gathered together to address the e-skills issue. The aim of the network is to promote the Digital Job, raise awareness about the e-competence needs through workshops, webinars, lobbying etc., and act as the national contact point for the e-competence framework towards Europe and within the forthcoming European e-competence framework governance partnership. "Rete Competenze" and UNI, the Italian National body of standardisation, are also involved in developing and supporting the standardisation process of ICT professions based on the e-competence framework 2.0.

## Actors

A multi-stakeholder partnership should be established as a two-tier model, with a governance layer and an executive layer, supplemented by a network of national stakeholders. Actors could include:

- Industry (e-skills demand side) and ICT training and certifications companies (e-skills supply side)
- European ICT associations (e.g. CEPIS)
- Education and VET sector and vendor-independent certification and examination institutions
- National employment agencies
- Actors from staffing and recruitment industry etc.

A pledge based on a multi-stakeholder partnership has been announced by the **European e-Skills Association** together with 16 partners on 4 March 2013.

# Panel Discussion: Raising Awareness

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**By Willy de Backer**

European Trade Union Institute

## Background

There is a need to bring greater visibility to ICT education, training, jobs and careers. Sometimes ICT jobs do have an image they do not deserve. Awareness-raising campaigns at EU and national levels are indispensable to better inform students, young professionals and SMEs about the range of opportunities that ICT-related jobs present. In order to attract students, ICT jobs and careers need to be promoted (pointing out concrete aspects of ICT work, employment and career opportunities, pay levels), for example during school/higher education visits by ICT companies/associations, targeted websites, viral videos, etc..

The panel was moderated by **Willy de Backer**, European Trade Union Institute, with the following panellists:

- Marc Durando, Director, The European Schoolnet;
- Addie Van Rooij, Vice-President Human Resources, Hewlett-Packard EMEA;
- Ian Clifford, Founder, Telecentre Europe;
- Claire Boonstra, Founder, Operation Education,
- Alvaro San Martin, Entrepreneur, CEO and co-founder of Floqq,
- Eva Fabry, Director, European Centre for Women and Technology.

## Main Messages

During the panel, participants introduced their views on the main reasons of the apparent lack of sufficient attractiveness of ICT jobs in Europe and answered the moderator's question on their ONE brilliant idea on how to raise awareness and attractiveness of ICT jobs.

- Ian Clifford mentioned the negative role that parents can have in demoting ICT as a career, as it is very hard to advise young people on taking an ICT career for a number of reasons (complexity of opportunities, potentially obsolete learning (i.e. learning an outmoded programming language), perceived lower salary levels) and how much easier it must be to suggest medicine, law or financial careers. His positive suggestion was to counter this with information targeted at parents and grandparents about the benefits of a career in ICT. This could be focused on the varied nature of the work, its resilience to the economic circumstances, its central role in business today, not to mention the potential for entrepreneurialism.
- According to Eva Fabry, it is important to include additional players (citizens, consumers, customers) in the Grand Coalition stakeholder platform. The Grand Coalition needs to formulate and disseminate three core messages: a) ICT jobs are everywhere, fun and cool! B) Today's careers mash up tech with anything you imagine and c) Gender is IT's main diversity issue, and it's a matter of choice. Moreover, it will be important to identify indicators for impact measurement, based on realistic goals.

- Addie Van Rooij mentioned that ICT jobs are often considered pure "technology" jobs and therefore might not be perceived to have the most attractive and broad career tracks for students. The (perceived) narrow career opportunities also increase dependency on certain technological specialisations, which then creates uncertainties with constantly changing IT platforms and environments. The cloud and internet developments have a huge impact on the purely technical skills and requirement of those skills in certain locations. R&D and "source coding", software development can be more centralized and globalized, less dependent on location. Future skill requirements will focus therefore more on a combination of commercial and business capability attached to technical capability, as large enterprises want to utilize IT for the benefit of better business outcomes and insights into their businesses for decision making.
- Marc Durando mentioned that the attractiveness of ICT jobs has to be linked to the more global STEM agenda (STEM = acronym for science, technology, engineering and mathematics), as the ICT issue is only the tip of the iceberg. The main problem in Europe is the lack of interest of young people for taking up science studies first, but also taking up science and STEM jobs later on, due to three main elements: the attractiveness of the studies, the attractiveness of the teacher profession and the attractiveness of STEM jobs.
- As regards the attractiveness of STEM jobs, there is often a lack of knowledge about the jobs offered and guidance counsellors in schools should inform better about the opportunities offered by science and ICT jobs in industry. In that context, the role and engagement of industry can help to promote and diffuse role models, and offer better information to teachers and guidance counsellors on the realities of what industry offers. It is absolutely important to continue to promote more education-industry cooperation in all its dimensions.
- Claire Boonstra said that our society is in transition from a hierarchy-based system, where status is important, towards a network where everybody's valuable contribution to society is what counts. This transition is enabled by ICT - it is no longer necessary to cascade knowledge and information from top to down. Networks enable people to have influence rather than status or power - and thus to bring out the best in themselves. Education should prepare for this new reality and benefit from the possibilities of ICT, by no longer imposing a curriculum and cascading (instructing) knowledge - but by supporting the natural learning process. This will enable everybody to develop their talents into value for society, in a way which is in line with motivations, learning style and tempo. Operation Education is a movement and platform which shows that this is already possible and facilitates the transition towards the new reality.
- Alvaro San Martin highlighted the importance of life-long continuous learning. In order to attract great professionals we have to take into account what kind of profiles we are dealing with. If we are trying to attract the best young professionals, we need to take into account that they are looking for 3 things: challenging problems, impact, and freedom. Are we offering appealing ICT jobs to this kind of professionals in Europe? He proposed to create short videos showing the companies and the kind of jobs that currently have zero unemployment, in order to attract people to the lifestyle of these new jobs that are growing faster than ever.

## Further activities and actions needed

Some possible recommendations from the panel discussion:

- It is necessary to support the professional development of teachers and guidance counsellors. A lot of activities and programmes exist and it is absolutely important to federate existing initiatives, but also to offer massive online courses for teachers to help them tackle the e-skills and STEM issues.
- Existing awareness-raising campaigns such as the e-Skills week or Get Online week need to address the school level even stronger, including the support for teachers in their professional development. It is also important to increase parents' awareness about the benefits of digital careers. Telecentre Europe referred to Get Online Week 2013 ([www.getonlineweek.eu](http://www.getonlineweek.eu)), a major pan-European awareness-raising campaign focused on engaging and empowering people (notably youngsters) to use technology professionally.
- Business cannot do without IT skills and IT cannot do without business/ entrepreneurial skills. We need to create schooling that addresses both and brings both further together.
- It's important to get the gender dimension in the Grand Coalition and ECWT said it is working together with partners to formulate a commitment for the Digital Agenda meeting in June 2013 so that the gender dimension will be taken care of by a representative partnership.

# PANEL DISCUSSION:

## The Way Forward and Next Steps

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**By Ade McCormack**

CEO Auridian and FT columnist

### Background

The focus of this panel discussion was to take the issues and opportunities presented throughout the two days of the Grand Coalition seminar and with the collective wisdom of the panellists distil a set of appropriate actions. The three main questions around which this discussion was based were as follows:

- What advice would you give to ensure that this Grand Coalition is a real success and so ensure that Europe remains relevant in the global digital economy?
- How best can we quickly turn good intentions into real jobs?
- How can we prepare our workers for jobs that will be essential to the digital economy but have yet to be invented?

### Main messages

The panel was moderated by Ade McCormack, CEO Auridian and Financial Times columnist. The panellists were:

- Jan Muehlfeit, Chairman, Microsoft Europe
- Gianluigi Castelli, Chief Information Officer, ENI
- Michael Freytag, Policy Advisor, Eurociett
- George Brashnarov, Vice President, PIN-SME Europe
- Philippe Saint-Aubin, Chairman of the IndustriALL Europe ICT Committee
- Borut Campelj, Ministry of Education, Science, Culture and Sport, Slovenia

Their main messages were as follows:

- Digital jobs are needed for the Digital economy. The Digital economy being more than just a highly automated industrial society, but a world where workers and citizens are highly mobile and social and where work and life are integrated. Technology is fuelling this revolution, but it is being driven by people.
- Whilst the Grand Coalition aims to find staff for existing jobs. We also need to be looking for jobs for existing staff. If we want to attract skills into the ICT sector, the proposed jobs must be attractive in terms of salaries, challenging tasks and working conditions (especially for women). Too many European

companies are practicing out-sourcing and off-shoring as a way to reduce costs. Jobs in this sector are therefore not perceived as stable jobs.

- The development of European training programs should be supported. Such programs should aim at providing generic and reusable skills. Social dialogue in the ICT sector has so far been virtually non-existent at the European level. A central component in preparing workers for future jobs is to be found in life-long learning, career guidance and coaching. We need to make sure that all workers (from medium to high-skilled) are equipped with the relevant skills and ICT knowledge to succeed in the labour market.
- It is essential to prepare workers for future jobs. The concept of partnerships between public and private employment services is required. Similarly partnerships between employers and employment service providers and between employment services and the world of education are also needed. We need to prepare each individual to use ICT in both the context of education and their job. Rather than taking an industrial 'one size fits all' model we need to develop ways to incorporate personalisation into the learning process. Best practice should be shared in respect of e-competencies across Europe.
- Develop multimedia e-learning materials for mobile devices to enable learners to gain access when and where it suits them. As well as supporting pupils, support is needed for headmasters, teachers and parents, otherwise they will misadvise in respect of digital career options. We need to maintain and build competitiveness and so we need to build a stronger talent pipeline. Whilst we cannot predict the exact profile of jobs of the future, we can collectively equip our workers with the skills required to meet industry's emerging demands, e.g. the cloud, big data and e-health.
- We must immediately start from innovation in the classroom and in turn build out to clear and accredited training pathways that blaze the way to digital jobs. We need greater partnership between government, non-profits, businesses and academic institutions. We need to accelerate high quality apprenticeship and internship programmes in order to smooth the transition from school to work. Action needs to be taken in respect of youths who are not in education, employment or a job. They are in danger of becoming unemployable and thus economically inactive.
- In respect of large US corporations, we need to encourage a focus on research and development, rather than just seeing Europe being used mainly as a commercial playground.
- We must pursue certification. Like standards, it provides a high degree of interoperability between workers and companies and creates a solid foundation for mobility. Creating opportunities for new jobs for the young generations is vital, but companies should also put in place the right measures to preserve existing jobs for middle-age professionals.
- To translate intentions into real jobs in the short term, member states should introduce various kinds of incentives: tax reduction to stimulate e-commerce,

the creation of incubators, removal of barriers for a healthy venture capital and cross border crowd funding. SMEs are the engine driving Europe's economy. However their needs are often overlooked as the universities tend to focus on the needs of 'volume' employers.

- Disparities in the educational systems from country to country erode mobility and thus deny SMEs the ability to source much-needed talent from abroad. e-Skills is an issue for citizens and not just ICT practitioners. Associated initiatives need to reflect this.
- Western Europe lacks an entrepreneurial culture in comparison to the USA. Europe's youth must be encouraged to take risks and be self-driven. Whilst Eastern Europe has a more ambitious workforce it similarly has a shortfall in suitably qualified workers.

## Conclusions

The following conclusions emerged from the various interventions:

- Because IT permeates everyday life, there is an inconsistent degree of clarity amongst all stakeholders as to what constitutes a digital job. Consequently there is a danger that any related initiatives may underperform.
- Europe stands a better chance of being an economic powerhouse if it acts a unit. This requires greater cooperation between the member states and the promotion of international standards.
- No amount of e-skills training will keep Europe economically relevant in the global marketplace if culturally we lack a pioneering and entrepreneurial spirit.

## Recommendations and further activities needed

- Clarify the scope of the Grand Coalition in respect of what constitutes a digital job and then launch initiatives focused on the target communities, prioritising such that early initiatives support those that follow.
- Explore how European educational, governmental and business establishments can cooperate to cultivate a more entrepreneurial mind-set amongst European youth.
- Implement a pan-European competency model to eliminate the economic inefficiencies brought about by an immobile workforce.
- Ensure the abovementioned recommendations are entwined, as either of these recommendations on their own will have limited impact.

# CLOSING REMARKS

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**By Antti Peltomäki**

Deputy Director General, DG Enterprise and Industry, European Commission

Ladies and Gentlemen,

I have inherited the challenging task to deliver the closing remarks after this one and a half day intensive conference. Vice-President Tajani is unfortunately not able to be here this afternoon and asked me to replace him. I want to convey to you his support for the e-skills strategy and the setting-up of the "Grand Coalition for Digital Jobs".

Last year **Vice-President Tajani** wrote the foreword of the **e-Skills Manifesto** and I invite you to read this booklet. The Manifesto dives deeply into policy development opportunities. The role that all stakeholders across the European Union must play in the development of a cohesive action plan to develop and promote e-skilled labour in Europe is vital. Written with contributions from leading experts in Government, education, policy, research and industry, the Manifesto is a blueprint for making this happen.

We hope that the Coalition will be instrumental in **scaling up and accelerating current efforts**. Not to mention stimulating new initiatives. The first pledges presented by stakeholders at this conference are a good indication of this. After the initial enthusiasm, the challenge in the coming weeks will be to get organised in an efficient manner.

This event has demonstrated the strong interest for the setting-up of a Coalition bringing together all stakeholders to join forces to address e-skills gaps, mismatches and shortages. Industry, not just the ICT industry, is already very much convinced of the importance of this issue. We welcome the possibility to bring together additional stakeholders from the employment, social and education communities as well as representatives from civil society. In this respect the launch of the Coalition is an important milestone. The Commission is inviting all Member States, regions and stakeholders to engage in this partnership. And ultimately, we should also keep in mind that the bigger issue is not only about e-skills for specialists but also e-inclusion for all. We need to make progress on both.

Europe remains well placed to address the challenges ahead. We can build on a good basis and a large group of stakeholders. For example, last year in March 2012, Vice-President Tajani launched the e-Skills Week to inform young people and citizens on how to acquire e-skills and find jobs in the digital economy. Led by DIGITALEUROPE and the European Schoolnet, a consortium of 300 stakeholders organised more than two thousand events involving almost two million participants in 37 European countries. I participated at the closing event organised with the Danish Presidency in Copenhagen and I can confirm the strong motivation of industry.

Good progress has been made in the implementation of the Commission's Communication on **"e-Skills for the 21<sup>st</sup> Century"** and its long term e-skills strategy. Member States are increasingly designing e-skills initiatives and many initiatives have been launched by industry. We must sustain this good momentum. This spring we will publish specific

targeted calls for tender to further support the implementation of the e-skills strategy and the activities of the Coalition, including the organisation of a large pan-European awareness raising campaign. With your help we should be able to maximise the reach of our messages. But even if we could manage to reverse the decline in the number of young people entering ICT education this year, it is unlikely that we will be able to produce more ICT graduates for many years to come. This is where new short term industry-led training initiatives, such as some of those which were presented at this conference, as well as industry training and certifications can make a difference. They can complement formal education and vocational training systems. **Quality labelling based on the pan-European e-competence framework** would further support transparency and transferability of competences and qualifications in Europe.

The role and the responsibility of enterprises are crucial. It is widely expected that industry-led training initiatives could play an important role to reduce ICT job vacancies and facilitate the continuous acquisition of new skills with e-learning and blended learning. This is particularly important because many of the business models, of the jobs and of the companies of the future need to be invented. And this is why the e-skills strategy is a key component of the Industrial Policy and of the Entrepreneurship 2020 action plan. We are developing a common EU vision and set of actions to boost digital entrepreneurship in Europe and connect all SMEs to the digital world. The digital revolution offers unprecedented opportunities to foster growth. The emergence of cloud computing will enable small companies to develop and bring to market innovations that were too expensive beforehand. To take full advantage of all these opportunities, more and better qualified ICT practitioners, but also entrepreneurs, managers and users are needed.

In the context of the crisis, we should keep in mind that funding will remain an issue. This is the reason why the Commission, for example, encourages Member States to strengthen digital training within their education and training systems and through operational programmes supported by the European Social Fund in 2014-2020. The role of Member States will be determinant.

In conclusion, we should aim together at giving both scale and sustainability to best practices. **With the "Grand Coalition for Digital Jobs" the Commission is inviting Member States and all stakeholders to better cooperate and increase their efforts through joint initiatives and partnerships.** By working together we could ensure that existing resources and funding instruments are contributing more efficiently to the implementation of our shared vision and strategy.