

# European ICT-Skills Meta-Framework

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## **ABSTRACT FOR WORKSHOP SESSION “Promoting New Ways for Certification, Accreditation and Assessment”**

The CEN/ISSS Workshop on ICT-Skills has started its second phase at the beginning of 2005 with the goal “to prepare, validate and agree a European ICT-skills Meta-Framework”. There is common consensus of all stakeholders on the necessity of such a meta-framework. At the same time a legally binding agreement and formal engagement of the EU Member States on an overarching framework is not realistic at all. Therefore a consensus-based agreement could be a possible solution for the needs to anticipate serious shortages on e-skills, to set clear targets and to better plan education and training investments, in order to steer provision towards the most promising segments of the ICT skills labour market and to make it more attractive for young and older people. This paper deals with e-skills in Europe, with the idea of a European meta-framework and how this could be achieved through a CEN/ISSS Workshop.

### **1. Introduction – Issue to be addressed**

The European e-Skills Forum in its Synthesis Report [1] and the e-Skills 2004 Conference both requested in their recommendations and conclusions to develop a European ICT skills meta-framework: “Member States and the Commission should further explore the development of a European ICT skills meta- or reference framework and in this context of European-wide certification standards in ICT in co-operation with the social partners and with the assistance of multi-stakeholder partnerships. They should also encourage and support efforts to increase the transparency of e-skills industry certifications and promote appropriate quality standards for public and private certifications and the training industry.” [2].

Therefore a second phase of the CEN/ISSS “Workshop on ICT-Skills” was started at the beginning of 2005. Its primary objective is to prepare, validate and agree a European ICT-skills Meta-Framework. Such a consensus-based agreement, supported by the main stakeholders, the European countries, national institutions, and statistical and labour market bodies, should help to build an umbrella over the existing variety of national and regional frameworks. Among all stakeholders exists a broad consensus on the necessity for the establishment of such a meta-framework. Recent developments on the ICT market have demonstrated the urgent need to anticipate serious shortages, not least since any policy response measures will take time to a) be developed and implemented and b) result in the emergence of increasing skills supply.

This article describes the development and the background situation of the workshop, its starting point in February 2005 and the planned outcomes until its end in October 2005.

## **2. Objectives of this contribution**

The objectives of the article are:

1. to explain the objectives, benefits and purpose of a European meta-framework
2. to introduce the reader to the work method of CEN/ISSS Workshops
3. to report on and disseminate the provisional outcomes of the CEN-ICT skills workshop concerning a European e-Skills Meta-Framework
4. to explore interests for further activities on standardisation of ICT skills' certification in Europe
5. to put these activities in relation to the ongoing work of the European Commission on an overarching European Qualification Framework and on Credit Transfer in order to support European mobility and co-operation in VET and LLL

## **3. e-Skills in Europe and an e-Skills Meta-Framework**

Europe is still suffering from a lack of skilled ICT practitioners in both quantitative and qualitative terms. Demographic developments, skilled labour shortages and the difficulties of European legislators to find a concerted approach in the field of IT education and training, require quick action. A widely used classification scheme with a set of definitions (so the definition of a "framework") is an essential component for analysing developments and improving the e-skills labour market in Europe.

ICT exists across all market sectors and forms a part of the core strategy of competitiveness. It also is constantly developing and changing. The dynamic nature of the ICT industry requires employees to constantly monitor and update their skills in order to be able to perform a given role. But there is a distinct lack of standards and definitions for job roles with ICT. [3]

A European level meta-framework could provide orientation and guidance on ICT skills and qualifications. It also could enable stakeholders and policy makers to set clear targets and to better plan their education and training investments whilst supporting the necessary geographic and professional mobility of ICT workers within Europe and beyond.

Following up the European e-Skills Forum [4], which has been established by the European Commission in March 2003 and which finished its work with the European e-Skills Conference (held in Thessaloniki/Greece in September 2004 [5]), and the first phase of the CEN ICT-Skills Workshop (see the two CWAs [6] and [7]), the described workshop should provide a voluntary recommendation of experts and stakeholders for a such an e-skills meta-framework.

The European e-Skills Forum decided for its work that the term e-skills "encompasses a wide range of capabilities (knowledge, skills and competences) and issues with an e-skills dimension and spans over a number of economic and social dimensions. The ways individuals interact with ICT vary considerably, depending on the work organisation and context of a particular employer, or home environment." Therefore the definition was chosen that "e-skills cover mainly three categories:

- ICT practitioner skills: The capabilities required for researching, developing and designing, managing, the producing, consulting, marketing and selling, the integrating, installing and administrating, the maintaining, supporting and service of ICT systems;
- ICT user skills: the capabilities required for effective application of ICT systems and devices by the individual. ICT users apply systems as tools in support of their own work, which is, in most cases, not ICT. User skills cover the utilisation of common

generic software tools and the use of specialised tools supporting business functions within industries other than the ICT industry; and

- e-Business skills: the capabilities needed to exploit opportunities provided by ICT, notably the Internet, to ensure more efficient and effective performance of different types of organisations, to explore possibilities for new ways of conducting business and organisational processes, and to establish new businesses.” [8]

The e-Skills Forum stressed in its’ final conclusion that a longer-term strategic vision in the EU is required in both the ICT sector and the ICT user industries. “The goal of ensuring that Europe’s workforce and population is adequately e-skilled for the future should be seen within this longer-term strategic framework. e-skills is not an issue which can be dealt with, and then dismissed.” [1]. For the Forum the way towards the widening and deepening of e-skills within the European Union is through multi-stakeholder dialogue including social partners and partnerships for action.

Both in Europe and worldwide there can be found a huge number of frameworks on ICT-skills. E.g. for IT jobs there are SFIA, Career Space and the CompTIA Tech Compass; for IT work processes APO and EUCIP should be mentioned; for IT competencies eCCO and the industry; for IT domains at least ACM/IEEE can be named; some of them being international, some of them with a national focus.

Following Stucky [9] a meta-framework “provides data about frameworks”. It is an “abstract system describing constructs, structures and rules of syntactic relationships of models/systems”. And it should give guidance how to build skills frameworks.

The broad consensus of all the stakeholders on the establishment of a European ICT-Skills meta-framework, which should allow to accommodate all different qualifications and skills throughout Europe and to improve transparency of ICT skills, profiles and training provision, was already mentioned. Nevertheless, a legally binding agreement and formal engagement of the EU Member States on an overarching framework for a European(-level) analysis of ICT skills and qualifications does not seem to be realistic at present. Therefore a CEN/ISSS Workshop was chosen as a possible way towards such a meta-framework.

#### **4. The CEN/ISSS Workshop on ICT-Skills**

CEN is the European standardisation body encompassing all national bodies for standardisation and normalisation. A special strand exists on information society standardisation issues (ISSS).

The Workshop was originally proposed by CEPIS, Cedefop and the Career Space Consortium. CWA 14925 [6] and CWA 15005 [7] were published as a result of this first phase. Discussions during 2004 and at the European e-Skills 2004 Conference as well as the strong support by the European Commission’s DG Enterprise and Industry have led to the next, the second phase. [10]

The term “workshop” is used as an organizational frame for the way the work supported by CEN/ISSS is done: A Business Plan has to be drafted and approved and a Workshop Secretariat as well as a Project Team (paid experts) have to be appointed. Participation in the workshop is free for anybody interested and the result of the Workshop is published as a CWA. CEN Workshop Agreements (CWAs) are consensus-based specifications, drawn up in an open Workshop environment. [11] So they surely are one good way forward.

The CEN Workshop on ICT-skills offers a platform for industry and the education and training sector to co-operate in view of quick results produced on a voluntary basis. The ICT profession has high impact on employment, business and society. One of the goals is to improve and promote high standards for training and qualification. The results of the workshop could be an important step forward towards harmonising the ICT profession of

practitioners and advanced users. A voluntary document, developed by all interested parties, leaves room for manoeuvre but still responds to economic and social demands: ICT-newcomers could be directed towards the most promising segments of the industry; ICT-experts could be allocated more easily; trained computer staff could be directed to regions in Europe requiring their individual skills; and a comparison of skills and competences as well as labour mobility within Europe would be facilitated.

At the kick-off meeting for the second phase of the Workshop on ICT-Skills in mid February in Karlsruhe/Germany, the business plan has been approved, the chairs have been elected and 3 experts (from the Netherlands, the UK and from Germany) as a project team have been nominated. The experts proposed the following starting points [12]:

- Firstly, the *background and history* leading up to the point the workshop now finds itself will be considered as a justification for the process. By such a review, it is hoped that will emerge more clearly the goals, limits and aspirations for a European ICT-Skills Meta-Framework, its use and purpose(s). It is also intended that a *set of working definitions* can be agreed which will form a sound basis of the work.
- Secondly, a *survey and review of existing European and international frameworks* will be undertaken exploring their commonalities, dissimilarities and purposes. Other related initiatives and projects will also be examined and possible approaches for the development of a Meta-Framework will be presented.
- Finally, a *set of recommendations* will be proposed which - following consultations with the group of experts from the Workshop - will form a further basis of the CWA.

Workshop work is intended to be an iterative and consultative process. Contributions of all interested parties are invited, and a possible platform for this is the Virtual Community (VC) within the European Training Village: <http://communities.trainingvillage.gr/cen-ict>. This VC has been available by Cedefop in order to allow for the broadest possible participation of interested parties and experts even between formal meetings.

## **5. Conclusions and Summary Recommendations**

The description and the analysis of the Workshop on ICT-Skills shall provide clarification of needs, benefits and purposes for a Meta-Framework. The results and recommendations will represent the consensus among all stakeholders, who are currently participating in the CEN Workshop on the subject. Based on these recommendations, a procedure will then be launched to agree on the most convincing option for a European Meta-Framework, and to publish this as a formal CEN Workshop Agreement.

Furthermore, it is being acknowledged that such a framework should take into account the current work of the European Commission on an overall European Qualifications Framework (EQF), which intends to encompass Higher Education, VET and Lifelong Learning as well as the forthcoming EU Directive on recognition of professional qualifications. Once the meta-framework is being agreed it should ease the cooperation of providers of education and training as well as certifying bodies and last but not least support the mobility of students and trainees and the establishment of a comprehensive European system for credit transfer.

e-skills will remain on the agenda of the European Commission and the stakeholders involved in the CEN/ISSS Workshop on ICT-Skills. Most probably this workshop will continue its work after October 2005 when the actual CEN Workshop Agreement shall be finished and published.

## References

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- [5] See for more details and all the presentations: <http://www.eskills2004.org>
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