



European Exchange **Mechanisms** for e-Learning Content and e-Skills Development



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European Exchange Mechanisms

for e-Learning Content
and e-Skills Development

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Editors: Stefania Aceto, Fabio Nascimbeni
MENON Network

Authors: Stefania Aceto, Claudio Dondi, Chiara Mellini
MENON Network
Anna Schmittelm, Agnès Aguiló
P.A.U. Education

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FOREWORD

The European Union needs to ensure that the knowledge, skills, competence and creativity of the European workforce – including its ICT practitioners – meet the highest global standard and are constantly updated in a process of effective lifelong learning.

The European Commission adopted in September 2007 a Communication on “e-Skills for the 21st Century” presenting a long term e-skills agenda¹ for Europe and including key action lines at EU level. The Competitiveness Council of Ministers welcomed this Communication and adopted Conclusions on a long term e-skills strategy at its meeting on 22-23 November 2007. Stakeholders also welcomed this initiative and have established the e-Skills Industry Leadership Board to contribute to implementing the strategy.

To take full advantage of the strategic and operational opportunities offered by information and communication technologies (ICT), it is clear that more and better qualified ICT practitioners as well as e-skilled managers and citizens are needed. The e-skills strategy has progressed with several visible achievements and the European e-Skills Conference which took place on 20 November 2009 in Brussels delivered some very welcome messages of encouragement in today’s challenging times. Europe is increasingly developing its human capital to be globally competitive and is making significant progress towards the important goal of implementing a long-term e-skills strategy.

The European Union must remain an attractive place to live and do business. To this end it is necessary to continue to work at providing a rich science and technology environment and the availability of a breadth and depth of skilled labour force performing well in the latest technologies. This study provides useful ideas and recommendations on how to set up pan-European exchange mechanisms to improve the quality, the relevance and the diversity of e-learning courses for continuous e-skills development. It is particularly relevant because there is a real need to increase the availability of e-learning resources for ICT practitioners and users in a lifelong learning context.



Costas Andropoulos,

*Head of Unit: ICT for Competitiveness and Innovation
Innovation Policy Directorate
DG Enterprise and Industry
European Commission*

1. http://ec.europa.eu/enterprise/sectors/ict/e-skills/index_en.htm

INTRODUCTION

Why are eLearning resources not exchanged so much internationally and why are they not really known beyond their originating market?

The study summarised in these few pages has addressed this problem in a comprehensive way, trying to identify commonalities and differences with other areas of ICT and media international trading, analysing supply and demand actors and dynamics, identifying and reflecting on existing –successful and less successful- experiences and finally proposing some conclusions and recommendations on what might be done at European level in order to improve market efficiency and –what is more important- satisfaction of a growing need for continuous professional development of ICT professionals in whatever industry they work, particularly if they do not have a broad range of training opportunities made available by their employer or professional association.

The potential of eLearning to serve these needs is widely recognised, but some barriers exist to its full deployment: the hypothesis developed and explored by the study is that only a significant set of stakeholders interested in eSkills development and exploring the full potential of eLearning to this purpose may provide the feasibility and the sustainability conditions for a transparent “market place” - at European and, virtually, international level - of eLearning resources and courses to keep ICT professionals constantly updated towards ongoing industry development and certification requirements.

At the point in time of closing the study report we are not in the conditions to say if and how this idea will develop into a reality, but confidence was expressed –by a majority of experts and stakeholders consulted through the study- about the relevance of the idea and the feasibility of the exchange mechanism. Of course, a number of conditions for success were also identified, to indicate that success is not guaranteed by the simple fact of answering a recognised need.

In our view the role of the European commission and public decision makers in encouraging the implementation of such an exchange mechanism is key to guarantee equilibrium between current approaches to learning content access and emerging business models in the field of learning services in the age of large availability of learning contents.

However, we also see a key role for industry and for user organisations in setting the relevance, effectiveness, efficiency, quality and sustainability conditions for the system to be developed.

We, the team who conducted the study, hope that this short document will help to facilitate dialogue, consensus and convergence towards the achievement of an important goal of the European innovation policy.



Claudio Dondi,
*President of Scinter and
Member of the Board of MENON*

BACKGROUND

The study “European Exchange Mechanisms for e-Learning content for e-skills and Networking of Training and Research Centres” is part of the follow-up of the Communication on “**e-Skills for the 21st century: Fostering Competitiveness, Growth and Jobs¹, adopted on September 7th, 2007**”.

The communication includes a long term e-skills agenda for Europe and five action lines at the EU level:

1. **Raising Awareness:** exchanging information and good practice for the promotion of science, maths, ICT, teacher training and gender issues; encouraging awareness campaigns to provide parents, teachers and pupils with an accurate understanding of opportunities arising from ICT education and careers and reinforcing the links between ICT, learning and innovation.
2. **Developing supporting actions and tools:** supporting the development of a European e-competence framework, of a European e-skills and career portal, and the Europass initiative; promoting multi-stakeholder partnerships, quality criteria for industry-based training, new curriculum guidelines include services sciences, and appropriate incentives, especially for SMEs.
3. **Fostering employability and social inclusion:** launching an initiative on e-Inclusion in 2008 with a view to halve the digital divide by 2010; encouraging corporate social responsibility (CSR) initiatives such as the European Alliance on Skills for Employability under the umbrella of the Business CSR Alliance; and promoting how public and private funding instruments can support such initiatives.
4. **Promoting long-term cooperation and monitoring progress:** maintaining a regular dialogue with Member States and stakeholders; releasing an annual report presenting a synthesis of supply and demand and assessing the impact of global sourcing on ICT jobs and occupations.
5. **Promoting better and greater use of e-learning:** promoting the development of courses and mechanisms facilitating the exchange of e-skills training resources; supporting the networking of e-learning and training centres with the European Network of Living Labs and promoting successful e-learning strategies.

Of special focus to the Study is the 5th objective which is central in boosting e-Skills across sectors and players. In spite of the current economic crisis, most of the reports and surveys indicate a severe e-skills shortages and mismatches in the coming years. Companies and organizations need to bet on technology to boost their capacity to increase their productivity and innovate. These high performing tasks require a skilled workforce that trains and retrain along time.

The technology progress also affects how e-Skills are elicited and learned. New models and paradigms for teaching and learning are being deployed by leading players and very quickly diffused through the sector. The availability of better exchange mechanism among key players will undoubtedly contribute to more competitive European e-Skills course providers as well as a better trained workforce. The “human aspect” is also of key importance, and requires, in parallel to the design of mechanisms facilitating exchange and brokerage of knowledge, a strong focus on the development of collaborative working methods inside working communities.

The Communication also highlighted the need for the Commission to support two activities:

- Promoting the development of e-learning courses and exchange mechanisms of e-skills training resources for the workforce;
- Supporting the networking of training centres and researchers that contributes to a better understanding of future e-skills needs

In the above context, the objective of the study was to **analyse and recommend exchange mechanisms of e-skills training resources** (focusing in priority on e-learning courses) for the workforce, and the **networking of training and research centres in Europe** with a view to contribute to a better understanding and addressing of future e-skills needs.

The results of the Study were released in April 2010.

This brochure presents the main findings and conclusions from the study activities. The full reports and outputs produced can be downloaded at <http://www.elearningeuropa.info/eskills/es/downloads>.

1. COM(2007) 496 final

A TAXONOMY OF THE EUROPEAN E-SKILLS MARKET

There is a broad consensus on the importance of the supply of e-skills in Europe. In particular, many companies claim that they have difficulties in hiring ICT skilled staff and also IT/ICT specialists. According to Eurostat (2007) the main reasons for hard to fill vacancies for ICT specialists jobs are the following:

- Lack or too low number of applicants
- Lack of work experience in the field of ICT
- Lack of ICT related qualification from education and/or training
- Salary requests too high

Eurostat data (2009) suggest that acquisition of e-skills by individuals increasingly relies on learning by doing as well as informal learning through peer to peer interaction. Self-study through books and CD-ROMs follows whereas acquisition through attendance of courses, be them part of formal education or recommended by the employer or even attended on the own initiative of individuals are the less used strategies to obtain e-skills.

The notion of ICT practitioners adopted in the study on e-skills exchange mechanisms includes not only IT/ICT specialists but also ICT users in working environment. The evolution and speed of technological progress and the implications this evolution has on working and learning shall in fact be taken into consideration when designing and implementing a European exchange and networking mechanism for e-skills.

e-learning for e-skills in Europe: providers, curricula, delivery and distribution strategies

Providers of e-skills training (be it classroom, blended or online) belong to a variety of actors' categories in Europe. These range from international providers to local ones, with diversification of curricula, certifications and qualification offers.

The taxonomy¹ of providers considered in this study includes the following categories:

- ICT industry and vendor neutral providers
- Corporate Universities
- Open Universities
- Vocational Education Training institutions

The ICT industry is both a provider and a demander of e-skills. Big multinational companies such as Microsoft, IBM, Sun Microsystems, Cisco, and Oracle are well established suppliers of e-skills training at international level. The training offer they provide is usually relevant to their products and services (as in the case of Microsoft) and to their specific core business (as in the case of Cisco).

Their training offer is provided worldwide with the same common structure, list of courses and of available certifications, recognised worldwide. Distribution and delivery of courses at regional/national level happens by means of accredited centres/business partners (private and public such as VET institutions, academies and schools).



1. This taxonomy is not intended to be an exhaustive description of all the existing providers and available offer but a way to reduce the complexity of the market and to illustrate some relevant experiences.

Courses are delivered:

- In classroom: in this case the accredited learning centre provides the location, support services and instructors to deliver training and usually is responsible for the examination leading to the formal certification.
- Blended learning combining on-line and classroom training (performed by local accredited centres/ business partners).
- On-line: in this case the role of the local accredited centre is usually restricted to the performance and assessment of the exams leading to certification.

The offer of courses generally varies according to the chosen delivery format, meaning the same course might not necessarily be available both on-line and face-to-face. As concerns localisation strategies, the courses provided might vary from one region of the world to another and from one country to another. Whereas in-classroom training implies often adaptation in terms of language, on-line courses are offered in English.

All the courses offered by ICT providers and leading to certification are fee-based. Usually subscription happens on-line and grants access to courses, including learning resources and support services. Entrance tests to assess the level of the learner and support him/her in the identification of the most suitable course are generally provided for free.

Vendor neutral providers are also present on the market, with European or worldwide spread. These provide courses and/or certifications recognised by international professional bodies and networks and generally address ICT specialists. **Corporate Universities** represent an important stakeholder providing e-learning courses for e-skills. Traditionally, corporate universities only offered internal accreditation and use them as means

of channelling employee training toward corporate goals, sharing corporate information or knowledge, and disseminating corporate culture. More recently, some corporate universities have established links with academic institutions in order to offer formal degrees.

As concerns **Vocational Education and Training**, in every European country there are many different VET centres having as regulatory reference different national frameworks. Usually they do not just produce and distribute courses anymore, but they provide a more complete offer (information, promotion, orientation, tutoring and certification) to guarantee maximum fruition and easy access, and to answer to the requirements of both private citizens and organisations interested in an educational offer. The training offer they provide for adult education relevant to the field of e-skills and e-learning for e-skills varies from ICT industries licensing courses to lessons provided as citizen's utility service.

Open and distance learning universities provide access to a variety of subjects and courses leading to the acquisition of formal titles.



EXCHANGE MECHANISMS FOR E-LEARNING FOR E-SKILLS

In the globalisation context we are living in, implying increased internationalisation of learning, the availability of brokerage systems able to widen the offer and access to learning resources is an emerging need. In parallel, the exploitation of new technologies and networking services potential is more and more urgent to support the general trend of “granularisation” and personalisation of content. According to the article “Designing an e-Learning Objects Brokerage System”¹, an online “brokerage system” is an on-line entity that acts as an electronic market place facilitating the exchange of learning objects among organisations and individuals.

The review carried out on available brokerage systems for learning resources as well as the consultation with EU experts in the field of e-learning, e-skills and e-learning for e-skills has led to the identification of the following challenges to be faced when planning the design and development of a networking and brokerage mechanism for e-learning resources for e-skills in Europe:



Strategic dimension:

- **Capitalisation of existing results and initiatives:** a European exchange mechanism on e-skills is generally considered as necessary, provided that it does not overlap with already existing initiatives but it rather aims at complementing and systematising them.
- **Integration of vendor centric and vendor neutral interests:** : the e-learning for e-skills supply is featured by private vendors (ICT actors, corporate universities and publishers, for instance) active generally at global (and thus also at European) level and public actors (such as higher education and VET institutions) active generally at national/local level. The challenge is how to address them and make sure a “revenue” for both categories is guaranteed (not only financially) to ensure their commitment and active involvement. In addition, stakeholders’ role in the process of design, development, implementation and monitoring of the brokerage system needs to be defined so to ensure that stakeholders ranging from trade unions to industry confederations, chambers of commerce have a say and can bring the views and concerns of final users of the system into the whole process.

- **Networking:** The platform shall provide facilities for the networking and cooperation among all interested stakeholders.

Distribution, localisation and adaptation dimension:

The exchange mechanism shall have a European dimension compatible with national frameworks. The language issue remains a key problem, as though most experts suggest to stick to the English language as the “official ICT language” the implementation of the exchange mechanism will most probably require adaptation to single country languages and training needs. The issue of distribution, localisation and adaptation will be strongly linked to the harmonisation of the e-skills classification systems at EU level. In this context, the European e-Competence framework could be considered as the starting point to work on so to link it with available vendor and vendor neutral certifications. Its link to the European Qualifications Framework implies an interesting potential to overcome national differences .

1. “Designing an e-Learning Objects Brokerage System” by P. Avgeriou, L. Michael, I. Stavrou, S. Retalis. Department of Computer Science, University of Cyprus, Nicosia. See: <http://iwi.eldoc.uib.rug.nl/FILES/root/2003/ProclCNUeAvgeriou/2003ProclCNUeAvgeriou.pdf>

Sustainability dimension:

Public funding (at EU and national level) would be necessary for the start up phase of the platform, though most experts agree that in the long term alternative sources of funding shall be retrieved.

Technological dimension:

Experts suggest that in the design of the exchange mechanism, a bottom-up perspective shall be combined with the more classic top-down approach, in particular:

- Web 2.0 and 3.0 solutions shall be considered for the exchange mechanism leading to a community based approach where user ratings and interaction shall be key in guiding ICT practitioners in the choice of the right e-learning resource for e-skills acquisition.
- The Open source “industry” as well as open educational resources for e-skills shall be taken into consideration.

The cases of existing brokerage platforms presented in the report show the need for a strong effort on the technological design of the platform so to make sure that its clearing house and resources hosting and distribution infrastructure works efficiently through a system allowing interoperability.

Security dimension:

Focus shall be set on:

- Need for a tracking system to determine content value for professional recognition purposes.
- Institutional protection system against copyright violation and improper distribution of materials by institutional users and others.
- Establishment of a business framework to ensure rewarding for both content creators and providers.
- Privacy protection of individual users (to avoid advertising spamming, and improper diffusion of final users confidential information).

Quality dimension:

The quality of learning resources distributed through the exchange mechanisms is a key challenge to be faced. The e-skills Steering Committee Group recommended users’ ratings of the resources, coupled with some forms of regulation by independent agencies.

Usability:

User-friendliness and user involvement emerge as key aspects to ensure the sustainability of the platform in the long term.



GOOD PRACTICES

Good practice analysis focused on cases relevant to the field of exchange and networking mechanisms for e-learning resources.

The research team adopted an approach that considered the “good practices” to be those that, within a context of their previous or current development, included interesting pedagogical, organisational, economic,

technological, institutional and/or networking elements in addition to transferability and sustainability.

The analysed cases are located both within a European as well as a non-European context. Particularly interesting cases from extra-EU countries were integrated by means of comparative assessment so as to underline transferable practices and methods of successful brokerages and sharing systems.

1. EXCHANGE MECHANISMS AND PORTALS: EU AND INTERNATIONAL CASES.

➡ EDUCANEXT

www.educanext.org

EducaNext is a non-profit association that aims at:

- Supporting the creation, exchange and dissemination of knowledge using Information and Communication Technology (ICT)
- Fostering collaboration among higher education institutions, research institutions, and other organisations producing knowledge, both at an individual and institutional level
- Increasing excellence in teaching, learning and research

➡ ARIADNE

www.ariadne-eu.org

A European Association open to the World, for Knowledge Sharing and Reuse. The core of the ARIADNE infrastructure is a distributed network of learning repositories. The ARIADNE Foundation was created to exploit and further develop the results of the ARIADNE and ARIADNE II European Projects, which created tools and methodologies for producing, managing and reusing computer-based pedagogical elements and telematics supported training curricula.

➡ DIGITAL MARKETPLACE

<http://21st-digitalmarketplace.com>

The Digital Marketplace (DM) Initiative aims to put in place a next generation web-based infrastructure that enables a flexible, convenient and cost effective exchange of learning resources between many providers and many consumers

➡ MEASURE UP

<http://www.measureup.com>

MeasureUp is an assessment and certification practice test company, providing the necessary tools to reinforce learning and validate knowledge, and specializes in creating assessments that can be used for training, placement, and proving knowledge retention.

➡ **WORLD LECTURE HALL**

<http://web.austin.utexas.edu/wlh/>

World Lecture Hall publishes links to pages created by faculty worldwide who are using the Web to deliver course materials in any language. WLH contains links to course materials for university-level courses. Some, though not all, of these courses are offered entirely over the Internet. Some, though not all, offer college credit through distance learning.

➡ **ONLINE LEARNING.NET**

www.online-learning.net

Online-learning.net provides teachers with the tools for continuous training. Online-learning.net is part of the Online Higher Education division of Laureate Education, Inc. Accredited, graduate-level extension and graduate-credit courses are offered in teacher education.

➡ **ALTC EXCHANGE**

<http://www.altcexchange.edu.au/>

The Exchange is an online service providing learning and teaching resources and supporting communication and collaboration across the national and international higher education sectors and a hub for the exchange of ideas about teaching practice in the Australian higher education sector.

➡ **FATHOM KNOWLEDGE NETWORK INC**

www.fathom.com

This archive, provided by Columbia University, offers access to the complete range of free content developed for Fathom by its member institutions (online seminars, lectures, articles, interviews, exhibits and free seminars).

➡ **CONNEXIONS**

<http://cnx.org/>

Connexions is an environment for collaboratively developing, freely sharing, and rapidly publishing scholarly content on the Web. The portal contains educational materials for everyone, from children to college students to professionals, organised in modules and collections or courses. All content is free to use and reuse under the Creative Commons license.

➡ **LEARNING RESOURCE EXCHANGE FOR SCHOOLS (LREFORSCHOOLS)**

<http://lreforschools.eun.org>

The Learning Resource Exchange (LRE) from European Schoolnet (EUN) is a service that enables schools to find educational content from many different countries and providers, including 18 Ministries of Education.

➡ **MULTIMEDIA EDUCATIONAL RESOURCE FOR LEARNING AND ONLINE TEACHING (MERLOT)**

www.merlot.org

MERLOT is a user-centered, searchable collection of peer reviewed and selected higher education, online learning materials, catalogued by registered members and a set of faculty development support services.

➡ **NORDIC BALTIC COMMUNITY FOR OPEN EDUCATION (NORD LET)**

<http://www.nordlet.org/>

NORDLET is the Nordic Baltic Community for Open Education representing practitioners and researchers in the field of Open Content for Learning, Education and Training in the eight countries.

➡ **OPEN COURSEWARE CONSORTIUM**

<http://www.ocwconsortium.org/>

OpenCourseWare Consortium is a collaboration of more than 200 higher education institutions and associated organizations from around the world creating a repository of open educational content using a shared model. The main goal is to Extend the reach and impact of opencourseware by encouraging the adoption and adaptation of open educational materials around the world.

➡ **SCHOOL OF EVERYTHING**

<http://schoolofeverything.com/>

This archive, provided by Columbia University, offers access to the complete range of free content developed for Fathom by its member institutions (online seminars, lectures, articles, interviews, exhibits and free seminars).

➡ **WIKIEDUCATOR**

www.wikieducator.org

The WikiEducator is an evolving community intended for the collaborative planning of education projects linked with the development of free content, development of free content on Wikieducator for e-learning, work on building open education resources (OERs) on how to create OERs, and networking on funding proposals developed as free content.

➡ **EPRACTICE**

<http://www.epractice.eu/>

EPractice.eu is a portal created by the European Commission which catered to the professional community of eGovernment, eInclusion and eHealth practitioners. The ePractice.eu portal combines online activities with frequent offline exchanges: workshops, face-to-face meetings and public presentations. With a large knowledge base of real-life case studies submitted by ePractice members from across Europe.

➡ **HELB HUNGARIAN EUGA LEADERSHIP BOARD**

<http://www.helb.hu/>

HELB is a not-for-profit partnership created and operated by the Hungarian IT industry, with the main objective of supporting the highly-efficient use of IT-related development funds to create a competitive, innovative and inclusive Hungary within the European Union. The organisation functions in close co-operation with stakeholders in public administration, the academic world, trade associations and NGOs, relying on EU recommendations and similar prestigious initiatives.

➡ **DIGITAL MARKETPLACE**

<http://www.dmpoject.org/index.html>

The Digital Marketplace is a new digital network, or exchange, for faculty and students to access digital learning resources. It is currently undergoing a pilot phase and it is promoted by the California State University (USA). This project puts in place a next generation digital learning resource discovery and delivery infrastructure that directly addresses three high priority needs in the higher education marketplace: Improve learning outcomes through change, Improve the accessibility of learning materials, Significantly reduce student cost of learning materials.

➡ **TRIO**

<http://www.progettotrio.it>

The aim of Project TRIO in its first phase was to offer in the whole Tuscany territory a wide chance to access the Net. The object was to give free access, course-training catalogue. The role of the public administration and its mission was central to the whole philosophy of TRIO project. Aim of the second phase was to deal with the European Life long learning programme. The Trio project became a point of aggregation (PAAS) a way to certificate ICT skills and specific competencies, to steer students, adults and the whole population to lifelong learning. Aim of the third and current phase is to support lifelong learning in the world of work.

➡ **VET TUBE**

<http://www.vet-lyon.fr/>

The objective is to create a multi access digital market place for educational resources empowering veterinary education both on the back end of formal educational systems existing of the Lyon University network and of new Web 2.0 like, informal and innovative learning services such as a "You Tube for Education". "Vet tube" service is giving access to a vast amount of educational video lectures and resources. It is opened to be accessed to Lyon University Students as students abroad, covering all French speaking countries.

➡ **LSOPENSCOUT**

<http://www.openscout.net>

OpenScout aims at providing an educational internet service with the following main objectives:

- Enable user-friendly search and access to open management content.
- Identify and connect existing repositories containing open management content.-Enable easy re-use and adaptation of open content to the need and context of learners and providers.-Enlarge the group of learners and providers that utilize open content for management education.

➡ **LEARNING RESOURCES FOR SCHOOLS**

<http://lreforschools.eun.org/LRE-Portal/Index.iface>

The LRE is responding to the wish of Ministries of Education to make 'open content' more widely available to schools. As a first stage, the LRE is being designed to make it easier for Ministries to share these resources and make them more widely available across national borders. However, the LRE system can also be adapted to support a range of standards-compliant rights' management schemes and can accommodate a wide variety of content distribution and business models.

2. OTHER RELEVANT PLATFORMS:

➡ **DIGITAL CREATOR**

<http://www.digitalcreator.ie/>

Digital creator is a digital media course designed to fulfill the educational needs of a large group of learners who wish to attain accreditation for the creative use of digital media associated with a variety of digital devices they own and use on a daily basis in and out of educational establishments.

➡ **E-SKILLS UK**

<http://www.e-skills.com/>

E-skills UK is the Sector Skills Council for Business and Information Technology, working on behalf of employers to ensure that the UK has the technology skills it needs to succeed in a global digital economy. E-skills UK covers software, internet & web, IT services, telecommunications and business change.

➡ **ITRAIN – ONLINE**

<http://www.itrainonline.org>

The ItrainOnline initiative aims to assist civil society organizations (CSOs) and other development actors in developing countries to confront the challenges posed by new information and communications technologies (ICTs). In seeking to overcome skills gaps in development, it connects people and know-how with the needs of ICT learners and trainers.

➡ **SKILLNETS**

<http://www.skillnets.com/>

Skillnets is an organization promoting and facilitating employment training and up skilling as key elements in sustaining Ireland's national competitiveness. Skillnets supports and funds networks of enterprises to engage in training under the Irish Training Networks Programme.



➡ **UFI LEARNDIRECT**

<http://www.ufi.com/home2/default.asp>

Learndirect provides a wide range of flexible online courses to improve employability and transform the skills of the UK working population. Learndirect also provides online training services to employers, to improve employee skills and improve business performance and profitability.

➡ **ICOPER**

<http://www.icoper.org>

ICOPER is the community of the 30 month eContentplus Best Practice Network ICOPER started in September 2008. Driven by a consortium of 23 key players in Europe will provide access to a critical mass of more than 12,500 hours of integrated educational content. The project will systematically analyse the specifications and standards available and in use, to draw conclusions on their validity, addressing issues.

STRATEGIC POSITIONING OF THE EUROPEAN EXCHANGE AND NETWORKING MECHANISM FOR E-LEARNING FOR E-SKILLS

Based on the results of best practice analysis, ongoing initiatives in the field of e-skills and e-learning for e-skills and consultation with experts, practitioners and stakeholders, it was concluded that the European exchange mechanism for e-learning content for e-skills should take the form of a web-based platform, functioning as a virtual meeting, exchange and networking portal.

The elearning4eskills portal shall facilitate the development of the e-skills market in terms of supply (with the support

to the creation of new value chains) so to enhance a more structured, integrated offer of e-skills e-learning courses and learning objects better serving a constantly increasing and specialised demand.

The portal should serve as a reference point and meeting place for providers, consumers of e-Skills, networking of research and training centres; and bring Europe-wide ICT e-learning resources, tools and services together in one place. It shall facilitate the search for educational resources

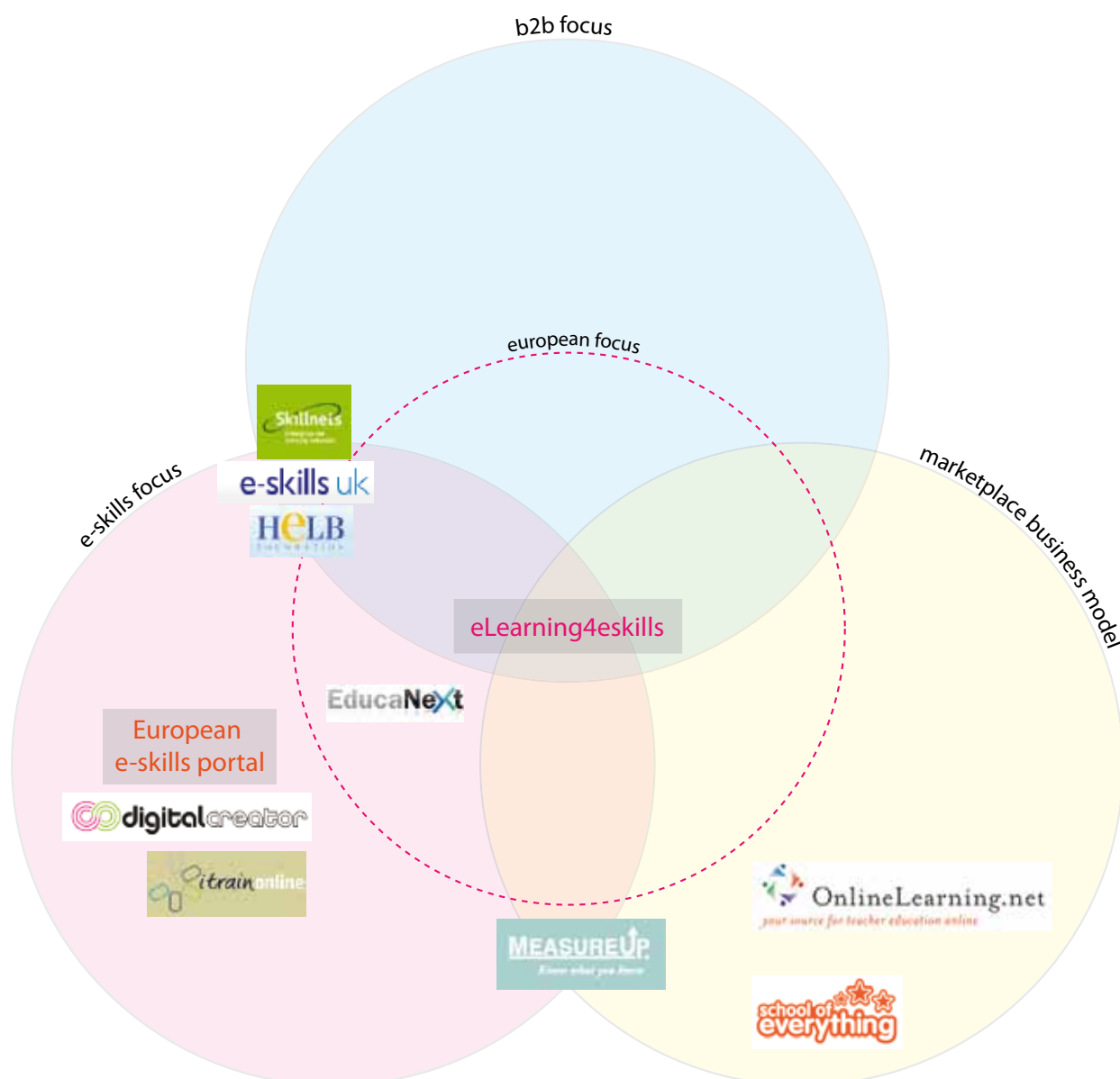


Figure 1. Positioning of the eLearning4eSkills portal.

and provide information about new developments and trends in the ICT sector. In addition, it shall offer the highest quality content and services backed by the European Union.

However, it should not simply be an environment for content supply and demand. Rather, it shall serve as a place where information on ICTs can be found, so that providers can become aware of niches in the market, training shortfalls, etc.

It should also serve as a place where knowledge can be communicated and shared. Taking account of the rise in informal learning and, therefore, of society's current training needs, it is essential to adapt the portal to today's circumstances. If the objective is to make society ICT literate and to train competitive professionals, then peer-to-peer sharing and networking are essential.

The best practice analysis conducted highlighted that, even though there are several initiatives in the field of e-skills and of e-learning for e-skills, there is no platform at the European level acting as a business broker for supply and which satisfies the demand for e-Skills training and information about ICT, integrates different training methods and – last but not least – fulfills the need for ICT practitioners in the market, in a centralised way. In other

words, none of the ongoing initiatives really addresses successfully the four main focus lines of the portal (EU-scope, B2B, marketplace/broker).

Hereafter the target strategic positioning of the portal is presented and benchmarked against the four most important requirements the e-skill portal must fulfill in order to succeed:

1. To be a highly specialized portal targeting the ICT practitioners community
2. To be a unique value proposition for high volume B2B e-learning content buyers.
3. To be comprehensively vertically integrated: this means offering all services needed to foster the growth of e-skills and promoting better and greater use of e-learning, ranging from a collaborative environment where practitioners and important stakeholders can get in touch to offering a market place of online courses and learning materials.
4. To be a European level initiative, originated and focused on Europe as a whole.

Notice how marketplace with B2B focus at a European level is completely empty on caption 3, indicating a potential market opportunity.



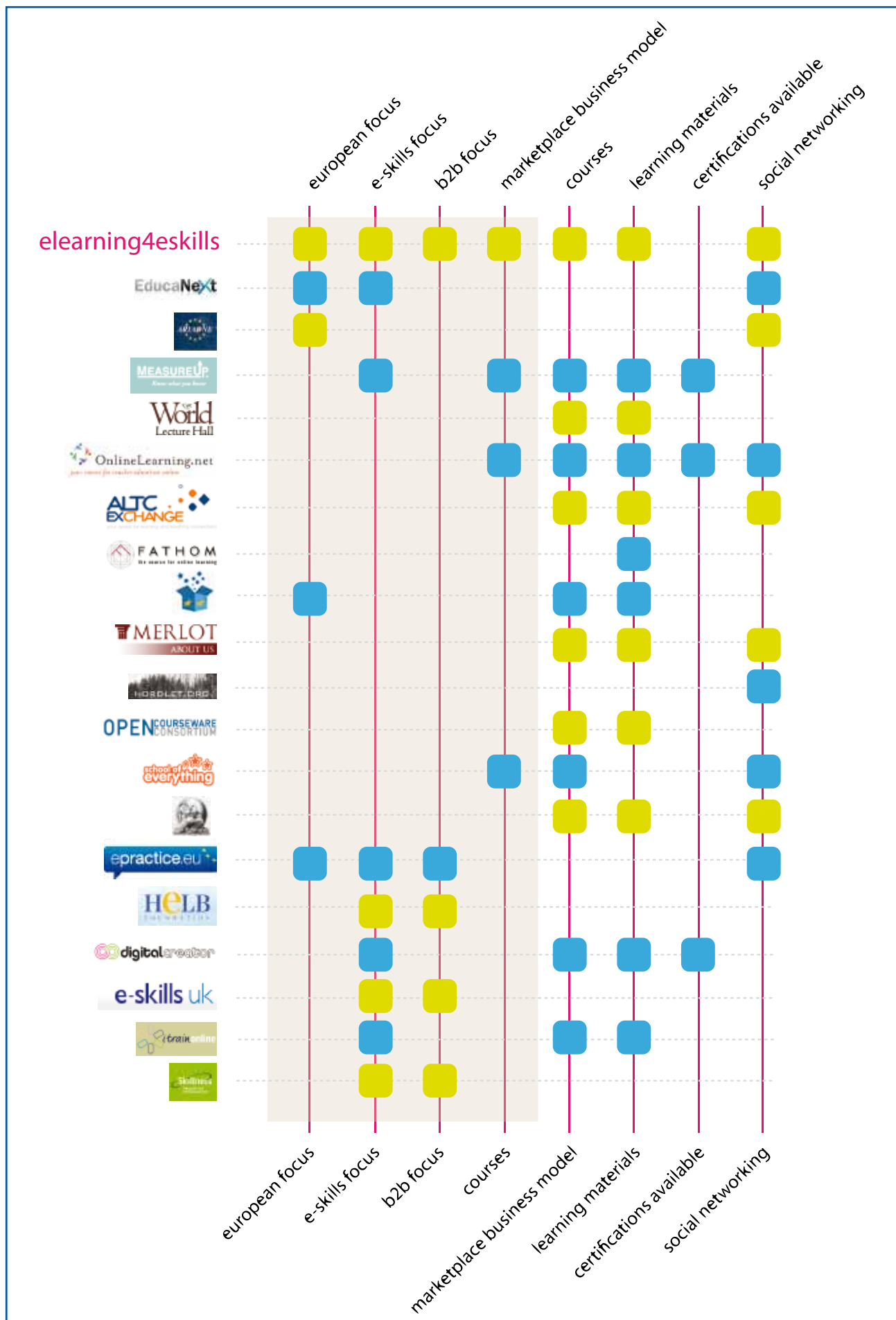


Figure 2. Benchmarking of existing initiatives in the field of e-learning. (Colors are used to facilitate reading, no attached meaning).

PORTAL TARGET USERS

Providers of e-learning in e-Skills

The providers are the main target group of the portal. These are the people, institutions or companies offering e-learning courses and content for the development of e-Skills.

The providers offer courses and content and receive feedback from consumers and individuals through comments, opinions and ratings.

This is an essential target. Without it the portal's continuity, interest and quality cannot be assured. Mechanisms must be in place to attract and secure this target group and to facilitate contacts among them for the creation of new value chains in the e-skills market.

Consumers

Entities (companies, organizations, research groups ...) who have the need or interest to train their team or employees in e-Skills or to network with fellow organizations.

The Consumers are not those taking the course, but are those who choose the course for the specific interest group who is taking it. Consumers' opinion regarding the improvement of their employees e-Skills is important if Providers are to learn from the benefits their courses bring. The consumers of e-Skills courses and content will be essential to the portal's survival and sustainability, as the more consumers and markets the portal manages to address, the more providers will be interested in joining the portal. Mechanisms should be in place to attract and secure consumers.

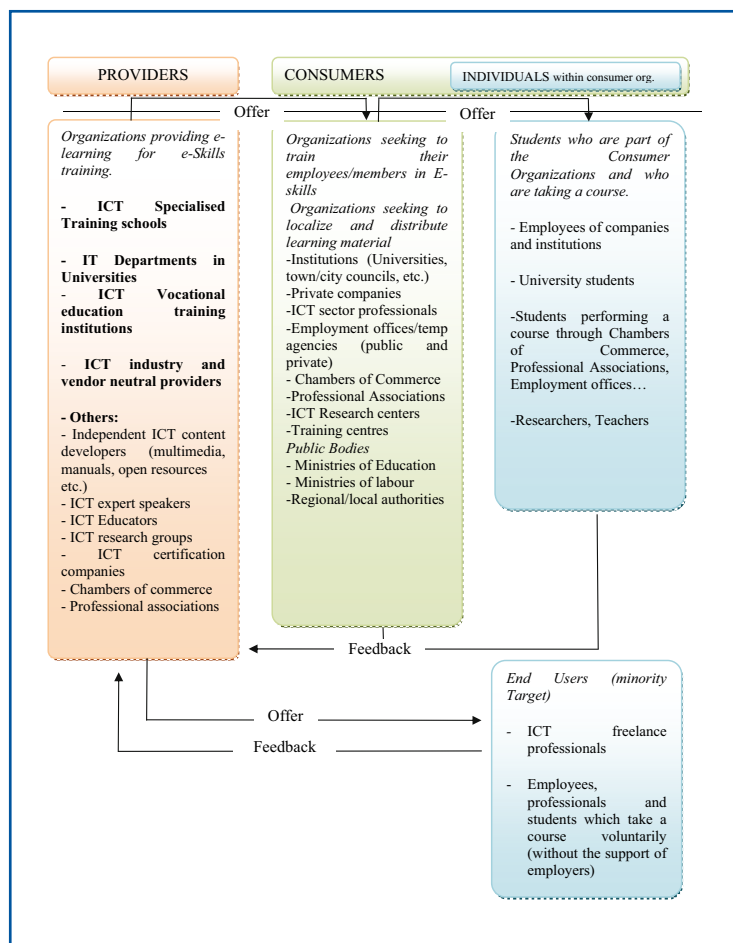
Individuals

A secondary group of end users are individual Consumers: These are groups of people belonging to companies or organizations (consumers) and taking the available course/ using the available content. These may be University students, employees of enterprises or institutions etc.

Although not directly involved in selecting the e-learning training course, individuals are those who test it and their opinion is of importance to a global system in view of their valuable

experience as 'end users'. The Provider may obtain feedback on the drawbacks and strengths of their offer both from consumers AND from individuals.

This group also includes direct end users who seek individual training in e-Skills and whose opinions and comments can enrich the system. They may be freelance professionals, but also employees who want to take a course outside of their company e-Skills development plan. Although these users are specifically addressed in the European e-learning4e-skills portal and represent a 'minority group' in the context of the e-learning for e-Skills portal, providers who receive a direct request to do a course can benefit from the opinion, insight and experience provided by these users.



PORTAL DEPLOYMENT AND BUSINESS PLAN

In order to define the business plan of the portal, a scenario planning approach has been adopted.

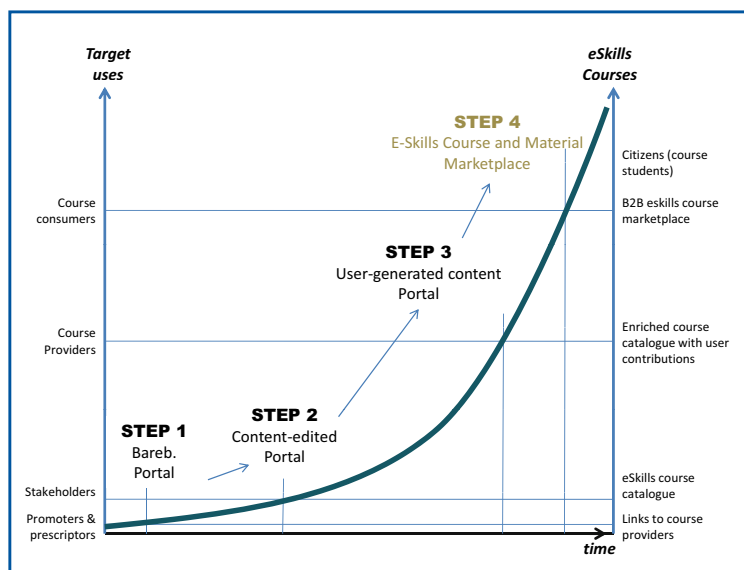
The scenarios are organized in terms of the complexity of the functionality of the portal and the need to deploy human intervention to keep the portal operational.

Portal set-up and operation costs are driven by the complexity of the functionalities of the portal and the required level of human involvement in the updating of the content of the portal.

Based on the above mentioned criteria, four scenarios are defined:

- Barebone portal, with a low level of functionality and a low level of human operations.
- Content-edited portal, with a low level of functional complexity of the portal, however increasing the number of human operations.
- User-generated Content portal, with an increasing level of functionality to automate the website portal operations, however the human resources needed to operate the portal remain low.

In order to fulfill the mission of the portal, i.e. to become an e-learning content exchange mechanism and networking facility for e-skills we propose to progressively deploy the



website in accordance with the capacity to consolidate its presence in the e-skills sector.

Becoming a well-known portal is both a matter of economic resources spent in content, website technology and marketing, as well as, time to allow the diffusion of the information. To sustain over time the visibility of the portal, with a reasonable investment in marketing and communications, it is very important to assign effort to construct a robust brand.

Keeping all these in mind, the suggestion is to eventually deploy the three scenarios sequentially, moving from the first one (Barebone portal) to a user-generated portal, throughout consolidating first a content-edited portal.



RECOMMENDATIONS

The analysis conducted highlighted that, even though there are several initiatives in the field of e-skills and of e-learning for e-skills, none of them really addresses successfully the three main focus lines of the *e-learning4eskills* portal (EU-scope, B2B, marketplace/broker).

However, consultations with actors involved in exchange and networking mechanisms for e-learning (in the field of e-skills and in other fields) within and outside Europe as well as the results of best practice analysis highlighted that, for such a portal to be successful, some key strategic challenges must be addressed, related mostly to organizational aspects and business risks. Below our recommendations are provided to face these two main challenges.

Organisational aspects

Portal governance is the set of policies and processes affecting the way in which the portal will be managed, administered and controlled. Governance also includes the relationships between the many actors involved and the guiding principles of the operation.

Due to the broad base of stakeholders interested in the e-Skills domain, **the setting up of a public-private partnership seems to be the most feasible solution.** Public administrations and industry are poised to cooperate in setting up an organisation to run the portal. A number of alternatives are available, from the launch of an association, an EEIG (European Economic Interest Group) or a private company, as long as the stakeholders are satisfactorily represented.

A non-profit association seems to be the most relevant legal form, since it provides the basis for a limited scope of activities, which should be the basis for promoting the e-Skills portal and would provide the funding to sustain its core activities. The association would also provide the basis for broad member representation, thus allowing new members to join also after the initial establishment. One of the crucial points will be to secure a number of initial core members to provide the preliminary funding for the operations of the association and, later on, the ongoing sustainability of the portal through steady annual income. Being a non-profit organization, the association would ensure a neutral status in terms of its business interests.

A number of initiatives and organisations exist today in Europe that could be used as a start-up for such an association.

The following are just some of the most relevant:

- The European e-Skills Association (previously known as e-Skills leadership board), supported by a number of high-profile IT vendor companies, could be extended to pilot and experiment guiding a new network of stakeholders. The new network could be used to validate willingness to use and exploit together interoperable e-Careers services linked to the ICT Skills European portal.
- Individually or in cooperation, the existing associations with interests in the e-Skills domain could position themselves as a reference for this new association (such as the e-Skills Competences Consortium or different spin-offs from EU projects).
- Competence framework owners (such as AITTS, CIGREF or SFIA) could lead in conjunction with vocational and educational institutions and/or social partners involved in the eCompetence and ICT EQF.

The **mission** of the association should:

- guarantee the completeness of the e-Skills course catalogue, in that the information provided is comprehensive and covers all the necessary domains.
- guarantee that the e-Skills catalogue is updated regularly. All courses editors with relevant courses in the e-Skills domain should be able to publish their courses.
- protect the portal brand name, so that publishing the courses in the portal is really a value added for the course providers.

Business risk and contingency plan

The business risks associated to the deployment of a complex initiative as the e-learning4e-skills Portal are large and of different nature. Although the access to funding is the most important one, other risks are relevant since they may prevent a proper development of the initiative or require time and resources to be overcome.

The following are the most relevant business risks identified and the envisaged contingency plans to overcome them.

1. Need to encourage national portals to link to the European one.

The endorsement of the European Commission is a key factor to provide an access to the national portals and to key decision makers. In order to reinforce these factor it will be necessary to secure a relevant presence of the portal in the EC page devoted to e-Skills as well as presence in the EC-sponsored conferences and events.

2. Complicated architecture on the technical side.

The most critical aspect will be to keep the portal course calendar updated with the course providers' catalogues. Technological solutions as well as a specific authoring budget will have to be considered to keep the portal course catalogue updated. For scenario 3, end-user content generated portal, were users will contribute with their comments and course submissions, a percentage of the courses will be updated by them.

3. Importance of defining common competences libraries.

A strategic partnership will have to be signed with the European Competence Framework so that the portal course catalogue is compliant with the framework. This work will provide a clear added value to the courses providers.

4. Building a federation of repositories that could be part of the system.

Import and export catalogue facility will have to be implemented so as to facilitate the update of the course catalogue. In addition, a translation table will have to keep track of the different course templates per course provider so that imported information is stored in the right place. The portal infrastructure could also be an in-kind contribution from industry players willing to show their technology capabilities using a potentially high visibility portal at European level such as the e-learning4e-skills portal.

5. Integration between the European portal and existing networks and national web sites.

The e-learning4e-skills portal will have to devote a lot of efforts to marketing and communication during its first 3 years of operations. In parallel, the EC will have to devote efforts to assure enough visibility of the portal among Member States. The marketing and communications efforts of the EC shall be more substantial than the financial efforts to develop and set-up the portal infrastructure.

6. Need to reach a critical mass of available learning objects.

Should it not be possible to find enough submission from providers, the portal will develop the contents itself during the initial phase of the portal development (scenario 1 and 2). The initial catalogue should be the examples by which other course providers are motivated to submit their courses.

7. IPR management, related to open content and to learning objects use, adaptation and re-use.

Content re-use could be an additional high-value service for the portal. The marketplace could have section to facilitate the deployment of a Learning Objects marketplace.

8. Perception of the value added of the platform visible by providers and publishers.

Course providers will be attracted only if the portal is able to attract consumers (either course buyers or potential individual students). In this case, it will be necessary to enhance the collaboration with other portals in order to gain visibility. Links might have to be created, and stakeholders will be involved to spread information about the portal.

9. The issue of blended-learning

Most organisations will consider e-learning provision as a useful contribution to the training provision of e-skills, that would normally require some face-to-face session or work-based tutoring/mentoring. The issue should be addressed in the promotion of the portal, and in concrete terms in the tagging of resources to distinguish those which are designed for 100% autonomous learning and those that are more effectively used in structured/collective, work-based learning contexts.

CONCLUSIONS

The Study “European Exchange mechanisms for e-learning for e-skills and networking of training and research centres” was launched 16 months ago. The Study demonstrated the need and feasibility of such a mechanism, and managed to raise the interest of public and private actors and stakeholders involved in the provision of e-learning for e-skills in Europe.

The final dissemination event, held in Brussels in April 2010 saw significant expressions of interest by key stakeholders and actors of e-skills supply in supporting the implementation of the exchange mechanism, thereby witnessing that a way forward is not only possible, but also recommended.

The comments provided by participants in the event as well as by the members of the Steering Committee have highlighted a set of open issues that will need to be addressed once the implementation phase is launched. These are presented here, as conclusions to this Study and starting reflections points for “the way forward”.

Focus : from e-skills to i-skills “for all”

Consultation with experts and stakeholders throughout the study demonstrated an overall agreement on the fact that the exchange mechanism should help the upskilling of the European population in terms of ICT skills, digital competences and transversal skills. This is consistent with the current shift towards the notion of “i”(innovation) - skills. Furthermore, both experts and providers in the field highlighted the importance to address – through the exchange mechanism – not only the needs of ICT practitioners but those of the whole population, including particularly groups at risk of exclusion.

Capitalisation

The recurring recommendation was not to overlap with existing initiatives. At the strategic level, this implies building upon existing PPPs/ associations/ bodies active in the field of e-skills and avoiding to create new entities. At the operational level, this implies the need to establish a dialogue with existing, complementary initiatives at the European level (such as for instance the e-skills Career Portal) to study synergies as well as the potential for integration.

EU/national dimension

Though centrally managed at the EU level, the exchange mechanism shall tackle the national dimension. E-learning implies the provision of content and services. Given that content does not – in this area – present dramatic adaptation needs, it shall be centrally managed so to avoid duplication of the courses, learning objects and materials shared. In parallel, however, national governments of the Member States shall be activated to set up partnerships among the main local actors and stakeholders involved in the provision of e-skills at the national level. National counterparts will be responsible for the provision of services related to e-skills training, which shall be tailored to the specific needs of each country. Active involvement of Member State could contribute to solve the debate on the language of the platform (English vs. all 23 languages of the Member States) in terms of support to adaptation of learning resources.

Implementation

- **Gradual approach:** the step-by-step approach proposed is one of the possible solutions for the implementation of the exchange mechanism. It implies a gradual development of the platform, working for the first 3-4 years as an information brokerage and interest matchmaking mechanism. If the platform proves to be successful, starting from the 4th-5th year of activity, it could well be developed into a proper marketplace.
- **Costs:** the gradual approach proposed allows to synchronise investments in the platform to its development and success. The cost strategy proposed in the final report “European exchange mechanisms and networking for e-skills training: The way forward” tries to optimize the return on investment during the lifecycle of the project. By developing the project in several phases, not only the cost of opportunity of the development is smaller, but a more efficient use of funding resources can be made as well. The key of success for an initiative like this lies in gaining a sizeable traction within its target audience. By escalating the project structure gradually, more resources are being freed that can be used for community building and promotion, two necessary activities, specially before the initiative is consolidated, that are very resource

intensive. Alternatively, a fully fledged platform could be developed from the beginning, with a higher cost of opportunity, as upfront development and operational costs would be much higher.

- **Interoperability:** in order to make the platform ready to reach the stage of a marketplace, the rules of open interoperability and fair play for all stakeholders shall be set (open metadata, controlled vocabularies, packaging, indexing, access protocols, etc.). A reference framework shall be developed on the standards to be adopted and on how to map them to the e-Competence/EQF framework. This is a complex and resource-consuming task that should start being evaluated and drafted as soon as the second deployment phase is up and running. By starting drafting the interoperability standard while previous phases of the development are being executed, the lead time before the start of the project is being reduced and the cost of opportunity of developing a full fledged interoperability to allow sales from within the platform can be evaluated, bearing in mind that the involved stakeholders belonging to the vendors category have already their own sales channel and that developing a proper interoperability standard would increase development costs between four and five times more than those presented in the final report of this study, "European exchange mechanisms and networking for e-skills training: The way forward".

- **Pilot phase:** based on the outcomes and on the expressions of interest shown at the final dissemination event, the first phase of implementation could consist in a pilot phase where the exchange mechanism is tested with a specific range of contents and courses targeted to a specific target group. This phase would also imply "strategic piloting", in other words investigating on the availability and interest of EU relevant associations and of national governments to be part of the exercise as well as on the availability of existing, relevant portals, to join the testing exercise.

The exchange mechanism potential

Once tested and if successful in the e-skills area, the exchange mechanism could well be adapted/extended to other areas and sectors where a skills gap is present. As a matter of fact, this could support the European Digital Agenda implementation and aim to the building of a "European Agora of Knowledge"¹.

1. M. Markkula, 2008, "Europe needs to invent its future – the desired changes do not just happen!"



European Exchange Mechanisms for e-Learning Content for e-Skills Development

The European Commission adopted, on the 7th September 2007, a Communication on “**e-Skills for the 21st Century: Fostering Competitiveness, Growth and Jobs**”, including a long-term e-skills agenda for Europe and five actions at EU level. Among the action lines proposed in the Communication, the fifth, aimed at strengthening the promotion of a greater use of e-learning, reported that the European Commission should support the promotion of the development of e-learning courses and exchange mechanisms of e-Skills training resources for the workforce and the networking of training and research centres contributing to a better understanding of future e-Skills needs.

This study refers to the above-mentioned line and is part of the EU e-Skills strategy. It is also related to previous EC initiatives and projects such as, among others, the European e-Skills 2008 Conference held in Thessaloniki during the month of October 2008, the e-CF (European e-Competence Framework) initiative, the recent DECOM declaration as well as three new projects launched in 2009 by the European Commission in the field of e-skills (“Monitoring the supply and demand of e-skills in Europe”, “Financial and fiscal incentives for e-skills” and “European e-competence curriculum guidelines”).

The analysis conducted highlighted that, even though there are several initiatives in the field of e-skills and of e-learning for e-skills, none of them really addresses successfully the main focus lines of a European exchange and networking mechanism for e-skills (EU-scope, support to the creation of new value chains in the B2Be-skills area, provision of marketplace/brokering/ clearing house mechanisms to e-skills providers of different nature and size).

The Study has demonstrated the feasibility for the launch and implementation of the European exchange and networking mechanism for e-learning for e-skills. The final report of the study – available at <http://www.elearningeuropa.info/eskillsles/> – provides a detailed business plan and recommendations for the design and implementation of the mechanism.

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