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## Interoperability of European e-Career Services

This CEN Workshop Agreement has been drafted and approved by a Workshop of representatives of interested parties, the constitution of which is indicated in the foreword of this Workshop Agreement.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**Management Centre: Avenue Marnix 17, B-1000 Brussels**

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## Foreword

The formal decision to start work on this CEN Workshop Agreement "e-Career services interoperability" was taken at the CEN ICT Skills Workshop meeting of November 2007 in Brussels. The development of this CEN Workshop Agreement took place in the CEN ICT-Skills Workshop between March 2008 and July 2009. The draft CWA was made available for a 60 days commenting period, which period closed at 1 August 2009.

Between 30 July 2009 and 30 September 2009, the paying registered participants of the CEN Workshop were requested to express their opinion on this CWA in a written process. Their validation of the CWA focuses on the main part of the CWA, the CWA's annexes (mostly factual information) may not have received a similar detailed review by the registered participants.

Experts from the following organizations expressed their support:

- AICA
- CEPIS
- CIGREF
- ECDL Foundation
- EXIN
- HBO-I
- IG Metall/ KIBNET
- KWB eV
- Microsoft DE GmbH
- UNI Global Union
- Uni Karlsruhe/ AIFB

No paying registered participant expressed opposition against the CWA. One paying registered participant abstained.

The final draft was sent for publication on 9 November 2009.

The substantive finding of this CWA report is recognition of a significant absence of interoperability for e-Skills and ICT career services across Europe. The CWA builds upon this finding and addresses realistic solutions targeted to

- Policy and decision makers
- Website creators, designers, architects and developers
- Qualification and certification providers

A summary of related recommendations is provided in Chapter 6 of this report.

This CEN Workshop Agreement is publicly available as a reference document from the National Members of CEN : AENOR, AFNOR, ASRO, BDS, BSI, CSNI, CYS, DIN, DS, ELIT, EVS, IBN, IPQ, IST, LVS, LST, MSA, MSZT, NEN, NSAI, ON, PKN, SEE, SIS, SIST, SFS, SN, SNV, SUTN and UNI.

## **1. THE INTEROPERABILITY VISION**

### **1.1. The benefits of interoperability – the value chain proposition**

Today, the interoperability quotient determines economic and social value. A low level of interoperability leads to loss of opportunity. Interconnection between related activities and services has become the new standard for value and innovative excellence.

Interoperability primarily refers to the ability of Information and Communication Technology (ICT) systems and of the business processes they support to exchange data and to enable the sharing of information and knowledge.<sup>1</sup>

ICT systems can only reflect the 'real environment' therefore recommendations on how to increase interoperability of European ICT career and e-skills services within this CWA go beyond application in an online environment. The value chain proposition established by interconnecting websites must be underpinned by complementary standards.

Information and communication technologies operate in a global market and ICT business processes, jobs, methods, competence requirements and solutions are converging. However, apart from some examples in the United Kingdom, the current level of European ICT career web services' interoperability is very low. Navigating the web and identifying relevant links is confusing; on-line information about ICT careers and e-Skills developments are structured and presented in many different and isolated ways. This constrains labour mobility in ICT career development and consequently the competitiveness of the European ICT business.

The CEN/ISSS Workshop on ICT Skills agrees that interoperability between e-Skills ICT career services and web portals across European member states should increase. Common reference standards, which articulate competences, skills and job roles, are the enablers of interconnection and exchange between e-career related products, services and internet portals. Benefiting from enablers such as the European e-Competence Framework, and increasing levels of interoperability will enhance website values and usability across national and company boundaries.

Considerable benefits can be accrued for website users by creating value chains linking data from different web portals. For example, a typical value chain can be found in the travel

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<sup>1</sup> IDABC-EIF 2004

industry. Booking a flight on-line commonly links to hotel offers, car rental or booking of sight-seeing tours in the destination city. Transferring these principles to ICT career development, on-line insertion of individual competence profiles could, for example lead to connections with qualifications, certifications and alignment with job opportunities.

In the past the lack of Europe-wide shared frameworks and tools made connection and integration difficult, however, common reference standards such as the European e-Competence Framework and the EQF are now available. They can support interoperability of e-career related websites and contribute to increasingly efficient connections and data exchanges between ICT Human Resources development needs, offers and products across EU member states.

In the context of multistakeholder efforts to create and maintain a common European ICT sector framework, consistent links between, for example, qualification and certification programs, competence requirements on the job, market research and career information are invaluable. The use of shared languages and structuring principles supports and strengthens long term multistakeholder cooperation to create, manage, plan and develop ICT competences needed in Europe today and for the future.

## **1.2. ICT Career and e-Skills web services in Europe and their interoperability potential**

The volume and diversity of Information and Communication Technologies (ICT) career and e-Skills development websites found and hosted on local, national, European and International levels by organisations, companies and institutions is unsurprisingly huge. Some websites encourage young people to choose an ICT career, others provide advanced ICT career and job guidance. Some sites support qualification and certification promotion others assessment tools, gender issues or job opportunities whilst others focus on statistical data and sector policies or simply provide space for interaction between sector players.

In recent years, a broad range of career support initiatives have been launched at regional, national and international levels. These include Europass, the former Career Space, the e-Skills ILB Industry Leadership Board and the recently launched "e-Skills Europe" pilot portal, the forthcoming European Directory for Woman and ICT, Cedefop portals at a European level, as well as e-Skills UK, Kibnet, Passinformatique and Cigref portals in local and national environments.

However, the current low level of European ICT career website interoperability does not correspond to the needs of a global market: ICT operates globally and differences between jobs, methods, competence requirements and solutions are becoming less. ICT supply and demand companies need staff able to develop and manage ICT devices, to understand, build and integrate technology into business processes to leverage productivity and innovation.

Consequently, a long term strategy to create, manage, plan and develop ICT competences required for the long term perspective across Europe, is a European objective.

In this scenario, services aimed to help the labour market understand jobs, learning and career advancement opportunities in the ICT field are increasingly relevant. From a European, national or regional perspective online ICT Career services are more efficient and benefit providers and users if key services are interconnected. Existing websites and portals need to provide clear, transparent, effective and complete ICT career development information and services to individuals, companies and institutions involved in ICT processes (business, learning, career). Valuable service examples include self-assessment, job search, Job-CV matching, career orientation, competences, qualifications or certifications specifically addressed to ICT. The ability to connect these services in a transnational environment would increase value and efficiency for website users.

In the past lack of Europe-wide shared frameworks and tools made connection and integration very difficult, but recently developed common reference standards such as the European e-Competence Framework and the EQF are now available. Together with a European ICT Qualifications language, they can support interoperability of e-career related websites and contribute to supporting data exchange of ICT Human Resource development information and products across EU member states.

The European Directory of Women and ICT, financed by the European Commission's DG Information Society & Media, to be launched in October 2009, will be one of the first platforms, targeting multistakeholder users, to integrate the European e-Competence Framework. The directory using an SOA based solution will address interoperability issues using semantic and syntactic standards and will deploy the recommendations of this CWA.

#### *1.2.1. Towards a shared European online platform: The European e-Skills Portal*

The need for a European portal was driven by the significant influence of Information and Communication Technologies on the EU economy, the international competitiveness of the sector and the existence of e-skills gaps in Europe. The provision of a shared European internet platform for e-Skills development is intended to support a wide range of ICT sector players and career seekers.

Following a feasibility study of a European ICT Career Portal carried out in 2007, the European e-Skills and Career Portal project was initiated and supported by the e-Skills Industry Leadership Board (ILB). The ILB and the European Schoolnet service provider launched a pilot version of the portal for the European e-Skills Conference 2008 in Thessaloniki.

The strategic goal of the pilot Portal is to lay foundations for medium to long term development of market-relevant e-Skills capacity. In addition, it addresses tactical activities in support of ICT

job seekers and ICT career development. The priority focus group for the pilot phase is students and ICT professionals. The portal functions are dedicated to ICT career guidance, e-Skills information and networking facilities.

In the longer term, the European e-Skills Portal aims to meet the needs of all ICT sector players engaged in European ICT workforce development processes from multiple perspectives. The future target group includes:

- *Individuals*, e-citizen users, students, ICT workers or ICT professionals The Portal should serve as a 'one-stop-shop' for e-Skills and Career Guidance,
- *Employers*, to support the attraction of people into ICT careers, to serve as a point of communication with potential employees/interns and to offer current information on e-Skills jobs,
- *Educators and trainers*, providing them with a platform for providing appropriate guidance to students/trainees about careers in ICT and further training,
- *Government, non-Government and third party stakeholders*, by offering a source for statistical and survey data, promoting ICT skills awareness raising campaigns and policy, providing an overview of the supply and the demand for skills and monitoring educational provision,
- *Job and Employment Agencies*, providing them a source for potential candidates,
- *ICT skills providers*, raising public awareness of the role of non-formal training and educational channels to provide market-relevant ICT skills through multi-stakeholder partnerships, promoting skills programmes, career options and education programmes and tools, enabling promotion or sponsorship of specific initiatives within the Portal community.<sup>2</sup>

To achieve a sustainable, added value European online platform deploying feasible resources; interoperability of relevant websites on national and European levels is essential. Commonly established concepts and references, such as the European e-Competence Framework, provide the high-quality neutral standards to support this aim.

### 1.3. Career Services Interoperability

ICT career and e-Skills development websites offer a selected range of services, which are relevant for ICT career development; this CWA defines them as the Human Resources domain (see chapter 3). The range of services offered can be grouped into four classes:

- **Learning services** representing learning programs, training and certification programs and diagnostic assessment

<sup>2</sup> See: <http://eskills.eun.org/web/guest/objectives>