

A Sector-Specific Implementation of the European Qualification Framework



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Structure of presentation



- The European Qualification Framework
- The ICT-Lane project
 - Aims
 - Methodology
 - The ICT-Lane Tool
- The result of the project
- References

The European Qualification Framework 1.



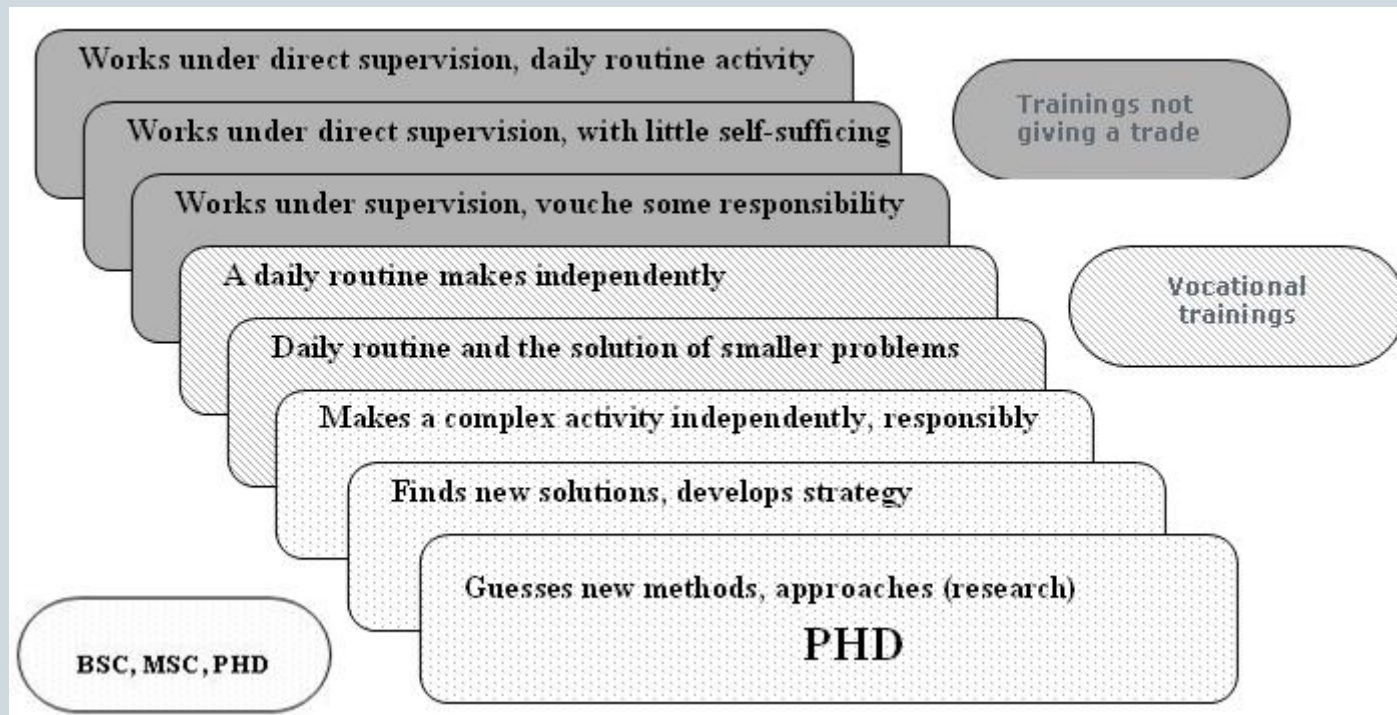
- From the middle of the 1990s the European specialists realized that the education, training and labor mobility may provide the basis for the growth of the economic competitiveness.
- The EU launched the Leonardo da Vinci and the Socrates programs, which Hungary joined some years ago. By today the area of education has become a target of strategic importance in the European Union.

The European Qualification Framework 2.



- There was a proposal made in 2004 for the establishment of the European Qualification Framework (EQF)
- The EQF works as a comparing device between the different countries' trainings, preserving the national variegation of the trainings.

Eight reference levels of the EQF



Example of related skills, competences and knowledge



Competence	Skills	Knowledge
to develop the Business Plan and the Project Plan	to interact with the client to identify the user requirements to present formally the user requirements for further data construction to elaborate a preliminary costs/benefits estimation of the system	general and object-oriented programming languages versioning tools modeling languages UML, Petri's nets project management techniques

The aim of ICT-LANE project



- **The direct objectives**
 - to decide the specialties of the ICT area
 - to develop a transparent model of the ICT trainings that is comparable on an international level
 - to implement descriptors in the experimental software, and finally to test and validate the descriptors with it.
- **Long-term objective**
 - to develop a Europe-wide competence-based career-centre, a career constructor service

The international team working in the project



- IG Metal Vorstand (German), as the consortium's leader
- Bitkom (Bundesverband für Informations- und Telekommunikationswirtschaft) (German)
- Instituto de la Ingeniería de España (Spanish)
- APFA (Association de Formation professionnelle pour les Adultes) (French)
- Airbus/EAD (French)
- Fondazione Politecnico di Milano (Italian)
- Eötvös Loránd University, Faculty of Informatics (Hungarian).

The methodology of ICT-LANE



- The international team made their sector-specific EQF implementation, the definition of the descriptors with the continuous fine-tuning of the initial model in several steps.
- A training can be described by the following descriptors:

Base data of training's description 1.



Descriptors	Free text	Values
Title	+	
Name of qualification supplier	+	
Kind of qualification supplier		Vocational Institute./Higher Education/Private School/ICT Vendor/Independent Organization
Name of accreditation body	+	
Kind of accreditation body		Vocational Institute/Higher Education/Private School/ICT Vendor/Independent Organization/Public Body
Reached Title/Certificate		Bachelor/Master/Public title/Accredited certificate/Private certificate
Country		List of countries
City	+	

Base data of training's description 2.



Descriptors	Free text	Values
Intensity		Number of: days - hours - Credits
Schedule 1	+	
Schedule 2		Full-time/Part-time
Attendance		Mandatory/Optional
Insertion date	+	
Entry Requirements	+	
Entry Requirements		L1/L2/L3/L4/L5/L6/L7/L8

Base data of training's description 3.



Descriptors	Free text	Values
External description link	+	
Contents and objectives	+	
Teaching language		English/Italian/French/Spanish/German /Hungarian
Price Intervals	+	
Price	+	

Base data of training's description 4.



Descriptors	Free text	Values
Reached levels		L1/L2/L3/L4/L5/L6/L7/L8
Learning Approach		Classroom training/On the job training/Dual training/E-learning/Distance learning /Blended learning
Recognition of prior learning		Yes/No
Student group size		5-10/10-20/20-30/30-
Additional Information	+	

The formal grammar of the output description



- To classify the trainings into EQF levels, it was necessary to draw up the uniform system of learning outputs and competence descriptions.
- There was a need to standardize the learning outcomes' descriptors, considering the collected national trainings
- An important step was to create a formal grammar of the output description. This grammar is structured as the following: Action Verb (AV) + Direct Object (DO) + Indirect Object (IO).
 - AV (Action Verb)
 - DO (Direct Object)
 - IO (Indirect Object)

Example of description from the manual



Connect a computer to a large bandwidth network

(AV)

(DO)

(IO)

Excerpt of the AV vocabulary from the manual



Action verb	EQF Level (lowest bound)	Definition to be able to ..
1. acquire / find	3	identify information or data required for own job, by identifying sources (documents, people) and interacting with them according to the objectives to achieve
2. adapt	3	modify and adjust methods, instruments, models, solutions, systems, etc., according to specific contexts and situations
3. administrate	4	manage, control and supervise the execution, use or conduct of an activity or a process
4. analyse	5	break down objects, situations, problems, concepts, to study them deeply and critically

European E-Competence Framework 1.



	Competence	Description
PLAN	A.1. Arrange the functional and process organization of the ICT systems and ICT services	Arrange the functional and process organization of the ICT systems and ICT services in phase with the business processes of the company.
	A.2. Define Service Level Agreements	Define technical Service Level Agreements
	A.3. Develop the Business Plan and the project Plan	Develop the Business Plan and the project Plan (Risk, IT, HR, Budget, Marketing, Testing, Training, Lifecycle)
	A.4. Elaborate documentation to define product specifications from a marketing point of view	Elaborate documentation to define product specifications from a marketing point of view
	A.5. Elaborate documentation to define product specifications from engineering point of view	Elaborate documentation to define product specifications from engineering point of view
	A.6. Chose Technologies, Systems and Technical Architecture	Chose Technologies, Systems and Technical Architecture
	A.7. Design models and architectures according to users requirements	Design models and architectures according to users requirements

European E-Competence Framework 2.



	Competence	Description
BUILD	B.1. Develop Components (e.g. SW programmes, I/O interfaces of a router, PC components, etc.)	Develop Components (e.g. SW programmes, I/O interfaces of a router, PC components, etc.)
	B.2. Integrate Components and Modules	Integrate Components and Modules
	B.3. Test Systems	Test Systems
	B.4. Test user	Test user
	B.5. Deploy Solutions	Deploy Solutions
	B.6. Elaborate Product Documentation	Elaborate Product Documentation
RUN	C.1. Support Users	Support Users
	C.2. Support Changes (redesign change requests, - problems-release management)	Support Changes (redesign change requests, - problems-release management): plan, manage and perform the evolutions of an IT solution while ensuring defined Service Level Agreement
	C.3. Monitor systems and applications in a proactive way	Monitor systems and applications in a proactive way
	C.4. Identify and Solve Problems according to service levels agreements (Trouble Shooting)	Identify and Solve Problems according to service levels agreements (Trouble Shooting)

European E-Competence Framework 3.



	Competence	Description
ENABLE	D.1. Define Security Policies (e.g. backup, confidentiality, etc.)	Define Security Policies (e.g. backup, confidentiality, etc.)
	D.2. Manage Security Policies	Manage Security Policies
	D.3. Define Quality Policies	Define Quality Policies
	D.4. Manage Quality Policies	Manage Quality Policies
	D.5. Manage external / internal Training Courses to enable resources fulfilling their jobs	Manage external / internal Training Courses to enable resources fulfilling their jobs
	D.6. Procure Systems, Resources, Services	Procure Systems, Resources, Services
	D.7. Support Sales to promote products	Support Sales to promote products
	D.8. Manage Indirect Sales Networks (e.g. VAR - Value Added Reseller - Networks, POS - Point of Sales)	Manage Indirect Sales Networks (e.g. VAR - Value Added Reseller - Networks, POS - Point of Sales)
	D.9. Manage Market Relationships	Manage Market Relationships
	D.10. Solution support and advising	Solution support and advising

European E-Competence Framework 4.



	Competence	Description
MANAGE	E.1. Estimate Sales, Production and Distribution Accurately (Forecasting)	Estimate Sales, Production and Distribution Accurately (Forecasting)
	E.2. Manage Projects /Processes	Manage Projects /Processes
	E.3. Manage risk	Manage risk
	E.4. Manage Relationships (Internal and External Customers, Suppliers, Partners)	E.4. Manage Relationships (Internal and External Customers, Suppliers, Partners)
	E.5. Innovate / Improve ICT processes and solutions to improve competitiveness	Innovate / Improve ICT processes and solutions to improve competitiveness
	E.6. Manage (organizational) Change requested when new IT solutions are implemented	Manage (organizational) Change requested when new IT solutions are implemented
	E.7. Manage project portfolio	Manage project portfolio

Description of C.2 e-competence (RUN competence group)



<p>C.2. Support Changes (redesign change requests, - problems- releasemanagement)</p>	<p>Support Changes (redesign change requests, - problems- releasemanagement): plan, manage and perform the evolutions of an IT solution while ensuring defined Service Level Agreement</p>
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ICT-Lane Tool



- For the testing and the authentication of the model, a web application was created by the Italian partner
- The application is operated by the Faculty of Informatics at the Eötvös Loránd University
- The software was programmed in PHP
 - using Java library functions and
 - MySQL database
- The hardware background is provided by an HP ML370G5 server
 - The server runs on a SUSE Enterprise Linux operating system

The user interface



ICT Lane
Qualifications in Europe

ICT Lane Site

Home
Competence Search
Multisearch
Userguide/FAQ
Admin

Welcome to the ICT Lane Tool!

Within the [ICT Lane initiative](#), European experts of ICT (Information and Communication Technology), ICT qualification and training develop a sector-specific implementation of the European Qualifications Framework ([EQF](#)). The work is based on two principles:

- The definition of qualitative description standards makes national and other ICT qualification offers (both independent and ICT vendor industry certificates) internationally transparent and understandable.
- Commonly shared and understandable references and descriptors enable all end-users to compare qualification offers in terms of individual needs and quality.

 ICT Lane activities are closely linked to other relevant e-Skills initiatives on the European and sectoral levels, in particular to the forthcoming [European e-Competence Framework](#). The Europe-wide agreed e-competences provide the reference basis for relating qualification offers to the competence demand side of the European ICT business market.

The ICT Qualifications Framework is being tested by the pilot software of the initiative, namely the ICT Lane Tool.

Get involved and test the Tool [here!](#)

TOP

Imprint   A A

Education and Culture
Leonardo da Vinci

The users of ICT-Lane Tool



User	Task	Role
Employee	helps in the vocational self-evaluation, in the selection of a new training for a new job	end-user
Company	assists to select a proper employee (with proper training) for a given job or task	end-user
Vocational Institute	offers trainings for students helps to follow the new trends of trainings in Europe creates new trainings	end-user, providing data

Rating cover, ICT-LANE TOOL



<u>Title</u>	<u>Competences Rating Cover</u>	<u>Country</u>	<u>Name of qualification supplier</u>
<u>Software designer (BTS informatique de gestion)</u>	36 %	France	
<u>IT Designer & Developer (CDI)</u>	16 %	France	

Administrator's interface



Examples of action verbs linked to EQF levels

Add Learning Outcome

Learning Outcome	<input type="text" value="Learning Outcome"/>
Competence	<input type="text" value="A.1. Arrange the functional and process organization of the ICT systems and ICT services"/> ▼
ICT area	<input type="text" value="System administration"/> ▼
Level	<input type="text" value="L5"/> ▼
<input type="button" value="Submit"/>	

The result of the project



- As a result of the project the implementation of an IT-specific EQF was created
- the model and the methodology was worked out and tested with the help of a web-application
- the database contains the test data of typical trainings in the participating countries
 - some of the new vocational trainings in Hungary
 - the learning output descriptions and the related e-competences of BSc courses of the Faculty of Informatics at the Eötvös Loránd University
- considering the vocational trainings (EQF level 4-5) the applied workflow, the AV dictionary and the set of e-competences were suitable
- BSc caused some problems. It is more difficult to create the description of these trainings' learning outputs with the help of a standardized vocabulary and e-competences.
- <http://ict-lane.inf.elte.hu>

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Thank you for your attention!