Background document for informal ministerial dinner on 10 December 2015

1. Commissioner Oettinger and Prime Minister Bettel have organised this informal dinner debate to facilitate a first exchange between EU ministers on the important cross-cutting issue of how to develop adequate levels of digital skills in the EU, in the face of rapid digitisation. As we rely more and more on innovation in digital technologies as the main source of growth and jobs in the EU, a lack of adequate digital skills is a major barrier to reaping the full potential gains for the economy and society. Achieving sufficient levels of the right digital skills lies at the core of successful policies in the digital domain and are key for reaping the potential gains from the digital transformation. The purpose of the meeting is to hear the views of ministers on this, to learn about and share Member State experiences and discuss the way forward for policy at national and European level with a view to skilling and re-skilling EU citizens for their increasingly digital lives. In particular, ministers' contributions will input to the Commission's forthcoming initiative on skills, foreseen for adoption in the first quarter of 2016, its follow-up, and to its strategy on Digitising European Industry (Industry 4.0).

2. The spread of new digital technologies across the economy and society is leading to the need for everyone, of all ages, to acquire digital skills and to keep them up-to-date throughout their lifetimes. Lack of digital skills hampers take up of broadband in some countries and may be an important barrier to the development of the Digital Single Market (DSM). As the competence for digital skills development lies largely in the hands of Member States, they need to develop their own strategies, encompassing all stages of learning, to comprehensively address these issues.

3. Digital technologies are transforming the world we live in. They are changing the way we communicate, how we learn and share knowledge, what jobs we do and how we do them. While the computer and internet revolution of recent decades has largely impacted on services and consumers, the next wave of innovations looks also to transform the industry and/or the production side. Developments in robotics, the Internet of Things, big data and cloud technologies are causing a fourth industrial revolution. There are huge gains to be made for growth, competitiveness and job creation in the EU, if we continue to embrace and enable these changes. Indeed, over the past two decades, around a third of GDP growth can be attributed to the production, investment and use of digital technologies. Over the last ten years, an extra 2 million ICT specialists jobs have been created, which generated further jobs in related support services. Many of the new ICT jobs are being created outside the ICT sector itself, in ICT using industries such as the automotive industry and the health sector. Already 55% of ICT specialists work outside the ICT sector.[1]

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[1] Source: Digital Agenda Scoreboard report (2015) chapter on Digital Skills and Inclusion on the basis of Eurostat data from the European Labour Force Survey

4. Yet, to achieve the full potential gains of the digital economy and society, Europe faces a number of challenges or barriers, which are identified in the Commission's Digital Single Market (DSM) Strategy. Once implemented, it is estimated that a fully functioning DSM could contribute over EUR 415bn per year to our economy and support the creation of hundreds of thousands of new jobs.

5. Lacking digital skills is one such barrier. The spread of new digital technologies is affecting the need for different skills in the economy and society in a number of ways. Digitisation is affecting the structure of the economy, leading to the replacement of certain "routine" tasks, and sometimes the jobs associated with them. However, new often better quality jobs are being created. And digital technologies in many cases complement existing jobs making them more productive.

6. As a result of this restructuring of the economy and society, a number of different digital skills gaps are emerging:

   - Firstly, as the economy and society digitises, citizens need digital skills or they risk being economically and socially excluded, including from public services. In the EU, the digital skills/competences of citizens are lacking. Around 100 million EU citizens have no digital skills and are thus effectively digitally illiterate.[2]

   - Secondly, digital skills are needed in the labour force. While most jobs already require some level of digital skills, a third of the EU labour force has only low or no digital skills.

   - Thirdly, there is a growing deficit of ICT professionals in the EU. As the demand for such skills picks up, the supply is slow to react. Employment of ICT professionals in the EU has risen on average 4% per year over the past 10 years but the employment potential is much higher and a gap is emerging. Indeed 40% of firms looking to hire ICT specialists report significant difficulties in finding adequately skilled people.[3] As a consequence, it has been estimated that by 2020 there will be more than 825 000 unfilled vacancies for ICT specialists in the EU.[4]

   These skills gaps are a growing impediment to social inclusion, employment, employability, the productivity of firms and of the economy as a whole. For all of these reasons, the Commission is committed to the development of digital skills as part of its Skills Agenda.

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[2] Source: Digital Agenda Scoreboard (2015)

[3] Source: Digital Agenda Scoreboard report (2015) chapter on Digital Skills and Inclusion on the basis of Eurostat data from the European Labour Force Survey

[4] Source: Empirica (2015)

7. The reasons for the digital skills gaps and mismatches are well known. Firstly, Education and training systems have not fully adapted to the needs of the 21st Century. Secondly, there is a continued lack of interest in studying computer science, as well as following ICT careers; despite good employment prospects and competitive wages. Thirdly, there is a lack of alignment between the skills supplied and the needs of industry, partly due to a lack of interaction/collaboration between education and industry. Fourthly, companies in all economic sectors do not engage enough in training and re-training their workforce. Furthermore, little training is devoted to the skilling/re-skilling of the unemployed. Finally, limited mobility and lack of information regarding qualifications and emerging skills needs (e.g. Big Data) for example within the EU prevents better labour market adjustment.

8. The Commission has been addressing digital skills gaps through a number of initiatives. These include in particular the "Grand Coalition for Digital Jobs"[5], "EU Code Week"[6], and the "e-Skills for jobs"[7] awareness raising campaigns, as well as the "Opening up Education"[8] and "Education and Training 2020"[9] initiatives to modernise education for the digital age.[10]

9. The Grand Coalition - a cross-European multi-stakeholder collaborative effort to reduce digital skills gaps in Europe – has so far attracted around 60 stakeholder pledges offering ICT training, apprenticeships, placements, actions to facilitate mobility and/or carrying out awareness raising activities to encourage young people to study and pursue careers in ICT. It has also led to the development of 13 national coalitions, with more being planned. The third edition of EU code week this year featured over 7,000 events for kids, teachers, parents and other adults.

10. Most competences in this field lie with the Member States and are shared across multiple government departments. This is why, going forward, Member States might consider developing their own integrated digital skills strategies, encompassing all stages of learning and training: from school to tertiary education, to work, to retirement. These strategies should involve all relevant actors, including education providers, employment actors, social partners, ICT producing and using industry and the public administration. The role of national governments, in particular ministries for telecommunications/industry, education, employment and others with digital portfolios, is key.

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[5] http://ec.europa.eu/digital-agenda/en/grand-coalition-digital-jobs-0

[6] http://ec.europa.eu/digital-agenda/en/coding-21st-century-skill

[7] http://eskills4jobs.ec.europa.eu/

[8] http://ec.europa.eu/education/policy/strategic-framework/education-technology_en.htm

[9] http://ec.europa.eu/education/policy/strategic-framework/

[10] See Digital Skills leaflet

11. The Commission will work to identify and share best practices, scale them up, to broaden their reach and involve more stakeholders. It will also provide more intelligence to anticipate skills needs.

12. To provide European citizens with the skills they need to succeed in the digital economy and for the digital economy in Europe to succeed requires a huge collaborative effort by us all. It is important that governments and relevant ministries take up this issue and address it with vigour. Available national and European funds should be mobilised in support of digital skills development. At a time when there is a heightened sense of urgency to equip European citizens for the jobs of the future, now is the time to do this.

13. The Commission will address these issues in its forthcoming Skills Agenda, planned for adoption in the first half of 2016. As an input to that agenda, Member states are invited to discuss the following issues:

Questions for discussion:

(a) Are the issues raised here important/relevant for your country? Can you indicate a particularly impactful policy that your country has put in place to address digital skills gaps?

(b) Responsibilities on digital skills development are often shared between different ministries. How can effective collaboration be ensured across ministries on this important issue?

(c) How can we at European level best add value and help Member States in the development of Digital Skills in the EU, in particular in the context of the forthcoming Commission Skills Agenda? How can we best foster national partnerships between relevant stakeholders?