

## Case study

### IT

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#### Short summary:

The objective of the project NQF SQF is to create a common grounds for referencing national and sectoral frameworks to EQF. Therefore an employability grid has been developed. This employability grid should be the basic instrument for the referencing NQF's and SQF's to EQF.

The objective of this case study is to test the value of the methodology developed within WP2. In WP2 a draft employability grid has been developed. The elements of this employability grid are researched in the case study. Four sectors are subject of the case study: construction, IT, logistics and retail. Of each sector a separate report has been made. This case study report summarises the conclusions of IT and draws conclusions from the findings. The final report will provide recommendations for further investigation and discussion regarding the employability grid based on the four case studies. Thus providing the basis for the final employability grid.

In the 4 sectors staff has been interviewed over 3 different functions existing in their company. The interviews were planned in small, medium sized and large companies. These functions are representative functions for the sector at national and transnational level. Each sector has used the same questionnaire. The same set of functions were researched in two European countries. The results of the interviews are used to refine the draft employability grid.

## 1 Introduction

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The objective of the case studies is to test the value of an instrument called the employability grid (deliverable 5). The development of this employability grid is a main objective of the NQF/SQF project. In constructing the concept of the employability grid two main issues were taken into account, the basic issues for describing the work objectives and the EQF terminology. One of the observations within deliverable 5, stated that the EQF terminology used to differentiate between levels creates some problems. One of these problems is that the differences between the descriptions of some levels are minimal. Another observation was that the language used to describe those differences accentuate different aspects in order to describe the differences. This creates uncertainty about the existence of that specific aspect at the other level, or it creates a choice for another level based on the used terminology which accentuates that aspect. This leads to the question if this is desirable and if not if it's avoidable.

In order to eliminate this kind of mismatches the draft employability grid filtered the EQF descriptors and described the competences at each level in key words which were categorised by three key terms.

- Action with regard to the action of others: varying from being steered at the lowest levels to steering others
- Action with regard to the context: determined by the context or the possibility to influence the context
- Context: from stable, not changing and structured to changing.

This categorisation is directly derived from the competence descriptions of the EQF. The differences between each level are minor. The final draft of the employability grid was represented as you could see in the scheme at the next page.

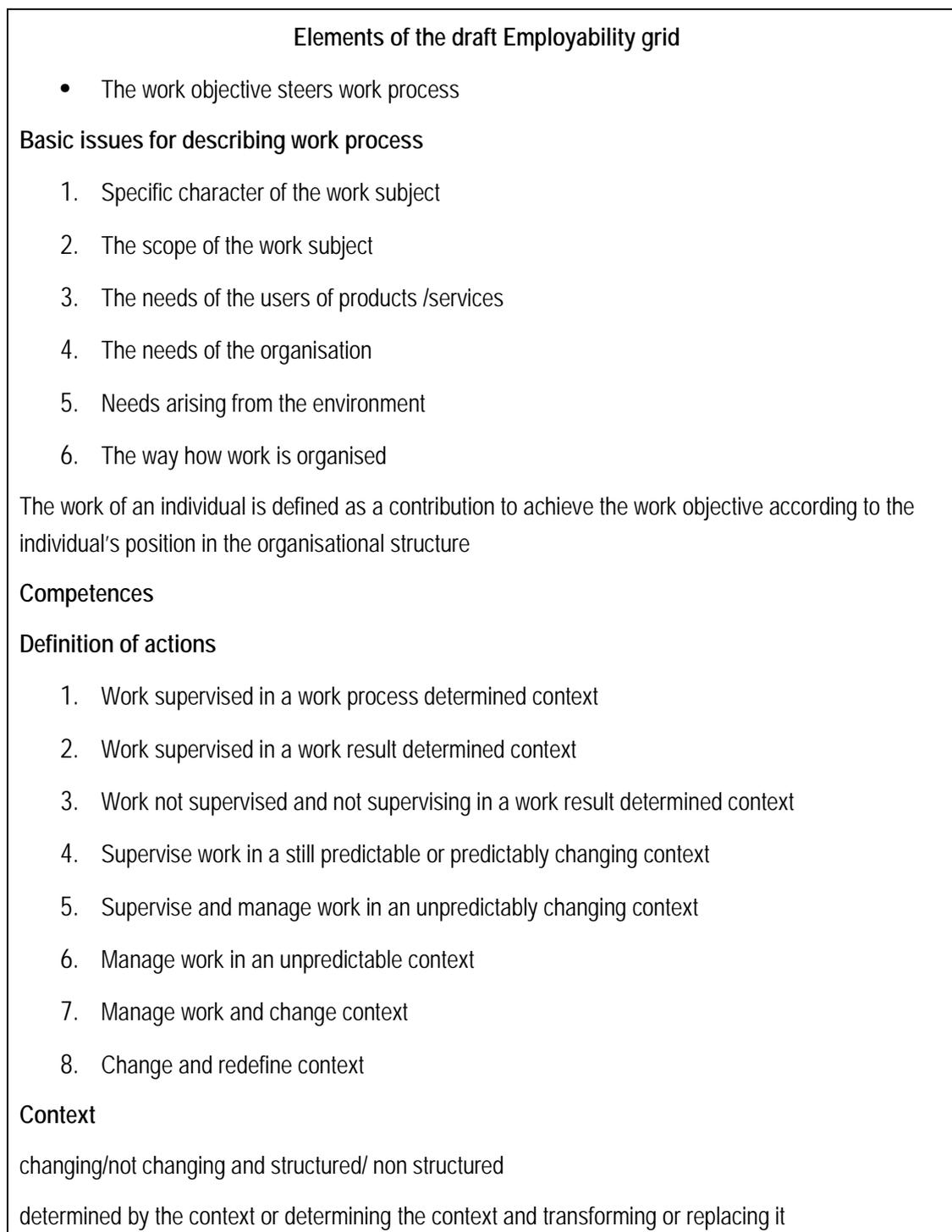
Scheme 1: EQF competences level

levelsofcompetence	Competence in EQF terms	Action with regard to action of others	Action with regard to context	Context	?
1	Work or study under direct supervision in a structured context	Steeredbyactionothers	Determinedbycontext-	Not changing structured	
2	Work or study under direct supervision with some autonomy	Steeredbyactionothers	Determinedbycontext	Not changing Not structured	
3	Take responsibility for completion of tasks in work or study adapt own behavior to circumstances in solving problems	neutral	Determinedbycontext	Not changing changingcircumstances	
4	Exercise self-management within guidelines of work or study contexts that are usually predictable, but are subject to change Supervise routine work of others, taking some responsibility for the evaluation and improvement of work or study activities	Steeringactionofothers	Determinedbycontext	Changing/not changing	
5	Exercise management and supervision in contexts of work or study activities where there is unpredictable change Review and develop performance of self and others	Steeringactionofothers	Determined by context	changing	
6	Manage complex technical or professional activities or projects, taking responsibility for decision making in unpredictable contexts Take responsibility for managing professional development of individuals and groups	Steeringactionofothers	Determiningcontext transforming	changing	
7	Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches require new strategic approaches Take responsibility for contributing to professional knowledge and practice and/or reviewing the strategic performance of teams	Steeringactionofothers	Determining context transforming and replacing	changing	
8	Demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research	Steeringactionofothers	Determining context transforming and replacing	changing	

The objective of the case studies was to test the value of the methodology of the draft employability grid.

The following scheme pictures the main elements of the draft employability grid :

*Scheme 2: elements of the draft Employability grid*



It's a rough sketch of elements of the EQF that could be seen as key elements to focus on in order to relate EQF to the world of work. These were also taken as the key elements for the case studies.

Taken all this into account it was decided to focus of the case studies on the side of the companies. This should be in the IT, Construction, Retail and Logistics.

Main topics of the case studies were:

- The assumptions made in the draft employability grid – are they recognisable within companies?
- How do companies score functions on elements of the EQF?
  - What are key considerations to chose for a particular answer in a series of possibilities?
  - How does this relate to the function under investigation and the available formal information about that function?
- What does this mean for the draft employability grid?

A questionnaire was developed. The first part of the questions focused on the basic issues for describing the work process, the assumptions made in the draft employability grid. The second part focused on functions and key issues related to the competences. As a bases for this second part the Irish NQF descriptions were taken as a reference. This NQF based on the EQF describes the aspects of competences more extensively than the sole words used in the employability grid. The assumption was that by using these descriptions and asking for examples that specify the choice, more information could be gained. This information should give input for the refinement of the employability grid. Deliberately level 8 was not taken in to the research. Because of the focus on VET and functions at an operational level. To take level 8 in to the research could lead to unnecessary rustle.

### Case studies: approach

The chosen approach was:

- per sector: 3 common functions classifiable at EQF level 1-6/7 had to be researched in two different countries. The functions should be recognisable in the European countries and as a reference the following functions were advised.

	Function 1	Function 2	Function 3
ICT	IT employee	IT network administrator	IT manager
Construction	'construction employee'	Team leader/supervisor	Manager
Logistics	Order picker	Logisticsteamleader	Head of logistics
Retail	Salesassistant	Departmentalmanager /branchmanager	Shop manager/ owner

- Research within small – medium and large enterprises. In order to see the differences in context

Each partner interviews for the given sector

- 3 functions in a small company < 10 (if possible)
- 3 functions in a company 10-50 employees
- 3 functions in a company > 100 employees

In order to be efficient one could research these functions within one company. When researching a company with less than 10 employees it's probably impossible to research more than 2 functions.

When describing more than one function within one organisation, the first part of the questionnaire could be filled in only once, the second part has to be filled in for each separate function.

- Method: interviewing staff/ hrd/ entrepreneur using the description of the function used by the company (organisational function description/ sectorial description) and using the given document with questions/ subjects for gathering the information. For the second part (green) make sure that you assemble examples that underline the given answer.

### 3 Results case study IT

In this chapter presents the results of the IT case study.

In 3.1 information is given on the collected data: the response, the division of functions and size of the companies. In 3.2 and 3.3 the answers of the questionnaires are shown and some generalising comments are made. Due to the small amount of interviews this will not be extensive. 3.2 shows the answers of the first part of the questionnaire, 3.3. shows the answers related to the EQF.

#### 3.1 Data gathering

The information on IT was only gathered in Austria. The research covered a small company employing two persons and a large company, with 170 employees.

#### Suggested functions and the researched functions

	Function 1	Function 2	Function 3
ICT	IT employee	IT network administrator	IT manager

In order to get a division over the EQF levels the partners were asked to research functions at different levels. The scheme above shows the indicated function in the IT.

ICT: EQF levels related to the functions under investigation		
EQF 1-2	EQF 3-4	EQF 5-6-7
Junior software developer	IT programmer	IT Senior Consultant
		IT Business Development Director

#### Results sector, size of the company and division of functions

	Small company < 10			Medium sized 10- 50 (-100) employees			Large >100		
	F1	F2	F3	F1	F2	F3	F1	F2	F3
ICT		1					1	1	1

The results were gathered in a small company and a large company.

#### Number of employees

	Small company < 10	Medium sized 10- 50 employees	Large >100
	Number of employees	Number of employees	Number of employees
ICT	2		170

The companies were described as independent companies. One company is part of a network of international operating companies.

### 3.2 Basic issues for describing the work process

One of the main assumptions of the employability grid is that the work objective steers the work process. The basic issues which should be taken in consideration for describing the work process were divided in seven issues. The interviewees were asked to give their view on these subjects in relation to the core work objective. The following tables show the answers on the various subjects. The subject 'needs of individuals' is not added in the interview list, due to the fact that this factor was added in a later phase of the employability grid and was overlooked in the construction of the interview list.

Objective	How would you characterise the objective of the organisation? (key words)
IT	<ul style="list-style-type: none"> <li>• Development of high quality individual software</li> <li>• Mission Critical IT Service Provider</li> <li>• Provider of specialised IT-technology und -consulting</li> <li>• Producer of IT Equipment (speziell Mainframes, Server)</li> </ul>

Quality of service and specialised products can be seen as the common denominators. Each individual company will have it's own specific vision of these elements and will realise these objectives in their own specific way. This will be based on their core business.

#### Needs

Needs	How would you characterise the needs of those who use products or services in relationship to the core work objective?
IT	<ul style="list-style-type: none"> <li>• Database-driven Web applications that are not available on standard solutions</li> <li>• Modernising applications</li> <li>• Data center-Transformation</li> <li>• Final user IT Support (Helpdesk, Lifecycle Management)</li> <li>• Outsourcing</li> <li>• Security (Access, identity management, biometrics)</li> </ul>

Specialism, expertise and security will be the main needs of the users of the products or services. They need to be able to trust the company's expertise. At the level of abilities one could say that each individual contributes to this aspect. For each function this could mean that this should be a clear objective.

Needs 2	How would you characterise the needs of the organisation that arise from her specific character as an enterprise or public institution? Economical / legally defined tasks / else
IT	<ul style="list-style-type: none"> <li>• The requirements for our services and products are based in a more complex environment, so several fields of our company take part.</li> </ul>

Having only one answer it wouldn't be just to generalise this for the ICT sector. In general one could probably say that it will be a combination of economical and legally defined tasks. For companies a solid working IT is essential. The IT companies have to guarantee this to their customers, a high service level and safety guarantees will be included.

Needs 3 Environmental needs	Are there needs which arise from the environment within which the work objective has to be achieved? (f.i. security regulations, health and safety regulations, ecological regulations)
IT	<ul style="list-style-type: none"> <li>• No</li> <li>• yes</li> </ul>

### Function description, organisation chart and sectoral descriptions

Functiondescription	Is a function description available? Can you provide the organisational structure and show where the function is classified? Please add the organisational structure
IT	<ul style="list-style-type: none"> <li>• No</li> <li>• Yes, It's an internal more general description of required skills. It is complemented and specified by an individual description.</li> <li>• Company description</li> </ul>

### Scope of the work and outcomes of functions and the contribution to the work objective

scope	How would you characterise the scope of the work of the function in relationship to the achievement of the overall goals?
IT	No answers

Overall goal	Does the overall goal determine the work objectives? Does it really steer the work of the investigated function?
IT	No answers

Outcomes	Will outcomes of the activities be useable for various work objectives?
IT	No answers

Maincontribution	Which is the main contribution of the employee in this function to the work objective?
IT	Appropriate methods for quality assurance are used by this function: Creation of test protocols creation of unit tests as part of development

### 3.3 Linking to the EQF

The last part of the questionnaire aimed at the distinguishing of the levels connected to the investigated functions. As said before the description of the Irish Qualification Framework was used for this purpose. It's one of the first constructed National Frameworks. Using elements of this grid had some pragmatic reasons.

- The descriptions seemed to be fit for testing the descriptors structured/not structured, changing/ not changing, being steered/ steering, range of action and extent to which a person can influence the context.

Therefore the topics were reduced to 'context of the function', 'role', 'knowledge', 'know how and skills' and 'insight'- the ability to learn.

- Ireland is no partner in the project, so none of the partners should feel committed to this grid.

For the research some adaptations were made. The description of the level referring to EQF level 8 was excluded because of the scope of the research. Furthermore the amount of levels were reduced to eight, leaving out the first level and by combining the two similar levels.

The answers to these part of the survey are shown at the next pages. In order to get some more background information it was emphasised that the explanation of the choice was important.

The next table shows, as showed before, which functions were investigated.

IT: functions under investigation		
Small company < 10	Medium sized 10- 50 employees	Large >100
	Functions	Functions
programmer		Junior developer
		Senior consultant
		Business development director

ITPr IT Programmer  
 IT jsd IT Junior Software developer  
 IT SC IT Senior Consultant  
 IT Bdd IT Business Development Director

1. Context/ complexity	1	2	3	4	5	6	7
<p><b>Which description describes the context of this function the most appropriate?</b></p> <p><b>Context of the function</b></p>	Act in a limited range of predictable and structured contexts	Act within a limited range of contexts	Act in familiar and unfamiliar contexts	Act in a range of varied and specific contexts, taking responsibility for the nature and quality of outputs; identify and apply skill and knowledge to a wide variety of contexts	Act in a range of varied and specific contexts involving creative and non-routine activities; transfer and apply theoretical concepts and/or technical or creative skills to a range of contexts	Utilise diagnostic and creative skills in a range of functions in a wide variety of contexts  / Use advanced skills to conduct research, or advanced technical or professional activity, accepting accountability for all related decision making; transfer and apply diagnostic and creative skills in a range of contexts	Act in a wide and often unpredictable variety of professional levels and ill defined contexts
ICT		IT jsd		It Pr	IT Sc		IT bdd
<p><b>Please specify this with examples</b></p> <p>IT Pr: Takes responsibility for the software supplied (by check / fix bugs found during the tests)</p> <p>IT jsd Task-related processing of orders as specified by the software-architect.</p> <p>IT SC Must be able to detect non-obvious relationship analysis and act accordingly when visiting the customer.</p> <p>IT Bdd x</p>							

2. Role	1	2	3	4	5	6	7
<p><b>Which description describes the role of the function the most appropriate? –</b></p> <p><b>definition of actions</b></p> <p><b>degree of support</b></p>	Act in a range of roles under direction	Act under direction with limited autonomy; function within familiar, homogeneous groups	Act with considerable amount of responsibility and autonomy	Exercise some initiative and independence in carrying out defined activities;  join and function within multiple, complex and heterogeneous groups	Exercise substantial personal autonomy and often take responsibility for the work of others and/or for the allocation of resources;  form, and function within, multiple, complex and heterogeneous groups	Accept accountability for determining and achieving personal and/or group outcomes  take significant or supervisory responsibility for the work of others in defined areas of work  /  Act effectively under guidance in a peer relationship with qualified practitioners;  lead multiple, complex and heterogeneous groups	Take significant responsibility for the work of individuals and groups;  lead and initiate activity
				It pr	T SC		IT bdd
<p>Please specify this with examples</p> <p>IT Pr Implementation of customer requirements. Examination of customer demands for usability, consistency, testability</p> <p>IT jsd Not applicable, operates mainly in a clearly defined role in the project without any responsibility</p> <p>IT Sc Senior Consultant is responsible for at least a sub-project (including staff).</p> <p>IT Bdd Directs the creation of a complex, large offer, including several businesses and workgroups.</p>							

3. knowledge	1	2	3	4	5	6	7
<b>Which description describes the most appropriate the kind and breadth of knowledge needed in the function?</b>	Knowledge narrow in range  Concrete in reference  and basic in comprehension	Knowledge moderately in range  Mainly concrete in reference  and with some comprehension of relationship between knowledge elements	Broad range of knowledge  Mainly concrete in reference  and with some elements of abstraction or theory	Broad range of knowledge Some theoretical concepts and abstract thinking,  with significant depth in some areas	Specialised knowledge of a broad area  Some theoretical concepts and abstract thinking,  with significant underpinning theory	Specialised or detailed knowledge across a variety of areas  /  An understanding of the theory, concepts and methods pertaining to a field (or fields) of learning  Recognition of limitations of current knowledge and familiarity with sources of new knowledge;  integration of concepts across a variety of areas  /  Detailed knowledge and understanding in one or more specialised areas, some of it at the current boundaries of the field(s)	A systematic understanding of knowledge, at, or informed by, the forefront of a field of learning  A critical awareness of current problems and/or new insights,  generally informed by the forefront of a field of learning
		IT jsd		It pr	it Sc		IT bdd

Please specify with examples

ITpr Requires thorough knowledge of programmin / database skills which are used for the project. Needs to be able to convert and use usual theories/ standards.

IT jsd x

IT sc x

IT bdd Leadership concerning Methods of the company's consulting methodology, training of staff in this method, further development and completion of exploratory learning or experience



5. insight	Ac	Ac	Ac	Ac	Ac	Ac	Ac
<p><b>Which description describes the most appropriate the insight that could be expected of employees in the function</b></p> <p><b>And the ability to learn expected of employees in the function?</b></p>	<p>Demonstrate awareness of independent role for self</p> <p>Learn to learn in a disciplined manner in a well-structured and supervised environment</p>	<p>Assume limited responsibility for consistency of self-understanding and behaviour</p> <p>Learn to learn within a managed environment</p>	<p>Assume partial responsibility for consistency of self-understanding and behaviour</p> <p>Learn to take responsibility for own learning within a supervised environment</p>	<p>Assume full responsibility for consistency of self-understanding and behaviour</p> <p>Learn to take responsibility for own learning within a managed environment</p>	<p>Express an internalised, personal world view, reflecting engagement with others</p> <p>Learn to evaluate own learning and identify needs within a structured learning environment; assist others in identifying learning needs</p>	<p>Express an internalised, personal world view, manifesting solidarity with others</p> <p>/</p> <p>Express a comprehensive, internalised, personal world view manifesting solidarity with others</p> <p>Take initiative to identify and address learning needs and interact effectively in a learning group</p> <p>/</p> <p>Learn to act in variable and unfamiliar learning contexts; learn to manage learning tasks independently, professionally and ethically</p>	<p>Scrutinise and reflect on social norms and relationships and act to change them</p> <p>Learn to self-evaluate and take responsibility for continuing academic/professional development</p>
	IT jsd		It pr (first part- assume ...behaviour			IT SC	IT bdd

Please specify with examples

ITPr Must stay educated about the latest technical developments by themselves (study of books, internet research, study of magazines)

IT jsd

IT Sc Is also expected to be used in internal change management projects.

IT BdD As the person responsible for a market-relevant programs in five countries, it is necessary to agree on the specifics of each country and to constantly adapt the behaviour and social contacts. Continuous feedback from discussions of the current behaviour is continuously evaluated.

ITPr IT Programmer

IT jsd IT Junior Software developer

IT SC IT Senior Consultant

IT Bdd IT Business Development Director

According to the given answers one could classify the functions in EQF. Not as a goal in itself but to see which conclusions can be deduced from the clarifications of the answers and to see in what way this could help to refine the employability grid. In delivery 21, the overview of the complete research, this overview is given and one can read the analysis

