

Towards a European e-Competence Framework

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Objectives, methods, outcomes and next steps

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1. Objectives

The aim of the work team was to define

- a) a common “European” language about ICT competence¹ definitions
- b) a structure for the European e-Competence framework

Both results should be in line with the European Qualification Framework (EQF) and the local ICT competence frameworks.

2. Method

The method adopted was team work with a comparative analysis of the different local frameworks and the EQF as input.

The group was split into three teams (each team consisting of different stakeholders from different EU countries) with the same goals. They should make decisions about definitions and possible relationships with the EQF.

3. Outcomes

The solutions emerged from this team work are not conclusive, however they provide a concrete starting point to be revised during the further operative work.

¹ The term “competence” is here used in a generic and broad sense. The term “competency” could be only quoted when referred to specific technical works using it

a) Definition of a common “European” language

The provisional results are the following:

Items to be defined	Description /Definition	Examples ²	Remarks
<i>European e-Competence Framework</i>	<p><i>It helps</i></p> <ul style="list-style-type: none"> the understanding of local frameworks; the building of job profiles; the building of new local frameworks; <p><i>It becomes</i></p> <ul style="list-style-type: none"> an internationally working HR planning and development tool a guideline for the educational and vocational systems engaged in designing curricula and training initiatives 	See point b)	<p>- The European e-Competence framework must be in line with the EQF and the other local ICT competence frameworks in the sense that it can be mapped into the EQF as well as the other local frameworks can be mapped into the European e-Competence Framework.</p> <p>- The European e-Competence Framework must be general enough to fit requirements described, it is not a copy of some specific already existing frameworks</p> <p>- The European e-Competence Framework is competence based not job profile oriented</p> <p>- The European eCompetence Framework must be easily maintained and it must be able to balance effectiveness (quality) and efficiency (costs)</p>
<i>Competence</i>	<p><i>A demonstrated ability to apply knowledge, skills and attitudes to achieve results</i></p> <p>(→ This is the least definition shared – the “intercept” of the various definitions gathered.)</p>	<p>Supervise the technical aspects of the software development work of other</p> <p>Ability to perform detailed specifications, coding, module testing, and parameter integrated solutions</p> <p>The provision of advice, assistance and leadership in improving the quality of software development, by focusing on process definition, management, repeatability and measurement. The facilitation of improvements by changing approaches and working practices, typically using recognised models such as the Capability Maturity Model Integration (CMMI), or the Software Process Improvement and Capability determination Model (SPICE).</p> <p>(from eSkills UK, Airbus, SFIA)</p>	<p>- The descriptions are operational, that is, they describe observable behaviours which can be demonstrated /assessed, so they implicitly refer to contexts.</p> <p>- As operational descriptions of competences describe observable behaviours, they <i>embed</i> and integrate all the dimensions that actually real behaviours usually integrate: knowledge, skills, attitudes, self-responsibility and autonomy capacities</p> <p>- The length of operational descriptions is limited. The examples show a minimum and a maximum length</p>

² Most examples are taken from eSkills UK NOS, SFIA and Airbus because they represent competences and skills by operational descriptions; just what we decided to adopt in the European eCompetence Framework

Items to be defined	Description /Definition	Examples	Remarks
<i>Levels</i>	<p><i>Levels are conceived in terms of</i></p> <ul style="list-style-type: none"> • <i>self-responsibility (see responsibility),</i> • <i>autonomy,</i> • <i>expertise (degree of competence)</i> <p><i>according to context's complexity.</i></p>	<p>Supervise the technical aspects of the software development work of others</p> <p>Control software development projects by directing the technical aspects of the work of others and ensuring its quality</p> <p>Direct and review software development projects; and create and implement procedures for controlling software development projects.</p> <p style="text-align: right;"><i>(from NOS – eSkills UK)</i></p>	<ul style="list-style-type: none"> - Entry levels should be the same as in the EQF; the European eCompetence framework will start from level 3 to level 8 (possibility to extend levels to 10?) - Levels could be <i>embedded</i> in the operational descriptions of competences - Levels could also be <i>embedded</i> in or associated to knowledge and skills - The attribution of levels to attitudes seems rather difficult, moreover attitudes can be better <i>embedded</i> inside competences; hence levels linked to competences automatically link to attitudes, as well. <p><i>Question:</i></p> <p>Should levels apply to job profiles? → Decision for next step</p>
<i>Area of competence</i>	<p><i>A set of competences clustered according to specific criteria</i></p>	<p><i>Strategy and Planning</i> which includes</p> <p>Information strategy, Advice and guidance, Business /information systems strategy and planning, Technical strategy and planning</p> <p style="text-align: right;"><i>(from SFIA)</i></p>	<ul style="list-style-type: none"> - The European e-Competence Framework can be organised by areas of competences - Competences areas can be defined in many different ways. Next step, criteria will be decided. - The same is about competences inside the area: how can we identify them?. Moreover, their granularity must be defined. - Next step, criteria to derive competences and their granularity will have to be defined
<i>Job profile</i>	<p><i>A set of</i></p> <ul style="list-style-type: none"> • <i>competences,</i> • <i>tasks,</i> • <i>objectives,</i> • <i>key performance indicators, etc....</i> 	<p style="text-align: center;"><i>see Cigref (previous version)</i></p>	<ul style="list-style-type: none"> - A European e-Competence framework should just consider job profiles as sets of competences (without taking into account tasks, objectives, etc., which are up to companies) - A job profile can be built with competences at different levels, coming from different competence areas

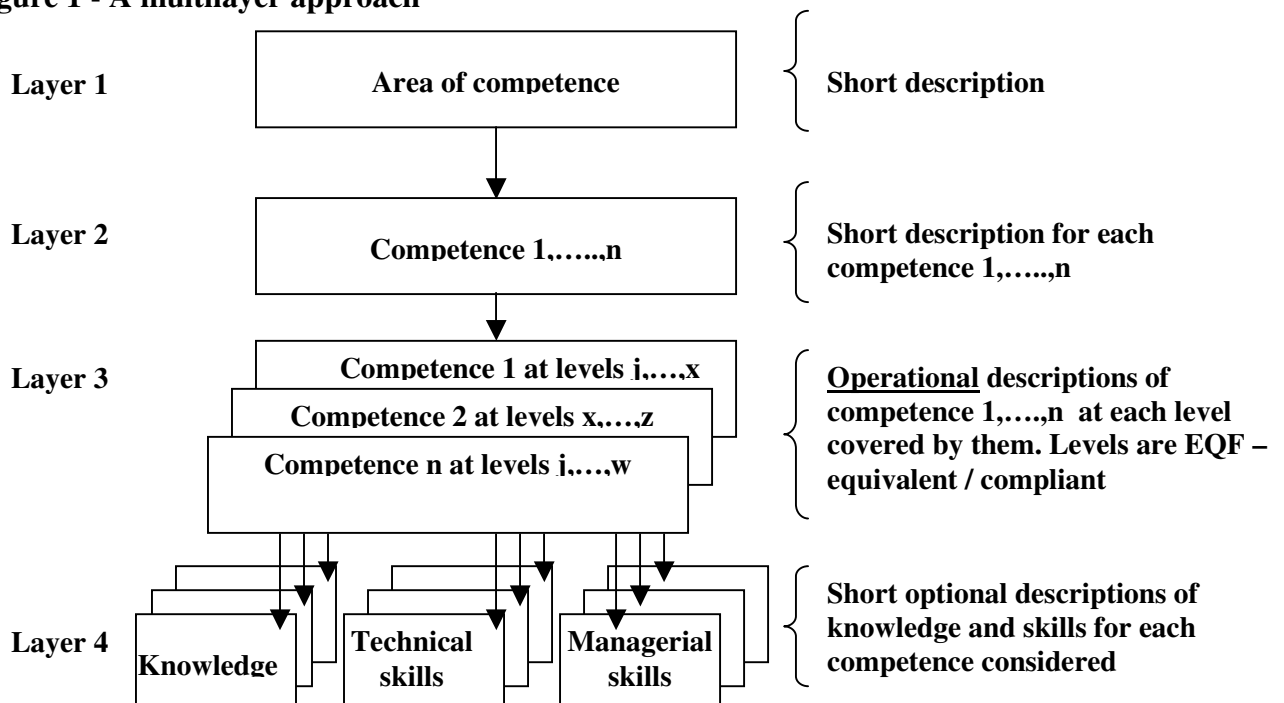
Brief summary of the team work’s outcomes about the “European language”:

- competence definitions are operational
- competence descriptions could *embed* attitudes, self-responsibility capacities, and hence levels
- but according to the least competence definition agreed, we can say that a competence can be seen *per sé and* according to levels. Hence, a competence can be defined at two “tiers” or “layers”. The former is general the latter is “refined” with levels
- levels are EQF-equivalent / compliant.

b) Definition of a structure for the European e-Competence framework

Consequently, point **b)** presents a provisional solution emerged from the team work. The solution suggests adopting a *multilayer approach* (just as a simple hypertext). This provisional solution was decided by considering the high complexity of items put on the table. The proposal is that a provisional structure can be improved step by step during its filling in with contents. It is just a concrete starting point.

Figure 1 - A multilayer approach



Competences descriptions are required (from layer 1 to 3)

Knowledge and skills are optional and can be described only when it is necessary in order to make the competence layers more understandable. Moreover at this stage, they are thought always at the same level assigned to the associated competences.

Figure 2 - A multilayer approach - Example

(Just to show how the structure could work. This it is not a real example, as we have not defined yet competence areas and competences granularity.)

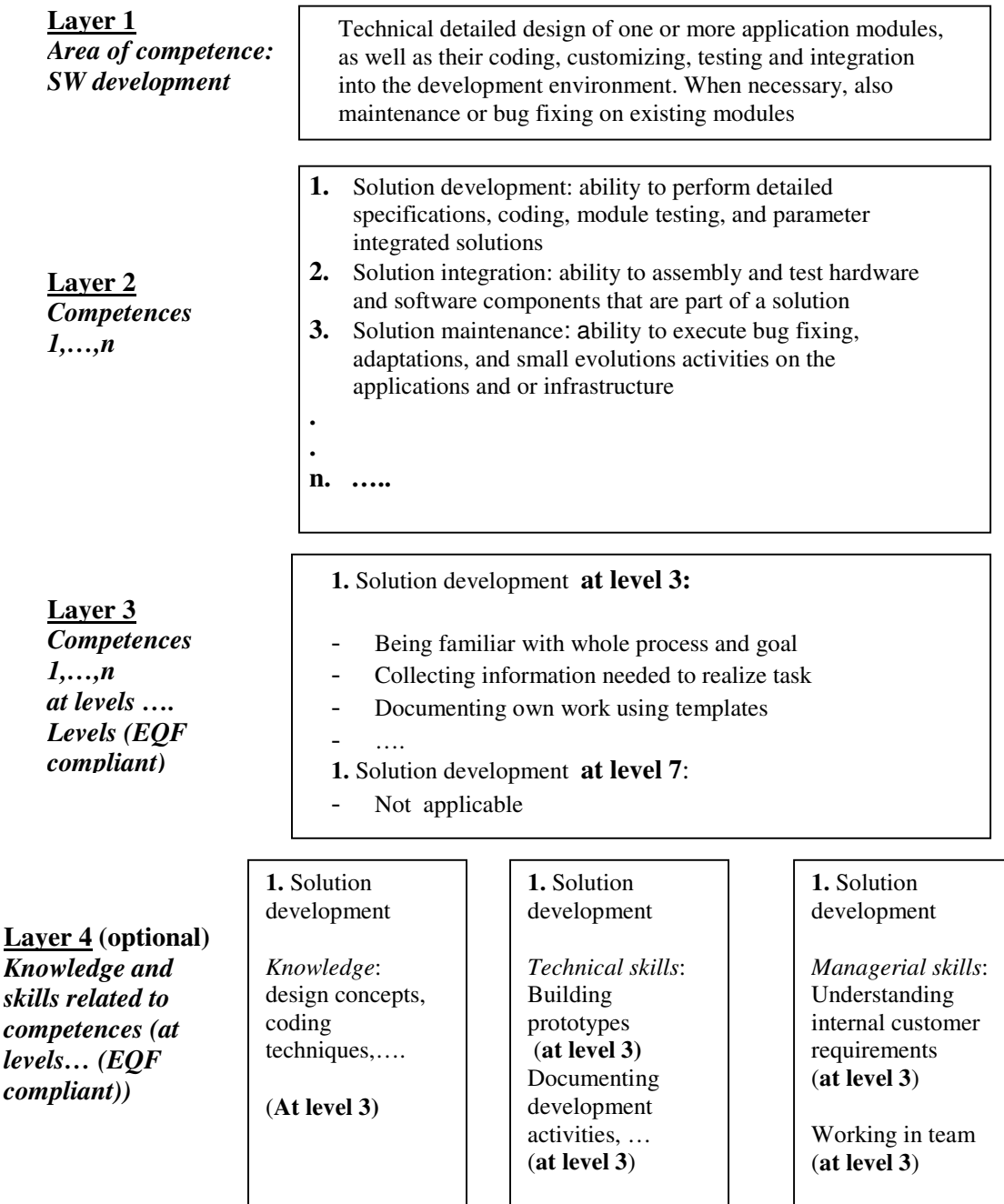
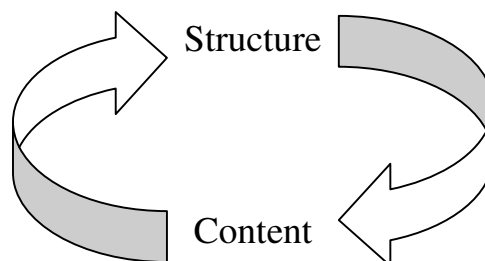


Figure 3 - How to build job profiles - Example

layer 1			Competence Area A			Competence Area B			Competence Area C				
layer 2			CA 1	CA 2	CA 3	CB 1	CB 2		CC 1	CC 2	CC 3	CC 4	
layer 3 + layer 4	levels EQF compl.	1											
		2											
		3	X		X								
		4		Y	X,Y							X	
		5			Y			X					
		6					Y						
		7					Y						
		8											
		...											
		...											
...													

Job profile X	L3	L3	L4
	L5		
	L4		
Job profile Y	L4	L4	L5
	L6	L7	

The e-Competence framework structure is provisional and it can be improved step by step according to the schema below



4. Next steps

Main decisions to be taken early next year:

- Which competence areas
(approaches to their identification: functional / by process, ...)
- What granularity level of competences and of their operational definitions
- How to derive / identify competences
(top down approaches: business processes analysis;
bottom up approaches: work processes observation; best performers interviews,;
a mix of them: identification of samples of companies, interviews to employers to
define competences needed by companies according to their business processes,
interviews to employees, etc...)