



Towards a European e-Competence Framework

*Projects, trends, multistakeholder activities
towards a*

European ICT sectoral framework, related to the EQF

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Overview

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- A European and open process – stakeholders' involvement
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- The European e-Competence Framework v.1.0 and user guidelines
- CWA „European e-Competence Framework“ presentation on the European e-Skills Conference in Thessaloniki 10/08

3. Towards a European ICT sector framework, facing ICT competence demand and qualification supply

- The ICT Lane initiative (2006 –2008)
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1. Intro: ICT qualification and training in Germany and the European perspective



ICT qualifications and competence standards in Germany

- **Public ICT qualification structures**
 - VET in the dual system („Duale Ausbildung“)
 - job-profile oriented for ICT practitioners (e.g. software developer, mechatronic, ...)
 - Higher education
 - Advanced IT Training System (AITTS/ APO-IT)
 - Job profiles derived from ICT work processes (e.g. network administrator, project coordinator, software developer...)

German public ICT qualifications and frameworks combine

- competence (demand) and
- qualification (supply)

perspective.

- **Private certifications by supplier industry and training providers**
- **Multistakeholder initiatives for combining both** (public + private)
 - e.g. AITTS meets Cisco



e- from a European perspective: Some definitions and scope of the European e-CF

The definition of “e-skills” adopted by the European e-Skills Forum embraces

- **ICT practitioner skills:** *the capabilities required for researching, developing, designing, strategic planning, managing, marketing, selling, integrating, installing, administering ICT systems.*
- **e-business skills:** *the capabilities required for managing ICT by ICT (...) to ensure more efficient organisations; to explore possible business/administrative and organisational opportunities to establish new businesses → strategic skills, related to innovation-management, rather than pure technology-management, skills – which are part of ICT practitioner skills.*
- **ICT user skills:** *the capabilities required for the effective application of ICT systems and devices by the individual. ICT users apply systems as tools in support of their own work. User skills cover the use of common software tools and of specialised tools supporting business functions within industry. (“digital literacy”)*

**European e-Competence Framework:
Focusing on
ICT practitioner and (strategic) manager
competences**



The European e-Skills Forum

- The European Commission established the European e-Skills Forum in March 2003, following up the European e-Skills Summit (October 2002), with representatives of Member States, leading stakeholders, the European Centre for the Development of Vocational Training (Cedefop) and the OECD.
- The objective was to bring together all relevant stakeholders to listen to their views and catalyse discussions and actions to address e-skills issues.
- The Forum released its report "*e-Skills in Europe: Towards 2010 and Beyond*" in September 2004. Based on its recommendations several initiatives and exploratory actions were launched to prepare for the development of a long-term e-skills strategy.
- The Commission also established in June 2006 an ICT Task Force to discuss issues relating to the competitiveness of the ICT sector and ICT uptake in Europe.
- Both the activities of the European e-Skills Forum and the ICT Task Force were very instrumental to promote the e-skills agenda.
- In September 2007, the European Commission adopted a Communication on "*e-Skills for the 21st Century: Fostering Competitiveness, Growth and Jobs*".
- The Council of Ministers welcomed this Communication in their Conclusions in November 2007 on a long term e-skills strategy.



CEN Workshop on ICT Skills

- CEN: European Committee for Standardisation
- Discussion and working platform for national and international representatives from ICT industry, public sector, higher education and vocational training (public and private), social partners and other institutions
- Aim: creating long-term human resources (HR) and competence development strategies for the European ICT community
- Organised by
 - CEN workshop plenary
 - CEN chairs, vice-chairs and workshop Steering Committee
 - CEN nominated experts responsible for project realisation
 - Projects supported by larger views of expert working groups
- Workshop activities funded by the European Commission, contributions in kind and member fees
- Usual delivery of project/ workshop phase outcomes by CWA publication (CWA = CEN Workshop Agreement)



2. European e-Competence Framework: Background, aims, proceedings, the product outcome



What the e-Competence Framework aims to provide – e-Skills key stakeholders' vision in 2006

- International HR management and a planning tool for ICT Industry (both vendor and user companies, large companies and SME's)
- a common reference point between existing national ICT competence frameworks like CIGREF, AITTS, SFIA, bringing them added value by a European dimension of competence definition
- a neutral, cross-national communication, cooperation and benchmarking tool for the ICT industry, public sectors, training bodies, certification institutions and individuals
- a catalogue of reference competence definitions relevant for ICT business on practitioners and manager level, related to the European Qualifications Framework (EQF, level 3 - 8)

Ability to manage and plan ICT practitioner and manager competences that will be needed in a long term perspective across Europe



European e-Competence Framework as part of a long term e-Skills Strategy

- A Europe-wide working tool for:
 - **ICT practitioners** with clear guidelines for their competence development
 - **ICT and HR managers** with inputs to anticipate and plan the competence needs in correspondence to their company make or buy policy
 - **Higher Education, Vocational Training and Certification Providers**, enabling effective planning and design of ICT curricula
- Positioning European ICT business in the global market
- Future national frameworks to become in line with the forthcoming European e-Competence Framework

Strengthening competitiveness of the
European ICT labour force and business in the global market:
The right people on the right place at the right time!



Towards a long-term e-Skills Strategy

Aim: Ability to create, manage, plan and develop e-competences that will be needed in a long term perspective across Europe

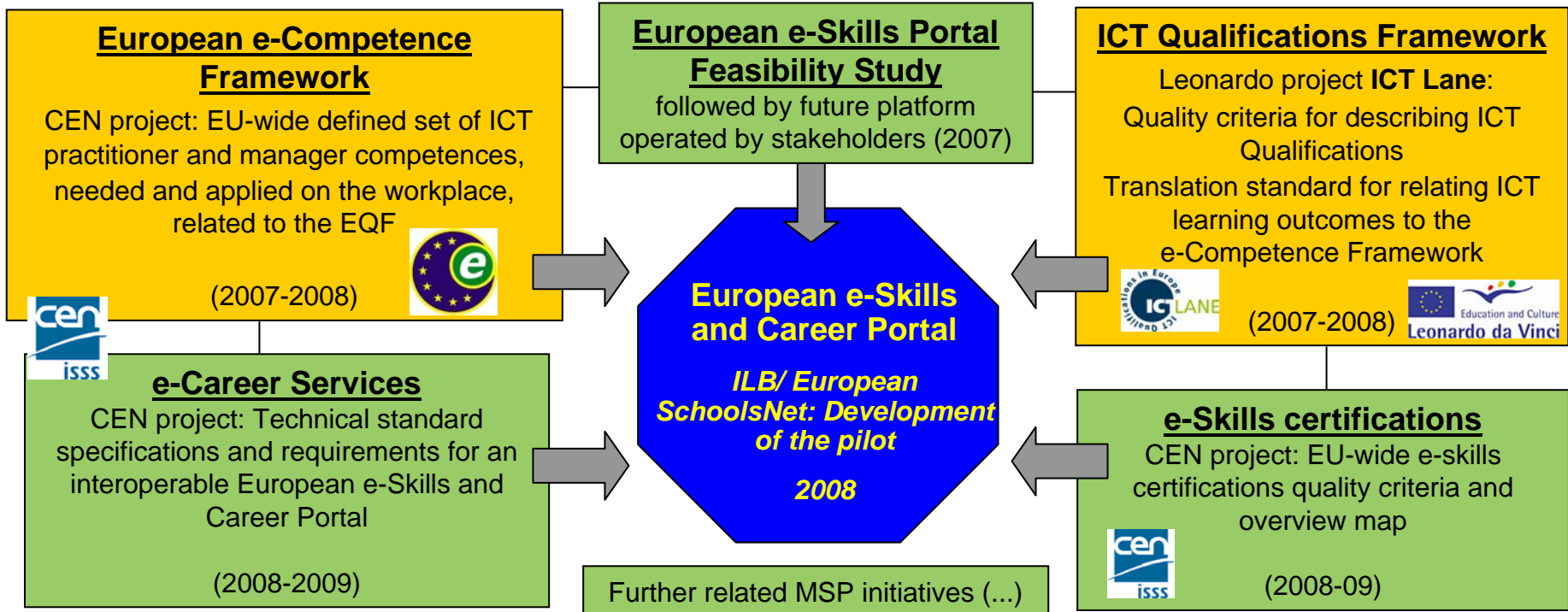


European Commission:

Policy making (European Qualification Framework (EQF) and e-Skills Policy Communication) and **Funding Programmes**

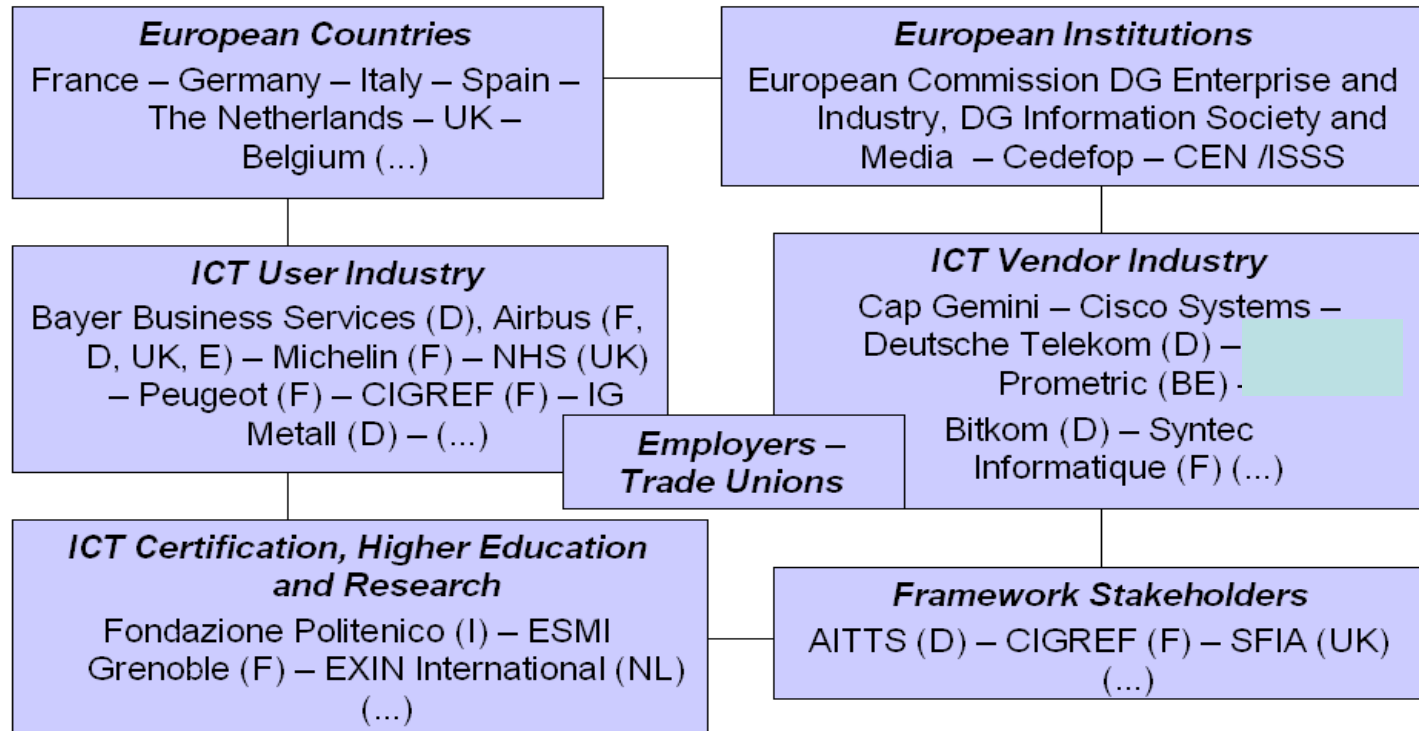
CEN/ISSS: EU-wide Standardisation Body

Stakeholders (Industry, Social partners, Universities, Training Institutions etc.): **multi-stakeholder partnerships for actions**





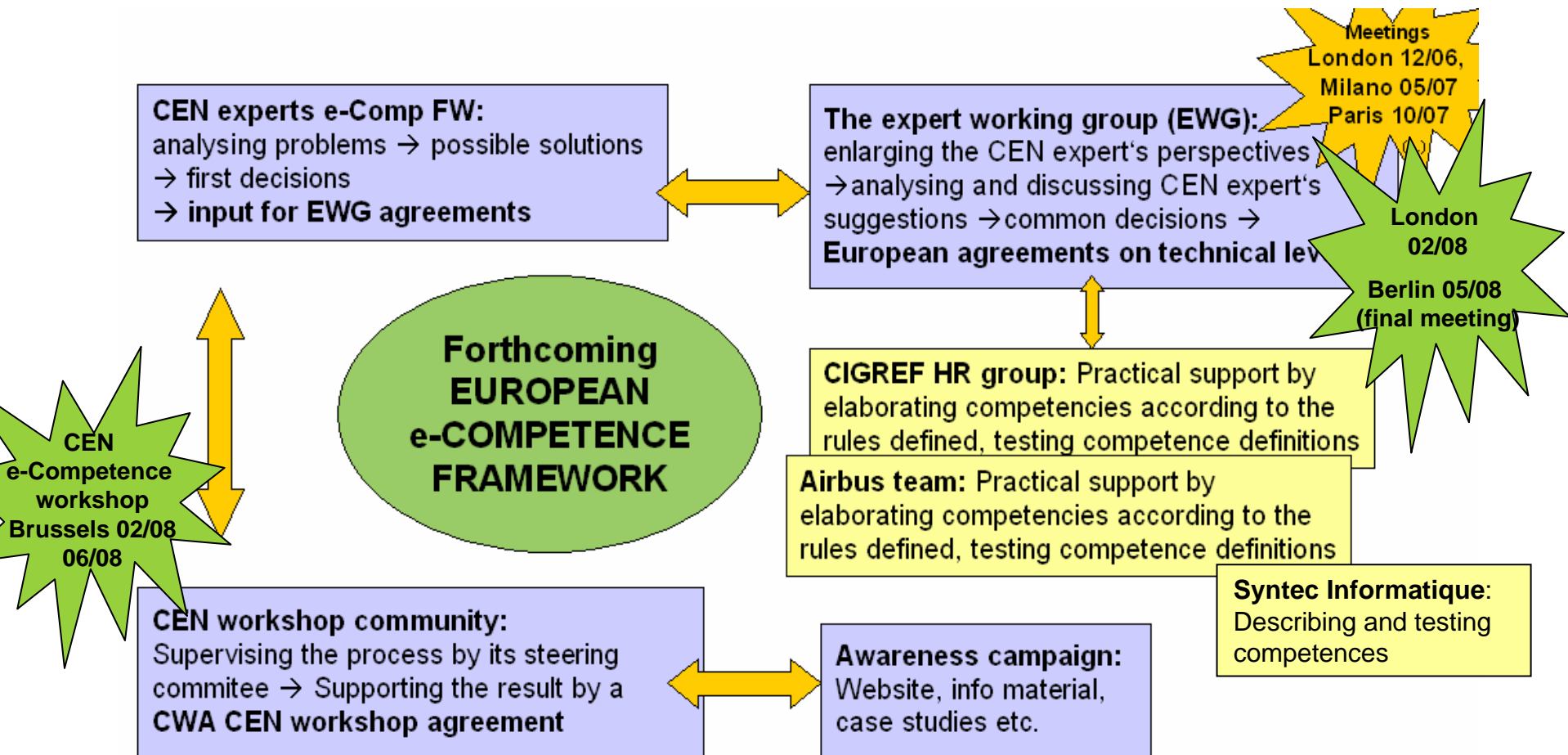
A European process – stakeholders' involvement in 06/2008



The European e-Competence Framework development is supported by the European Commission and the Council of Ministers (Commission's Communication of 07.09.2007 and Competitiveness Council Conclusions of 23.11.2007 on e-skills).



Working structure and involved expert resources (2006 – 2008)





Outcomes (1) Methodology: A shared understanding of competence for the European e-Competence Framework

→ essential basis: “common European language” for the framework context

Competence: *a demonstrated ability to apply **knowledge, skills** and **attitudes** for achieving observable results*

→ the related descriptions *embed* and integrate knowledge, skills, attitudes

Outcome London Meeting 12/06 and beyond



Outcomes (2) Methodology: Level assignment, related to the EQF

Competence levels

Qualification levels

e-Competence Level	related to EQF Level	e-Comp Levels	eComp Level descriptions	Typical Tasks	Complexity	Autonomy	Behaviour
5	8	5	Principal Overall accountability and responsibility, recognised inside and outside the organisation for innovative solutions and for shaping the future using outstanding leading edge thinking and knowledge	IS strategy or programme management.	Unpredictable - unstructured	Makes personal choices : Has authority and responsibility for all aspects of a significant area of work, including policy formation and application. Is held fully accountable for actions taken and decisions made, both by self and subordinates.	Conceiving, transforming, innovating, finding creative solutions by application of a wide range of technical and / or management principles
4	7						
3	6						
2	4 and 5	4	Lead Professional / Senior Manager Extensive scope of responsibilities deploying specialised integration capability in complex	IS strategy/holistic	Unpredictable - unstructured	Has defined authority and responsibility for a significant area of work, including technical, financial and quality aspects	Conceiving, transforming, innovating, finding creative solutions by application of a wide range of technical and / or management principles
1	3						

- 5 e-Competence levels: 1 (Associate) – 5 (Principal)
- Level definition focuses on **competence performance on the job (degree of complexity/ autonomy/ behaviour)**
- related to EQF levels 3-8

Outcomes Milano meeting 05/07 and beyond



Outcomes (3) Methodology: e-CF product: The Framework structure - version 1.0

Framework consisting of 4 dimensions:

- 5 e-Comp areas: PLAN; BUILD; RUN; ENABLE; MANAGE (dimension 1)
- 4 up to 10 key competences per area identified,
 - with generic reference definitions for dimension 2
 - with level-specific reference amendments for dimension 3
 - optional indications about knowledge and skills in dimension 4
- Competences defined on 5 e-Competence levels: 1-5, related to EQF 3-8
- 32 competences in total

Reference outcomes of the framework

- Dimension 2: Competence title + generic description
- Dimension 3: level-specific amendments

Optional addendum

- Dimension 4 (Skills and knowledge):
 - *to know, to be able to...*
 - not exhaustive

Outcomes London meeting 02/08 and beyond



Outcomes (4) The e-CF product: Framework overview competence areas PLAN – BUILD - RUN

European e-Competence Framework v.1.0 overview

e-CF levels identified
per competence

Dimension 1	Dimension 2	Dimension 3				
5 e-Comp. areas (A – E)	32 e-Competences identified	e-Competence proficiency levels e-1 to e-5, related to EQF levels 3-8				
		e-1	e-2	e-3	e-4	e-5
A. PLAN						
	<i>A.1. IS and Business Strategy Alignment</i>					
	<i>A.2. Service Level Management</i>					
	<i>A.3. Business Plan Development</i>					
	<i>A.4. Specification Creation</i>					
	<i>A.5. Systems Architecture</i>					
	<i>A.6. Application Design</i>					
	<i>A.7. Technology Watching</i>					
B. BUILD						
	<i>B.1. Design and Development</i>					
	<i>B.2. Systems Integration</i>					
	<i>B.3. Testing</i>					
	<i>B.4. Solution Deployment</i>					
	<i>B.5. Technical Publications Development</i>					
C. RUN						
	<i>C.1. User Support</i>					
	<i>C.2. Change Support</i>					
	<i>C.3. Service Delivery</i>					
	<i>C.4. Problem Management</i>					



Outcomes (5) The e-CF product Competence descriptions in dimension 2 + 3

<p><u>Dimension 1</u> e-Comp area</p>	<p><u>Dimension 2</u> e-Competences: Title + generic description</p>	<p><u>Dimension 3</u> e-Competence proficiency levels (on e-CF levels e-1 to e-5, related to EQF levels 3 to 8)</p>	<p><u>Dimension 4</u> Knowledge (k) and skills (s) examples</p>
<p>B. BUILD</p>	<p>B.3. Testing</p> <p><i>Constructs and executes systematic test procedures for IT systems or customer usability requirements to establish compliance with design specifications. Ensures that new or revised components or systems perform to expectation. Ensures meeting internal, external, national and international standards including health and safety for either usability, performance, reliability or compatibility. Produces documents and reports to evidence certification requirements.</i></p>	<p><i>Levels 1 – Performs simple tests in strict compliance with detailed instructions.</i></p> <p><i>Level 2 – Organises test programmes and builds scripts to stress test likely vulnerabilities. Records and reports outcomes providing analysis of results.</i></p> <p><i>Level 3 – Exploits specialist knowledge to supervise complex testing programmes. Ensures tests and results are documented to provide input to subsequent process owners such as designers, users or maintainers. Accountable for compliance with testing procedures including a documented audit trail.</i></p> <p><i>Level 4,5 – Not applicable</i></p>	<p><i>B.3.s1. selects appropriate test methods</i></p> <p><i>B.3.s2. writes technical documents</i></p> <p><i>B.3.s3. ...</i></p> <p><i>B.3.k1. knows test methods and techniques</i></p> <p><i>B.3.k2. ...</i></p>



Application example: How to build / to reflect job profiles in an European context

Job profiles from Germany

ICT competences from the EU e-CF

Selected AITTS Profiles / Occupations	linked to / composed of	Selected Competences from the European e-CF	
Strategic Professionals	IT Technical Engineer	A 3 „Business Plan Development“ A 4 „Project Planning and Management“ E 4 „Relationship Management“ E 5 „Process Improvement“ E 7 „Business Change Management“ if applicable A 6, A 5 and some other and some more (not integrated in the ECF) like human resources management	4
			4
Operative Professionals	IT Business Manager	A 4 „Project Planning and Management“ E 2 „Project and Portfolio Management“ D 5 „Sales Proposal Development“ E 5 „Process Improvement“ E 7 „Business Change Management“ if applicable some other and – of course – some more (not integrated in the ECF) like human resources management	2-3
			3
IT Specialists	IT Tester	B 3 „Testing“ C 2 „Change Support“ C 3 „Capability Management“ C 4 „Problem Management“ E 8 „Information Security Management“ C 1 „User Support“ (if applicable some more)	2(-3)
	IT Administrator		2-3
IT Occupations (German Dual System)	Information technology specialist in applications development	B 1 „System Design and Development“ B 4 „System Deployment“ B 3 „Testing“ B 5 „Technical Publications Development“ E 2 „Project and Portfolio Management“ (if applicable some other)	2
			1-2



Political process: CWA (CEN Workshop Agreement) European e-Competence Framework v.1.0

The CWA will consist of:

- 1) The European e-Competence Framework v. 1.0 itself**
- 2) User guidelines for multistakeholder public application by ICT employers, public and private qualification providers, ICT practitioners, framework stakeholders, social partners, policy makers, etc. across Europe**

→ 60 days discussion process closed on 7 September → final voting next week
→ EU e-Skills Conference Thessaloniki in October



3. Towards a European ICT sector framework, facing ICT competence demand and qualification supply



The ICT Lane initiative

Partners



gagnez en compétences



col·legi oficial
associació catalana
enginyers de telecomunicació

- A Leonardo da Vinci co-funded project (2006-08)
- 18 months, in parallel to the e-Competence work: Qualification perspective
- **ICT qualification in Europe - multistakeholder representatives of the sector:** Higher Education, Industry, Research, Trade union, Employers Association, Professionals Association, Continuous Training
- Italy, Hungary, France, Germany, Spain
- Milestones: 5 partner meetings, 2 public meetings for multistakeholder discussion



ICT Lane aims and outcomes – overview

Transparency regarding ICT qualifications offer in Europe:

- 1) A description standard to read, understand and choose ICT qualifications across Europe according to specific needs → *Learning path, price etc.*
- 2) A translation standard for qualification contents
 - based on the learning outcomes approach as applied by the EQF
 - enabling to link ICT qualifications to e-competences (dimension 4!)
- 3) A shared format to identify levels according to the EQF, adopting specific needs of the ICT sector and in line with e-Competence Framework levels

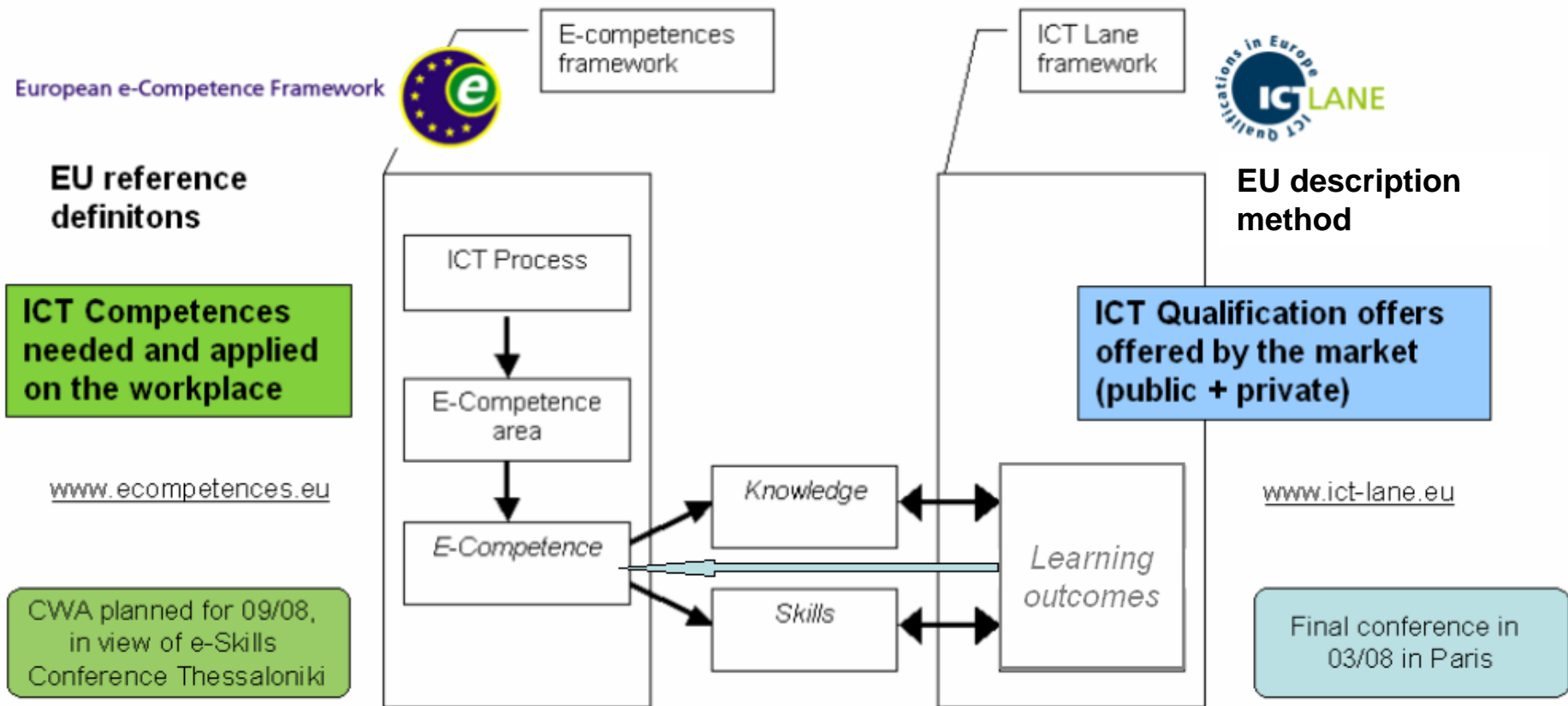
A common description standard method for comparing, evaluating and choosing ICT qualification offers across Europe

- Implemented and illustrated in a pilot software: the ICT Lane Tool
- Connected to the work towards the European e-Competence Framework, Covering the ICT qualifications offer side




Towards a European ICT sector framework, facing competences demand and training supply

Connection between e-Competence Framework and ICT Qualifications Framework (ICT Lane)







Test implementation: The ICT Lane Tool



ICT LANE Site



ICT Qualifications in Europe



Home

Competence Search

Multisearch

Userguide/FAQ

Admin

In this section you can find the training measures through an advanced research

Home / **Filter and Search**

Search	
ICT area	System administration
Teaching language	<input checked="" type="checkbox"/> English <input type="checkbox"/> Italian <input checked="" type="checkbox"/> French <input type="checkbox"/> Spanish <input type="checkbox"/> German <input type="checkbox"/> Magyar
Country	France
Reached Title/Certificate	Public Title (Official title)
Entry Requirements	<input type="checkbox"/> L1 <input type="checkbox"/> L2



Outlook – Further projects, framework implementation activities

- The **e-Competence Framework version 1.0** will be presented on the European e-Skills Conference on 9/10 October in Thessaloniki
- The ILB and the European SchoolsNet have taken responsibility for the development of a **European e-Skills and Career Portal pilot**, to be presented in Thessaloniki
- Two new CEN ICT Skills projects started in March:
 - Overview and quality criteria for **ICT certification in Europe**
 - Interoperability of **European e-Career Services** with the forthcoming EU Portal (based on e-Competence Framework, ICT Lane outcomes etc.)
- An **e-Competence Framework version 2.0** work proposal has been presented by EU e-Skills stakeholders for 2009/10:
 - Updating the framework in dimension 2 and 3
 - Specification of dimension 4 (knowledge and skills)
 - User-appropriate presentation and (logical and technical) navigation solutions
 - Methodological documentation for scientific public



Thank you very much!
 Questions, remarks... ?

www.ecompetences.eu

www.ict-lane.eu

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