Labour mobility in the ICT sector: What's age got to do with it?

Employers' perceptions of labour mobility and older ICT workers

Cameo Project, Deliverable 2.6

Summary

The key aim of WP2 within the LLP project CaMEO is to build a knowledge base around mobility strategies for older ICT workers, with emphasis on the demand side (employers). This deliverable 2.6 first provides the outcomes of desktop research in the field of geographical, virtual and job mobility of older ICT workers, its barriers and obstacles. Each section starts with defining the terms, discusses core theories of mobility, and continues with empirical data if available or other relevant research results in these fields. As mobility ranks high on the EU Agenda, current EU directions are presented too. Second, this deliverable presents findings from narrative research with employers of ICT workers from the public, private and SME sectors in 11 EU countries, conducted between September and December 2014. This is geographically representative of the situation across Europe and enables the CaMEO consortium to formulate mobility policy recommendations that meet the needs of employers and support the inclusion of older workers.

Authors:
Maria Schwarz-Woelzl, Zentrum fuer Soziale Innovation
Megan DePutter, University of Strathclyde

Participants:
Wolfgang Michalek, Maria Schrammel - Zentrum fuer Soziale Innovation
Izabela Kołodziejczyk-Olczak, Justyna Wiktorowicz - University of Social Sciences
Cristina Costa, Vincent Bruce – Unviersity of Strathclyde

February 2015

This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Index

Figures

Boxes

List of abbreviations

ICT	Information and Communication Technology	**EPL**	Employment Protection Legislation
R	Respondent (see Annex 1)	**R&D**	Research and Development
Q	Question (see Annex 2)	**WP**	Work package
SME	Small and medium-sized enterprises		

Introduction

> *'Geographical, occupational, sectorial and social mobility and skills development strategies are crucial for confronting the crisis, paving the way for recovery, and easing the restructuring processes. (…) Investing in human capital and greater labour force mobility can be mutually reinforcing as a way of taking full advantage of untapped employment opportunities'* (Council of the European Union, 2009).

Today 'a job for life' applies only to a minority of workers in the European Union; in fact, the number of workers staying in the same job for most of their working life is declining (Bukodi & Róbert, 2007). The labour market today is characterised by job destruction and job creation and more frequent transitions between different jobs, occupations, sectors, and employment statuses. Furthermore, workers identify themselves more by their skills than the firms they work for. This attitude leads workers who find themselves in unsatisfactory situations to leave their current jobs and search for alternative jobs, provided that alternative jobs are available (Cornelißen, Hübler, & Schneck, 2007). Moves from education and training to work, from one job to another, from unemployment or inactivity to work have become much more frequent. However, older workers are less mobile in the labor market than other workers, and their job mobility tends to be negatively motivated.

In line with the European Commission's Employment Package (launched April 2012) where it is 'called for extra effort to support job creation in the three fast growing sectors', this report aims to make a contribution to the area of Information and Communications Technology (ICT) and address the role labour mobility can play to help resolve 'the several hundred thousand unfilled ICT-related vacancies' (European Commission, 2014a). It brings together the above two issues (concerning ICT vacancies and the lack of mobility among older workers) by considering policies and practices that may support the labour mobility of older ICT workers.

The research objective is to improve the knowledge base of employers' attitudes towards the mobility of older ICT workers. Our aim is to start a discussion about what employers and governments could do to improve the geographic mobility, job mobility and virtual mobility of older ICT workers.

Structure of the report

We begin with a literature review that provides sufficient background on each of these subjects, which supported the definition of the narrative survey research questions. The findings of the narrative survey conducted among 34 employers / business owners or ICT labour market specialists in 11 selected EU countries, conducted in autumn 2014 are presented subsequently.

More specifically, the report comprises the following chapters.

1. ***Labour market mobility – setting the scene***

Labour mobility patterns are strongly influenced by policies which are presented in the chapter. The chapter continues with a short presentation of relevant theoretical frameworks on mobility and then provides some critical reflections. In order to better understand the challenges of mobility strategies for older workers, some theoretical arguments are also presented.

2. ***Older ICT workers – facts and figures***

The starting point of this chapter is the description of older workers' employment trends, continued by an analysis of skills mismatch and ICT demands. The particular importance of lifelong learning in the ICT sector is also considered.

3. ***Methodology of research***

The CAMEO study aims to contribute to the documentation and understanding of attitudes towards the mobility of older ICT workers among employers in the Public, Private and SME sectors. The methodology is divided into literature research and a narrative survey. The research questions are defined in section 3.

4. ***Literature research***

In order to better understand geographic, job and virtual mobility for the field research of this study, we present relevant working definitions, discuss some theories and comment on these predominant types of mobility. In order to provide possible policy recommendations, the current status of EU-policies per mobility type are presented.

5. ***Questionnaire survey***

In order to determine employers' attitudes towards mobility of older ICT workers, we conducted a narrative survey. This survey examined employers' policies and/or procedures related to mobility. It also asked employers about what they believe are the potential and actual benefits of the three types of mobility and the key challenges in practicing them. These findings are presented and discussed.

6. Conclusion

Conclusions of the overall study are drawn and presented in this chapter.

1 Labour market mobility - Setting the scene

Labour mobility ranks high on the EU policy agenda in order to create a better match between supply and demand. This chapter reviews the EU agenda and considers theories on labour market dynamics. Since the impact of mobility is determined not only by individual characteristics but by structural characteristics of the labour market and the economy as well, those aspects are include in the review as well.

1.1 Labour mobility on the EU agenda and labour market regulations

The freedom of movement of workers is one of the fundamental principles of the EU's Single Market. Since the Article 45 of the Treaty on the Functioning of the European Union (ex Art. 39 TEC) citizens of all Member States have the right to seek work, reside and provide and receive a service in any other Member State. Although there are skills shortages and bottlenecks in high growth areas on the one hand and high unemployment on the other hand, worker mobility between and within Member States is still relatively limited.

To ensure progress in worker mobility in Europe, the Commission launched the '*Action plan for skills and mobility*'[1] in 2001 and set out the following areas of action: i) expanding occupational mobility and skills development; ii) improving information and transparency of job opportunities; iii) facilitating geographical mobility. This resulted in a shift from the position of ensuring rights towards the promotion of the usage of these rights, which led to changes in policy initiatives (Public Policy and Management Institute, 2008). Examples of these changes in policy initiatives include the following:

- In 2004, the legal framework of protecting the rights of mobile workers was strengthened ;all the legislation on the right of entry and residence for EU citizens was consolidated into a single instrument;
- In 2004, the European health insurance card was introduced;
- In 2005, the Commission proposed the European Qualifications Framework (EQF) and since 2012, all new qualifications issued in Europe carry a reference to an appropriate EQF level;
- In 2006, a new version of the EURES Job Mobility portal war released;

1 http://europa.eu/legislation_summaries/internal_market/living_and_working_in_the_internal_market/c11056_en.htm

It is hoped that the promotion of labour mobility holds socio-economic benefits for all stakeholders:

- From the economic point of view, 'more efficient deployment of human capital to the workplace and geographic locals where it is most productive';
- From the workers' point of view, the 'potential to acquire new skills, receive better wages and advance the career';
- From the employers' point of view, the opportunity to 'hire the workers best suited for the job at hand';
- from the EU point of view, the 'development of a common European identity' (Public Policy and Management Institute, 2008).

The Commission's new strategy for Europe 2020 promotes smart, sustainable and inclusive growth and sets new targets for increasing employment, skills and mobility. This includes the implementation of the 'second phase of the flexicurity agenda', with the principle aim to combine flexibility with employment security, in the interest of both employers and employees. In other words, the objective of the flexicurity policy is to secure and ease transitions through a combination of active labour market policies and social security mechanisms (see more in section 5.3).

1.1.1 Labour market regulation and effects of employment protection regimes

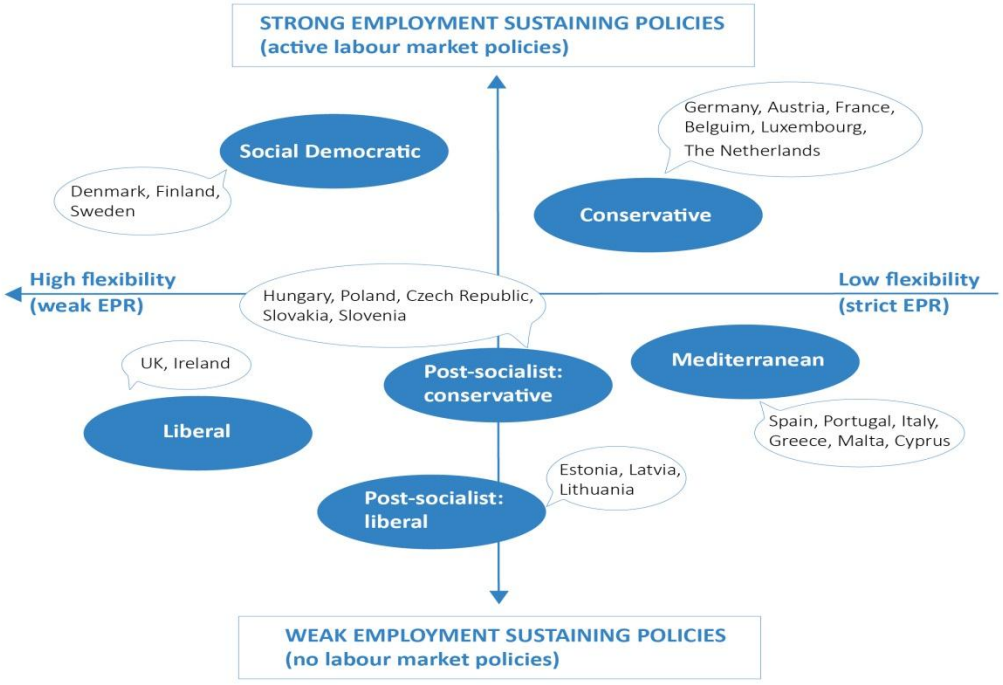
The decision for a job change and its effects depends strongly on external framework conditions, such as the social security systems, labour market policies and educational and training systems. For example, in countries with generous social security systems, workers can enjoy longer unemployment periods until they find a suitable occupation (Institut für Arbeitsmarkt- und Berufsforschung, 2012).

The employment protection legislation (EPL) in a given country is an important element of labour market policies, in order to stabilise existing employment relationships. The strength of EPL does influence the individual's labour mobility: the stricter the EPL, the fewer employment changes. In countries with stricter EPL, employers find it more difficult to terminate jobs, and therefore employees tend to experience higher levels of job security (Bukodi & Róbert, 2007). Consequently, the job tenure is higher in countries with strict EPL. Conversely, in countries where 'a large emphasis is put on developing and using policy measures to actively sustain employment, such as retraining and mobility grants, the rate of job and occupational mobility might be relatively high" (Bukodi & Róbert, 2007).

Based on the strictness of EPL, the countries of EU25 are clustered into six categories (Bukodi & Róbert, 2007). (See Figure 1):

1. Social-democratic countries are characterized by a relatively high level labour market deregulation, e.g. a flexicurity system which combines a high level of flexibility with high security related to unemployment benefits;
2. Conservative welfare regime countries tend to promote passive labour market policies;
3. Mediterranean countries are characterized by selective labour market policies and poor social security systems;
4. Post-socialist liberal countries show a medium value of EPL, moving away from regulated inclusion towards competitive regulations;
5. Post-socialist conservative countries are less strict as the countries above, but show significant variation regarding EPL. While in Hungary and Poland the EPL display low value, in Slovenia it is high.
6. Liberal welfare regime countries are displaying only a few measures towards sustainable employment.

Figure 1 Employment regimes



Source: Bukodi & Róbert (2007, p. 8)

Therefore, labour mobility patterns appear to be widely different across countries and across employment regimes. For example, upward occupational category mobility appears to be greatest for the social-democratic regime, while it is low in the conservative employment regime (Bukodi & Róbert, 2007). However, this does not necessarily mean that job-to-job mobility is rare in these countries. For example, in Germany, the incidence of upward mobility lies at 7% only, while 57% of individuals have experienced job mobility at the same hierarchical level (Bukodi & Róbert, 2007).

1.2 Understanding labour market dynamics related to labour mobility

A variety of theories which attempt to describe the labour market mobility exist. However, search theory and matching theory are the main economic theories concerning labour market mobility (Cornelißen et al., 2007).

Box 1 Matching and search theory describing the labour market mobility

Matching theory points out that the value of the match between the employer and the employee is crucial for the duration in the employment relationship. If the match is of high quality, both firm and employee are not willing to search for an alternative job or employee and as a consequence mobility will not occur. Inexperienced labour market entrants usually have to gain job experience in different jobs and sectors of the labour market until they will find a satisfactory match quality. Those workers exhibit high search preferences and external mobility. This mobility is additionally affected by lower pronounced firm-loyalty. The shorter tenure of younger workers is mostly due to a mismatch regarding working conditions productivity, possibilities of promotion or earnings.

Search theory emphasizes the costs and benefits of searching. For employers the search for new workers is expensive because information about the applicant is often uncertain. Frequently the match quality or productivity of a worker can only be assessed during the labour relationship. A phenomenon often observed is that applicants inflate their abilities. Employers try to minimise this problem by hiring experienced workers who send out the signal of being familiar with the certain job. To minimise the number of unproductive workers, employers may use selection criteria such as tests or schooling degrees. These factors reduce the labour mobility with respect to the qualifications of different workers.

Source: Cornelißen et al. (2007)

1.3 Is labour mobility a win-win situation? A critical reflection

Labour mobility may present challenges for the workers as well. For example starting a new job requires adjustment, familiarization and acquisition of job-specific knowledge and skills.

In Europe, recent mobility trends are manifested under the conditions of high uncertainty. Employers are increasingly looking at ways to hire labour under flexible contracts. This could mean a structural move towards more short-term, temporary contracts, and fewer permanent, long-term positions (Makara, Csatari, Juhasz, & Makara, 2011).

Globalisation has caused a rise in employment flexibility in all organisations of the OECD countries, such as the weakening of dismissal protecting, the diffusion of fixed-term employment contracts, part-time work, and semi-independent forms of employment which go hand-in-hand with decreasing long-term employment relationships (Bukodi & Róbert, 2007). Evidence confirms that mobility generally exists within precarious labour markets but is unequally spread (Vandenbrande (ed.), 2006).

Evidence also suggests that employers tend to view mobility more positively than workers. The Eurobarometer survey 2005 (European Commission, 2010) revealed that almost 80% of employers believe that mobility is good for the labour market, while under 50% of workers agreed with this position. However, employers may not be aware that stable employment relationships and long job tenures correlate positively with productivity. According to Andersen et al. (2008) research suggests that workers with four to ten years of job tenures are the most productive, while very short or very long tenures have negative effects on productivity. On the other hand, at the firms' level, high mobility rates are connected with considerable transaction costs and with job-specific training costs.

Makara et al. (2011) summarize the 'double-faced character' of labour mobility as: *'more freedom, broader possibilities, better living and working conditions, Europeanization, transnationalism on the one hand, 3Djobs[2], undocumented work, social exclusion, discrimination and increasing inequalities on the other*.'

There are good arguments that job mobility is linked with economic and social benefits both for the economy and the individual. However, job mobility is influenced by individual characteristics as well as by structural characteristics of the labour market and the

[2] The term stands for dirty, dangerous, difficult (or demanding) jobs, filled, very often, by migrants

economy. Low mobility within the EU labour force can be related to a number of different issues, including the following:

> *…existing labour market imperfections or bottlenecks as well as institutional, social, and cultural factors related, for example, to lack of information; the recognition of both formal qualifications and informal skills; the transferability of social security rights; age; gender; household structure; education including linguistic skills; previous experiences of mobility; and access to housing but also the non-inclusive national labour markets in which skills and experience gained abroad, in another EU country, are not recognized by employers.* (Council of the European Union, 2009)

The relationship between job mobility, economic growth and social benefits is complex and involves certain costs. Some of the economic and social costs and benefits are considered below.

Economic benefits of job mobility may include the following (Danish Technology Institute, 2008):

- Attraction of labour to enterprises or sectors where demand is high and where productivity and wages are high (and as such, labour migrates away from less productive firms);
- Efficient adaption of the labour market to external 'shocks', such as technological changes, trade liberalisations, and changes in relative commodity prices;
- Increased income on the individual level.

Social benefits of job mobility may include (Danish Technology Institute, 2008):

- Enhancing a person's chance of career success and better job conditions;
- Growth of human capital because the individual's chances of receiving training and new informal learning opportunities will rise;
- Increased personal networks;
- Increased opportunity for future mobility.

Conversely, **economic costs** related to job mobility may be (Danish Technology Institute, 2008):

- Investment in trainings by workers and firms may be wholly or partly lost;
- Lower productivity of new staff;
- Hiring costs for the firm.

Social costs of job mobility are those which may affect negatively the work-life-balance, as job change demands time and energy of the mover. It may also weaken the worker's professional networks, as relationships may become more superficial 'when employees are more concerned about improving their employability and less about improving their present place of work' (Danish Technology Institute, 2008).

1.4 Labour mobility and older workers – a contentious interrelation

With regard to older workers, a number of factors may explain why older workers tend to remain in the same job for a long period.

Firstly, they have taken time to find the best possible job match for their capabilities and they may be reluctant to leave it.

Secondly, they have accumulated knowledge and skills in very specific areas which tend to be based on job experiences rather than education and training. It is likely that there is considerable more diversity among the skills of older workers than among their younger counterparts. Therefore, new employers may have trouble determining or recognizing the skills of older workers. The accumulated knowledge, experience and soft skills developed in previous careers may be harder to present in a CV. (Haig, 2009).

Thirdly, due to the seniority principle, older workers' salaries are relatively higher than those of younger workers. It is less likely that older people will be willing accept lower pay at a new job. Older workers may be reluctant to start a new job if it means lowering their salary. Furthermore, employers may be disinclined to hire an older worker if it means having to pay them more than a younger person.

Finally, due to the continuing rise in the levels of educational attainment, older workers are more likely to have lower formal education compared to their younger counterparts.

As a result, older workers who have been displaced often face considerable difficulties in finding a new job and face considerable potential wage losses. A study by Kees (2006) revealed that 70% of employers have never or have only rarely hired older workers across the OECD countries.

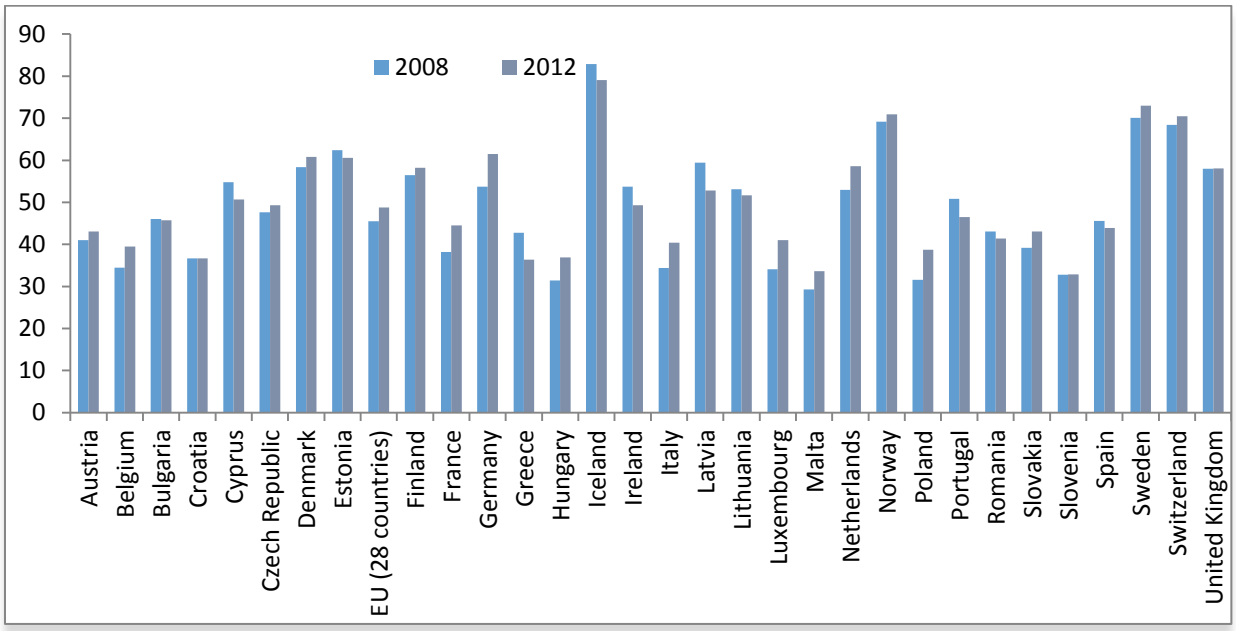
2 Older ICT workers – facts and figures

This chapter provides facts and figures relevant to the employment of older workers and the relevance of participation in lifelong learning measures. It highlights some of the employment trends in the ICT sector and presents employment figures of ICT workers/professionals.

2.1 Older workers – employment trends

Despite the above barriers, in recent years, there has been a general increase in the employment rate of older adults across Europe (Figure 2). The reasons for this upward trend are a continuing rise in levels of educational attainment, an increase in the female share of workers aged 55–64, the higher level of legislation-induced employment protection enjoyed by older workers, the impact of tax/benefit reforms restricting access to early retirement, and changes in age management practices in workplaces and labour markets (European Commission, 2013b).

Figure 2 Employment rate of older workers (55 to 64 years old) in EU28, %



Source: EUROSTAT [online code tsdde100]

Further, there has been a shift to older ages in the age profile of employment rates over the last decade, and it is expected that 53.3% to 55.1% of older people (age range 55-64) will be working in 2020 (Medeiros & Minty, 2012). This figure highlights their increasing importance in the working population both in numbers and in terms of their skills and knowledge.

Proactive responses to the challenges of workforce ageing at the labour market and employers' level are needed to create and enhance overall economic growth. Considering older people for jobs that are traditionally associated with younger workers (for example, ICT jobs) will be increasingly important in the future.

2.2 Skills mismatch and ICT sector

A further challenge for Europe's employers is to solve the skill mismatch. The term 'skills mismatch' refers to i) skill shortages (not enough people are available to satisfy the demand), ii) skills gap (the level of skills is lower than required), and iii) skills obsolescence (skills are no longer required or are less important) (Cedefop, 2010).

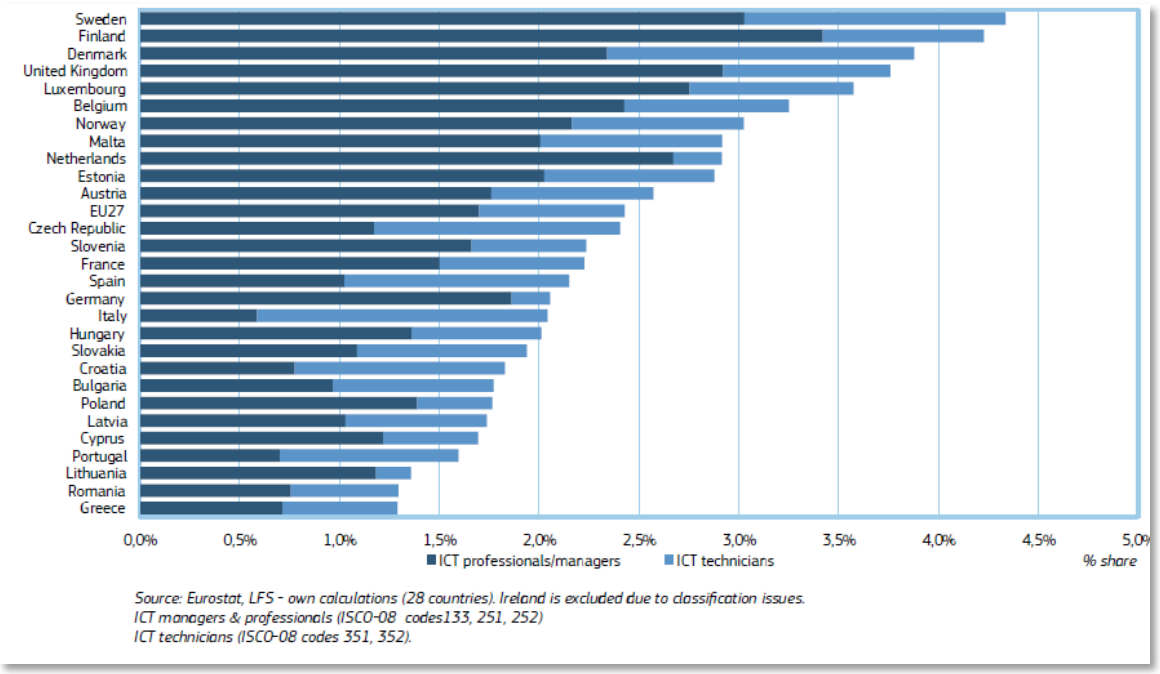
The later term, skills obsolescence, is particularly significant for an ageing workforce, as "skill obsolescence occurs when skills depreciate due to ageing, lack of use at work, or technological change." Empirical evidence suggests that skills obsolescence is a prominent issue in the high-tech industry (Cedefop, 2010).

2.2.1 ICT skills on demand – key statistical indicators

ICT is increasingly viewed as vital infrastructure and service for all sectors of the economy, and ICT skills play a more crucial role in employment than ever before. Employment in ICT can take place within the ICT sector itself or outside it, for example the hiring of ICT specialists within in the health sector.

According to the European Vacancy Monitor (2013c) between 2011 and 2012, ICT occupations have increased by 2% in EU26. ICT workers constitute around 2.5% of the total workforce in the EU (Figure 3). In total, this numbers 4.3 million employees in year 2012, with significant country variations. For example, while the northern EU member states have the highest penetration of ICT jobs with around 4.2% of the total workforce, the share in Greece, Romania and Lithuania is just around 1.2%.

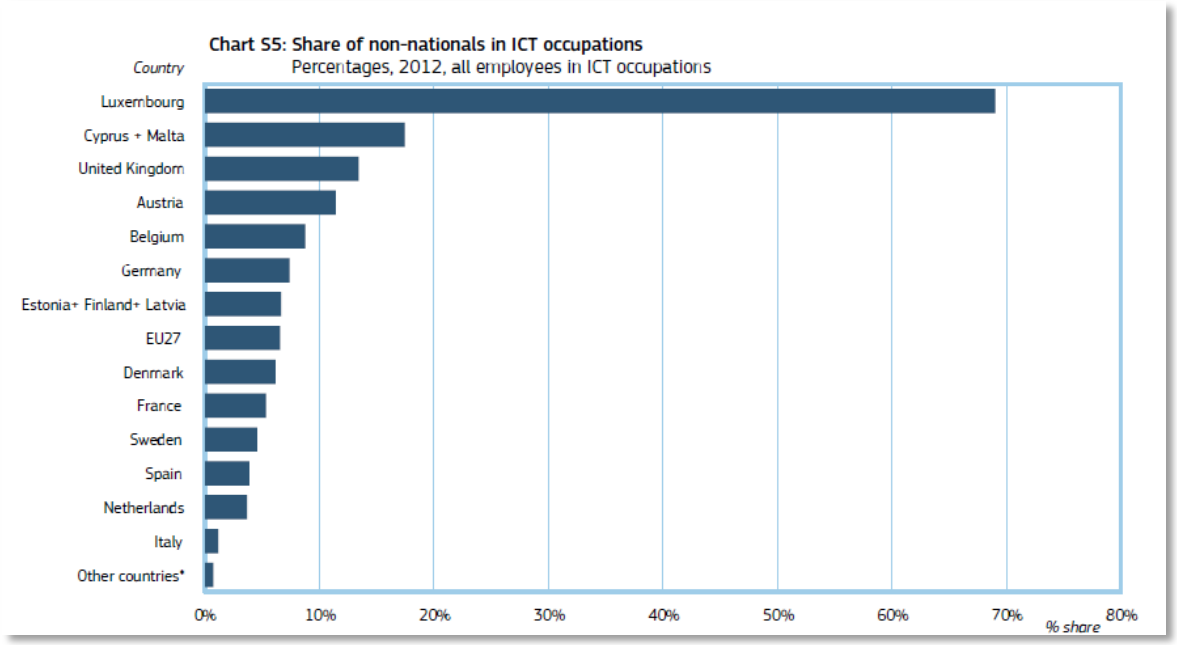
Figure 3 Percent of ICT occupations in total workforce per country, 2012



Source: European Commission (2013c, p. 22)

Interestingly, ICT workers display a similar degree of mobility to employees as a whole in the EU27. According to the Mobility Report 2013 (European Commission, 2013d) around 7% of all employees in ICT occupations were mobile in 2012. Most of the mobile ICT workers move within the EU (the figures include those non-EU/ EEA nationals coming to EU Member States to work). However, mobility patterns among ICT workers vary considerably between countries: mobility patterns in this group ranks below 1% in the eleven newest Member States; 13% in the United Kingdom, 17% in Cyprus and Malta combined and 69% for Luxembourg (Figure 4).

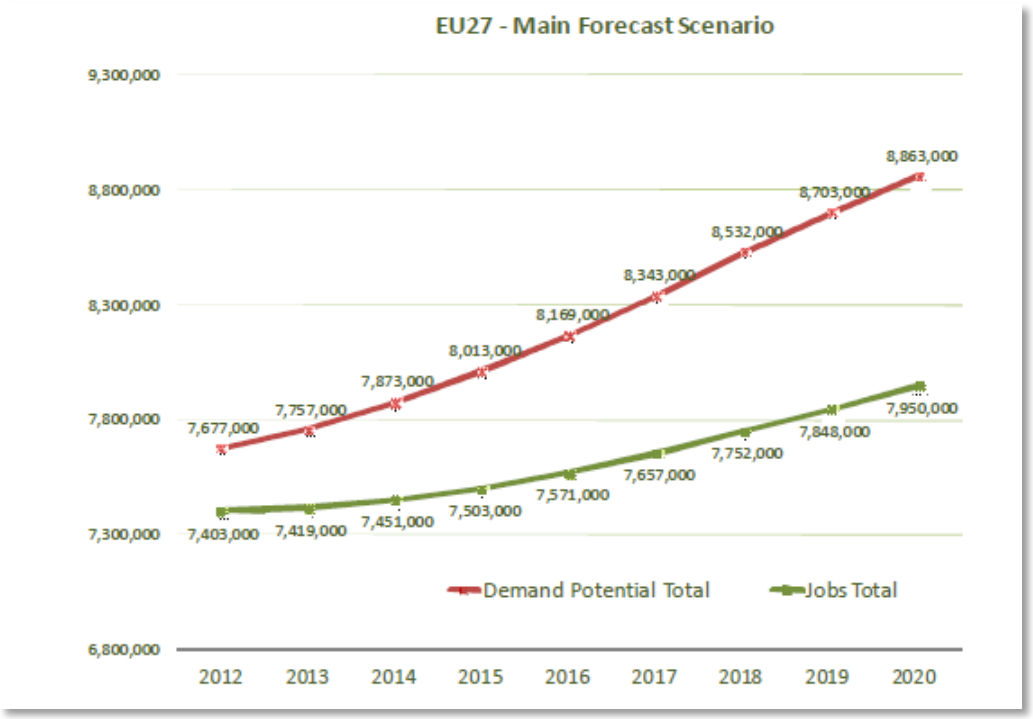
Figure 4 Share of non-nationals in ICT occupations of all employees in ICT occupations in 2012, %



Source: European Commission (2013c, p. 25)

Despite the recent economic crisis, ICT jobs are increasing and the demand for ICT practitioners is growing by around 3% a year, outstripping the supply. There is high demand potential in Europe for ICT workers. Demand for e-skills is likely to increase, especially in the years closer to 2020. If this trend continues, there will be up to 900,000 unfilled ICT practitioner vacancies in the EU by the year 2015. The ICT workforce in Europe will grow from 7.4 million in 2012 to 7.9 million in 2020, of which 5.9 million will be ICT practitioners and 2 million ICT management level employees (empirica, 2014) (Figure 5)

Figure 5 Main Forecast Scenario: ICT Professional Jobs and Demand in Europe (EU-27) 2012 –2020



Source: empirica (2014, p. 130)

To conclude from the above facts, job growth is predicted as largest in highly skilled ICT jobs, such as management, architecture and analytics positions, and this reinforces the need for more and better skills in these areas At the same time, demand for medium level skilled associate and technician jobs is declining (empirica, 2014).

The type of ICT practitioner skills in demand are predominantly in the core ICT competency areas, namely, software, web and multimedia developers and test specialists, hardware and network specialists and systems administrators, database designers and administrators (European Commission, 2013a).

In order to increase the overall supply of digitally skilled professionals and to better match supply and demand of digital skills in future, the European Commission launched the Grand Coalition for Digital Jobs in March 2013. Among others, the Grand Coalition proposes to stimulate mobility as key priority for concrete short-term actions. Through the Grand Coalition for Digital Jobs several actors (Public, Private and from Academia) are working together and there are countries that the National Platforms had benefited from, especially by the measures of mobility.

Box 2 Grand Coalition for Digital Jobs - Priorities of the actions

- Training and matching for digital jobs – to offer training packages co-designed with the ICT industry so that the skills people get are the skills business needs;
- Certification - to improve recognition of qualifications across countries by stimulating take-up of the European e-Competence Framework;
- Innovative learning and teaching – to offer more aligned degrees and curricula at vocational and university level education so that students get the skills for success;
- Mobility – to help those with the right skills get to the place where they are needed, to avoid shortages and surpluses in different geographical areas;
- Awareness raising – to attract young people to ICT, which offers rewarding and enjoyable careers to both women and men.

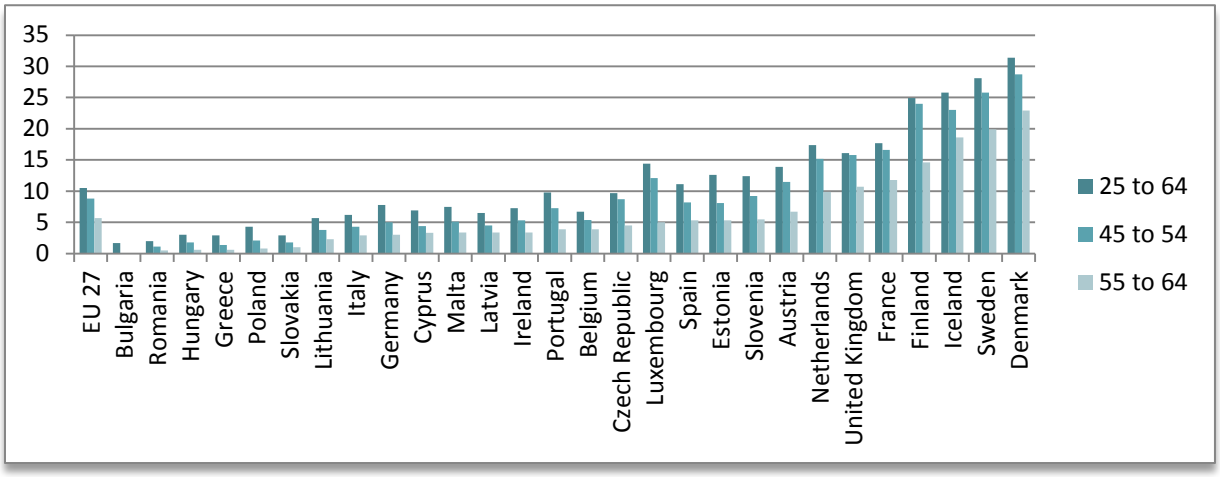
Source: Grand Coalition for Digital Jobs http://ec.europa.eu/digital-agenda/en/grand-coalition-digital-jobs (26/09/2014)

2.3 Lifelong learning and ICT workers

Participation in lifelong learning is essential for an individuals' employability in the ICT sector, given the pace of technological change and the need to adapt to structural and/or organisational changes. At a time when the average working age is rising across Europe, lifelong learning is the key tool to increase their efficiency as workers and enhance their employability. The European Council pointed out in the 'Strategic framework for European cooperation in education and training' there is a strong link between lifelong learning and mobility, where 'making lifelong learning and mobility a reality' is defined as one of the four strategic objectives of the framework (European Council, 2009).

However, the participation rates decline in relation to a person's age. Figure 6 shows that engagement in ongoing education and training decreases as people age and huge regional disparities exist. For example, among people aged 55-64 years, fewer than 1% in Romania, Hungary, Greece, and Poland participated in lifelong learning in 2013. Conversely, almost 23% of that cohort participated in lifelong learning in Demark that same year.

Figure 6 Participation rate in education and training (last 4 weeks) by age in 2013



Source: Eurostat data [online code trng_lfse_01]

The need for productivity growth in a continuously changing technological working environment is increasing the demand for regularly updated skills. Older workers tend to engage in training less than younger workers. This may partly be due to the fact that employers are less likely to invest in workers they expect to retire in the near future. Stereotypes and myths about the capacity of older workers to learn new skills, particularly ICT skills, may also negatively impact the perception of employers and lead to reduced training opportunities (Gosling, 2011; Warwick Institute for Employment Research, 2006).

The reluctance of employers to offer training to older employees may be best explained by human capital theory, which suggests that employers will invest in training only if they expect that this investment will pay off with future returns; employers may believe they are less likely to see these returns coming from older workers (Warwick Institute for Employment Research, 2006).

However, developments in ICT are constantly changing. Dixon (2009) describes how quickly new developments become outdated:

> *Attempts to understand, distil and codify good practice suffer from the relentless waves of change that continues to characterise the ICT world. The 'rules of the game', on which good practice in development methodologies and management approaches are based, are often tested and found no longer fully relevant when each new tool or approach comes along.*

This suggests that the periods of expected return from training in ICT are constantly shrinking. ICT training opportunities should not require long commitment periods following the acquisition of these skills as they will soon become outdated anyway. As

such, human capital theory could be applied to make a case for continuing to train older workers in ICT skills (Warwick Institute for Employment Research, 2006).

Furthermore, lack of training can negatively impact the wages, employability and productivity of older workers (Gielen, 2007). While older workers are more likely to suffer from skill obsolescence, workplace training – particularly training tailored to the learning needs of older workers – has been shown to improve retention rates in addition to skill development (Gosling, 2011). Ongoing training and lifelong learning is particularly important for ICT workers, as the half-like period of knowledge in ICT business is about 6-12 months - significantly shorter than in other sectors. Moreover, 'even excellent employees in the ICT-business have only 80% of the knowledge that is needed by their jobs' (Käfer, 2006). The 'e-skills and ICT Professionalism' report (Innovation Value Institute & Council of European Professional Informatics Societies, 2012) also emphasises that the importance of adequate skills among ICT workers 'should not be underestimated'. For example, the skills of IT managers are fundamental to transform 'the IT investments into competitive advantages and new strategic opportunities'.

3 Methodology of research

Deliverable 2.6 aims first at identifying by literature research the state of labour mobility in general and for ICT workers in particular. It combines facts and figures, provides theoretical concepts as well as EU policies in this regard (section 4). The findings are fed into the questionnaire development (Deliverable 2.3) for a qualitative survey (from September to December 2014) among employers in public organisations, private enterprises and SMEs in 11 selected EU countries. The questionnaire analysis is presented in section 5. The research questions are presented below.

3.1 The overall purpose of the study

The term labour mobility is often associated with geographic mobility, where younger people aged 16-29 are the main beneficiaries or target group. Whereas a plethora of research confirms that older workers display a lower level of mobility than their younger counterparts, little is known about what constitutes successful job mobility for these older workers. This deliverable seeks to contribute to filling this void by analysing features of successful and unsuccessful mobility for older workers.

Our thesis is that geographic mobility alone is not enough to increase the employment rate of older workers and to contribute to their occupational self-fulfilment. The dimension of job mobility (=occupational mobility) as well as virtual mobility (=access to learning through use of ICT) are equally important to meet the challenges of skills gaps in the European labour market.

Despite an ongoing and predicted skill shortage in ICT professions in the future, the hiring practices are still characterised by juvenility and almost neglecting the older workers. Further, looking at the expected ICT labour balance in the EU by 2015, a mismatch of demand mainly in Northern and Western Europe and supply in Southern and Eastern Europe is clearly evident. However, no research exists related to the attitudes of employers regarding labour mobility of older ICT workers.

Employers play a crucial role in shaping the mobility prospects of older ICT workers. The overall aim of the CAMEO study is to improve the understanding of attitudes towards the mobility of older ICT workers among employers (HR Managers, Managing Directors or business owners) in the Public, Private and SME sectors.

3.2 Research questions

In order to improve labour mobility of ICT workers in policy related and social terms, the research goals of this study are to:

1. Compile evidence of labour mobility in Europe – Literature research

   What is the current extent and character of job, geographic, and virtual mobility in EU-countries?

2. Assess the significance of labour mobility for businesses - Literature research and questionnaire survey

   How important is labour mobility for businesses?

3. Promote labour mobility - Literature research and questionnaire survey

   Which particular measures / policies are in place for the promotion of labour mobility of older ICT workers?

4. Identify the benefits and challenges of labour mobility – Literature research and questionnaire survey

   What are the benefits and challenges in connection with labour mobility of older ICT workers?

5. Formulate policy recommendations for improved labour mobility – questionnaire survey

   What are the employers' recommendations for national and EU policies on job mobility, geographic, and virtual mobility of older ICT workers in 11 selected EU countries?

6. Determine topics, consultancy work and materials supporting labour mobility improvement initiatives - questionnaire survey

   What topics, consultancy work and materials for training sessions would support initiatives to improve job mobility, geographic, and virtual mobility of older ICT workers in 11 selected EU countries?

3.3 Types of research

Two different types of research, a theoretical and a practical, have been followed in this study. Both approaches are discussed briefly below.

3.3.1 Literature review

Available studies and published documents on labour mobility in the EU, policy frameworks, and the ICT labour market were gathered extensively from sources online (e.g. EU Bookshop, Cedefop) with special focus on older workers. The documents were reviewed thoroughly on significance of the subject matter for the study, with the aim to identify the evidence of job, geographic, and virtual mobility in general and in particular of older ICT workers.

3.3.2 Questionnaires

Actual data on practices and experiences of job, geographic, and virtual mobility in the labour market of older ICT workers were collected from 34 employers (business owners, HR Managers, managing directors, head of ICT units) of ICT workers the EU in 11 selected countries. The link to the questionnaire was sent by email to potential respondents in public organisations, private enterprises and SMEs.

4 Literature Research

4.1 Geographical mobility

Geographic mobility is frequently put forward as a precondition for adjusting to labour demand, seasonal variations in labour supply, and broader structural changes in the economy. Geographic mobility is especially valuable in an emerging economy, helping people to adapt and connect with the job opportunities available in different regions. Enabling geographic mobility can help relieve labour shortages, increase skills utilisation and improve earnings (Australian Government - Productivity Commission, 2014). At the individual level, prevention of unemployment, enhancement of employment opportunities, and better jobs are the key advantages of being mobile.

4.1.1 Definitions

Generally, geographic labour mobility is understood as the move of a worker from one place to another, either within or between countries.

The Australian Government's Productivity Commission (2014, p. 4) defined geographic labour mobility 'as any movement that shifts labour supply from one regional labour market to another'. This can include people relocating to seek employment, start a new position or start up a new business, move to another area and commute to their existing job, or are relocated because of changes within their current job. In this project we define geographic labour mobility as the movement of labour from one place to another.

Of course, labour mobility can occur without the need for geographic mobility. Virtual mobility, which is explored in section 5, can include systems that, in some cases, make geographic mobility no longer necessary. Arguably, systems that support the geographic movement of labour *and* systems that support e-learning and remote working, can foster labour mobility overall.

4.1.2 Theoretical framework

Free movement of workers – as one of the funding principles of the European Union (Article 39 of the Treaty establishing the European Union) - is considered essential to the strengthening of economic and social cohesion.

Geographic mobility is stimulated by a number of factors: (Makara et al., 2011)

- The unequal geographic and social distribution of resources;

- Macro-economic conditions, as differences in GDP, wage levels and unemployment;
- The relevant policies and regulatory mechanisms at EU, national and regional level.

Better wages and working conditions are often features that drive individuals to travel in search of new or better jobs. For more qualified people, better career possibilities may be an important reason as well (Makara et al., 2011). In addition, 'family and social networks related factors, housing and local environment' can influence a person's decision to move (European Commission, 2008).

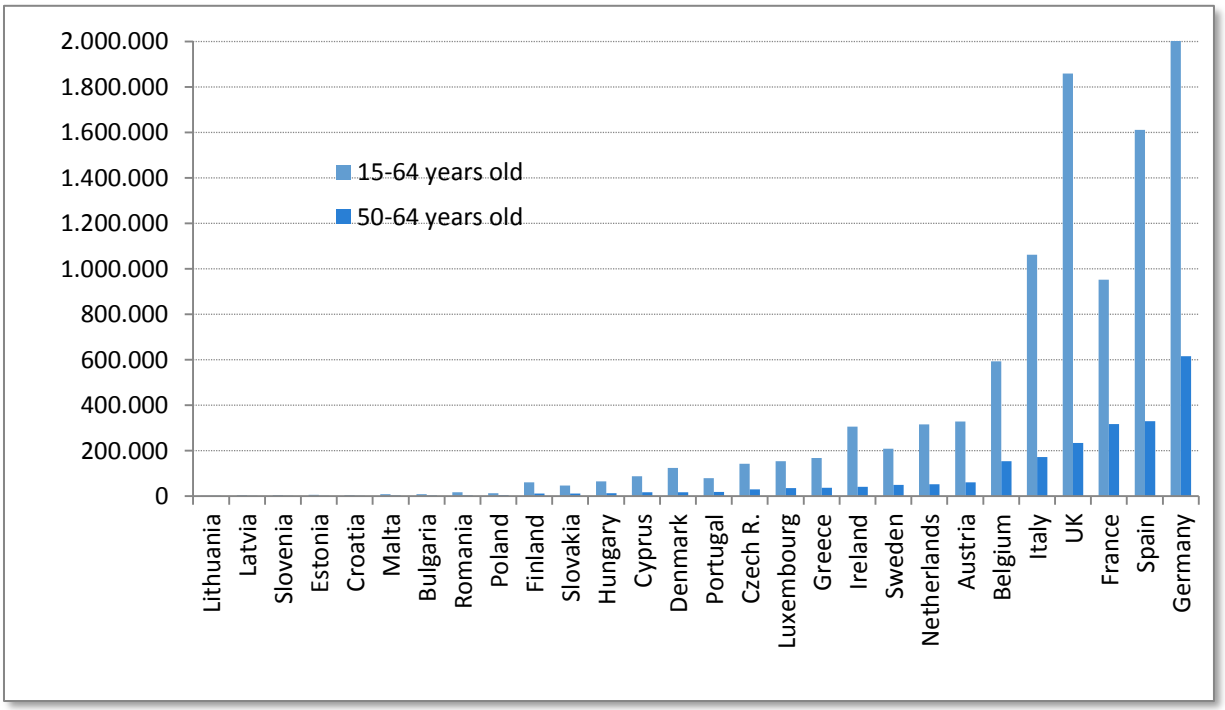
From the individual perspective, disincentives for geographic mobility include cultural differences and language barriers, concerns about finding a suitable job, fear of uncertainty and lack of stability, and general lack of information (European Commission, 2010).

4.1.3 Prevalence

Compared to other free mobility regions, such as the United States, Canada and Australia, geographical mobility in Europe is relatively low, both within and between countries (European Commission, 2008; European Union, 2014). According to Commission's Action Plan for skills and mobility (Commission of the European Communities, 2002) there have been upward trends towards temporary migration and long-distance and cross-border commuting, however labour mobility is still 'subdued'. The low levels of geographic mobility in the EU may be partly explained by legal and administrative barriers but also by economic, social and cultural ones (Commission of the European Communities, 2002).

Intra-EU mobility slowed in the immediate aftermath of the economic crisis, but the EU-15 countries had mostly recovered by 2011 (European Union, 2014). Working-age EU citizens living in a different EU country numbered more than 10 million in 2013 [Figure 7]. The main receiving countries of immigrants are Germany, United Kingdom and Spain.

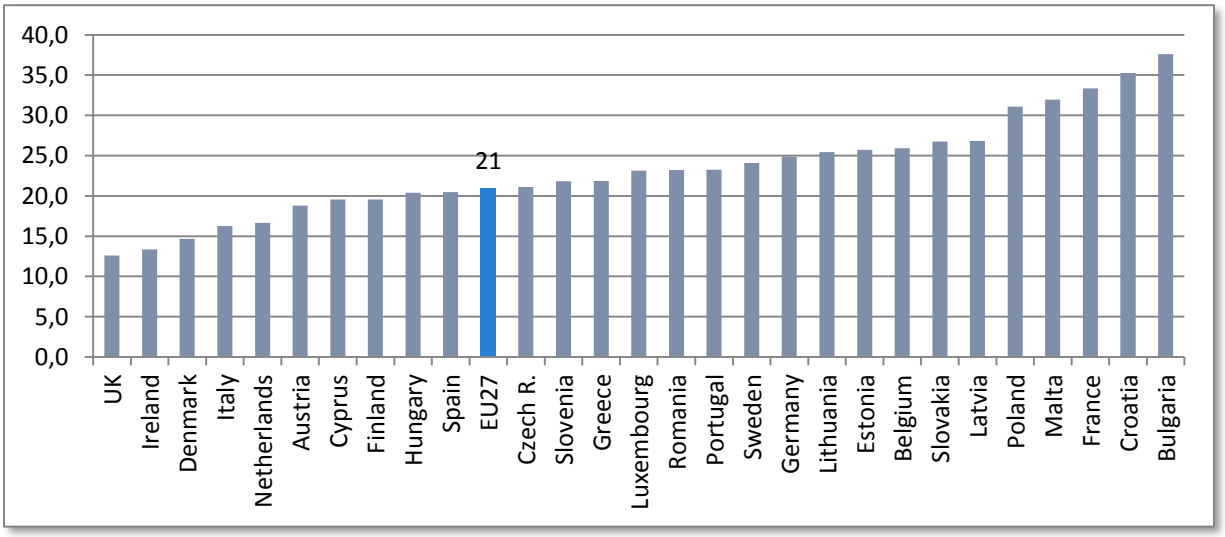
Figure 7 Working-age and older EU citizens living in a different EU country in 2013, absolute figures



Source: Eurostat database [online code migr_pop1ctz]

Only 21% (2.244.126) of all migrants are aged 50 and above (Figure 8). Bulgaria, Croatia and France have the highest proportion. The share of older migrations in United Kingdom and Ireland is around half as high as the average.

Figure 8 Share of 50-64 years old migrants on total working-age migrants in 2013, %



Source: Eurostat database [online code migr_pop1ctz]

From a long-term demographic perspective, it is even assumed that migration will decline as the population ageing will incline (European Commission, 2008).

Despite a generally positive attitude towards geographic mobility among European Citizens, the actual mobility levels tend to be low (Eurobarometer 337, 2010). In 2012, just 7.1% of the total population in employment were citizens of another EU Member State, however, with great country variations (Eurostat, 2013).

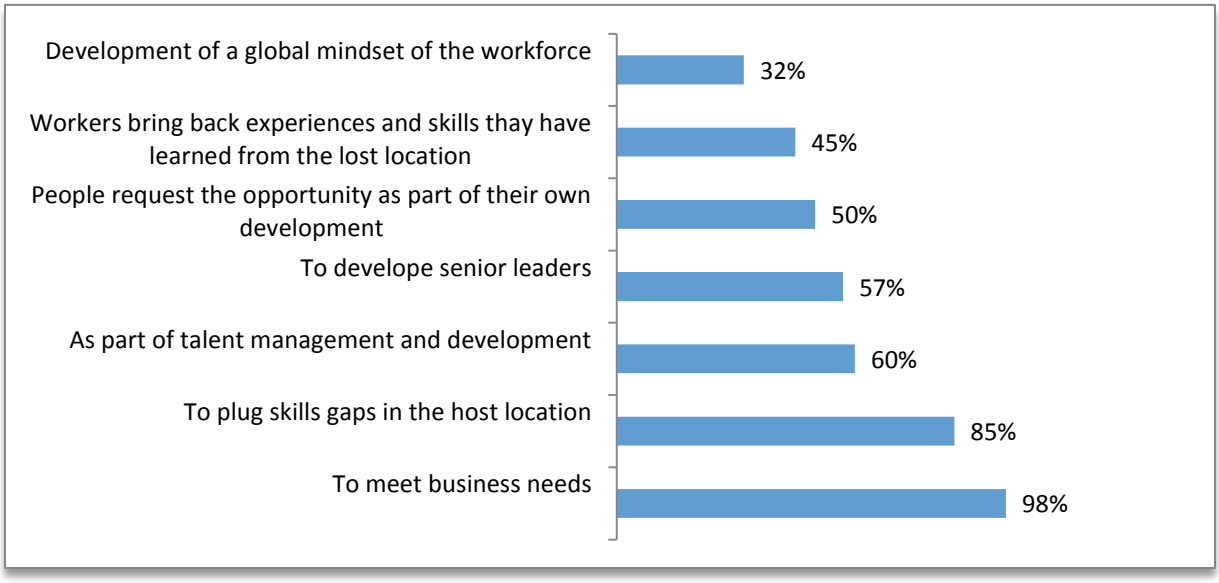
Eurobarometer 337 (2010) found that 60% of Europeans believe mobility supports European integration, and almost 50% believe it has a positive impact for individuals. This view is shared by only 42% of those 55 years and older.

Only 17% of Europeans can envisage 'working abroad at some time in their future', which great country variations: whilst 51% of the Danish population say they envisage working abroad, only 4% of Italians, and 8% of Austrians and Greeks have this consideration. Men (22%) are more likely than women (14%) to envisage working abroad in future, and this likelihood decreases as older people get: only 45% of the 55+ age group envisage working abroad.

Interestingly, more than one third of Europeans have the opinion that the prospects of finding a job in other countries are better than in their own. Again, the older people are the less optimistic they are about finding a job in another country: while 46% of the 15-24 years old are positive, only 32% of the 40-54 years old have this same attitude.

From the global employers' perspective, the PwC survey (2014) suggests that opportunities for mobility are especially important in attracting talent from the millennial generation. The main reasons for moving workers globally are outlined in Figure 9.

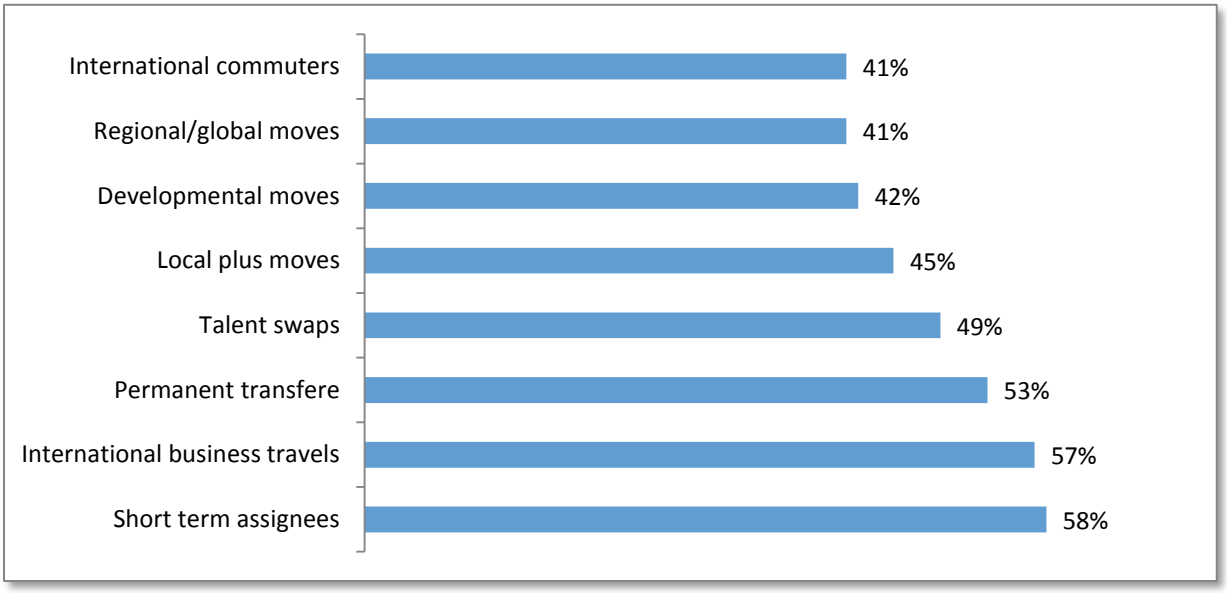
Figure 9 Why organisations move people globally



Source: PwC (2014, p. 10)

However, the global demand for mobility of talent increases in the future. PwC (2012) predicts for large companies a growth of mobile workers of 50% between 2009 and 2020. For following mobility types an increase over 'the next two years' is expected (Figure 10):

Figure 10 % of respondents who plan to increase the amount of this mobility activity over the next two years.



Source: PwC (2014, p. 7)

4.1.4 Directions of EU policy

In principle, geographic mobility offers a way to reduce unemployment disparities across regions and countries. The introduction in 1968 of the policy of free mobility of workers within the EU was aimed towards a fully integrated European single market and the improvement of the matching of labour supply with demand. Since the onset of the financial and economic crisis in 2008, where "the economies of Europe have diverged significantly," geographic mobility has become increasingly important (European Union, 2014).

In order to address the low level of geographic mobility, the European Commission proposes in the *Action Plan Action plan for skills and mobility* (European Commission, n.d.), the following priorities related to geographic mobility:

Box 3 Priorities *Action Plan Action plan for skills and mobility* related to geographic mobility

- Maintaining rights to reside and work in another Member State, including workers' social security rights;
- Creating an EU health insurance card. The Commission proposes introducing an electronic card to replace the existing E 111 insurance form, whereby cardholders would be entitled to health care anywhere in the European Union and to reimbursement of the costs by their own Member State;
- Creating transferable supplementary pension rights;
- Clarifying and simplifying recognition of qualifications for the regulated professions. The regulated professions are covered by a series of Directives. This series of Directives is soon to be replaced by a single, consolidated Directive covering all the regulated professions;
- Intensifying efforts to create an internal market for the provision of cross-border services and to remove the obstacles to freedom of establishment;
- Reforming the tax-benefit systems to promote regional mobility within Member States;
- Introduce the teaching of foreign languages as early as possible, for example by the age of 8, so that students are competent in at least two foreign European languages by the time they finish their compulsory schooling (at age 16 or 18) ;
- Encouraging students to undertake a significant proportion (e.g. one third) of their higher education in another Member State;
- Creating a European system of voluntary quality standards in education and training, in order to promote mobility in the non-regulated professions;

- Abolishing, in collective agreements, local, regional or national restrictions relating to qualifications;
- Defining an EU-wide immigration policy. Granting third-country nationals residing in a Member State European rights comparable to those granted to EU citizens, especially as regards residence, employment and social security rights.

Source: European Commission, http://europa.eu/legislation_summaries/internal_market/living_and_working_in_the_internal_market/c11056_en.htm (22/09/2014)

However, providing the right to move is not sufficient to encourage people to work where they are most needed. A recent survey among 'leading experts on labour mobility issues', Dhéret et al. (2013) concludes by proposing a strategy aimed at reducing obstacles to mobility. They suggest that incentives are needed to encourage people to move. The study findings also reinforce the role of public policies, both at the EU and national level, in order to address potential costs and to optimise the allocation of human resources. The strategy is based on four main pillars, under each of which a series of measures are proposed (Box 4).

Box 4 Proposed measures to encourage geographic mobility

(A) A better implementation of already-existing tools

Under this pillar, key areas where further integration and progress of already existing tools need to be achieved are identified:

- A better and wider use of the EURES tool.
- Simplification of the recognition of professional qualifications.
- Further and deeper coordination of social security systems, especially of pensions and unemployment schemes.

(B) Investment in empowering individuals to move

Here, the authors focus on three priorities which should be addressed as a matter of urgency. They would increase propensity of individuals to move, minimise their vulnerability in the hosting country, and facilitate their life once they have made the first mobility step. These priorities include:

- Personalised career guidance for migrants to realise the full potential of mobile workers.
- Creation of a one stop shop to facilitate registration procedures.
- Investment in the mobility propensity of target groups at an early stage.

(C) A stronger role for the European Union

Under this pillar, several measures where the EU should become more ambitious and have a stronger role are identified. These measures are:

- Fighting for equal treatment, not least by setting European standards for minimum wages and working conditions;
- Making Europe more attractive for foreign talents by creating optimal conditions to retain the foreign labour force within the European labour market;
- Creating a Mobility Fund, in view of helping receiving countries to deal with transitory costs in localised areas in case of empirical evidence;
- Increasing coordination in the healthcare sector in order to prevent labour shortages in sending countries;
- Making the benefits of mobility more visible so as to counter the double discourse taking place at the national level.

(D) A better monitoring of the process

In this section, two key proposals are put forward to achieve a better monitoring of flows and increase our knowledge of mobility trends. These two proposals are:

- Strengthening the role of the New Economic Governance tools to ensure better coherence between the overarching goal of mobility and the implementation of policies to achieve it;
- Improving our knowledge of migration patterns through better and increased collection of data.

Source: Dhéret et al. (2013, p. vii)

In 2014, European Council and Parliament adopted the Directive to facilitate the exercise of rights conferred on workers in the context of the free movement of workers. The measure will make it easier for people working or looking for a job in another country to exercise their rights in practice. Member States must ensure that one or more bodies at national level has responsibility for advising and providing support and assistance to EU migrant workers, including jobseekers, with the enforcement of their rights (European Commission, 2014a).

The reasons why people may or may not become geographically mobile are complex. They may be strongly influenced by European policy, however this is not the only factor involved in the geographic mobility of workers, particularly older workers in the ICT sector. A variety of personal, social, cultural considerations are also at play. Worries about finding a suitable job in another country and language barriers are perceived as key obstacles to geographic mobility. Family circumstances also appear to be important

factors in mobility decisions (European Commission, 2010). The older people are, the less likely to hold positive attitudes towards geographic mobility; they are less confident in finding a job in another country, and are less likely to work abroad than their younger counterparts (European Commission, 2010).

4.1.5 Geographic mobility - Summary and conclusion

Geographic labour mobility is an important element of a well-functioning labour market and has been an important mechanism for adjusting to the demographic, structural and technological forces shaping the European economy. Geographic mobility plays a particularly important role in the ICT sector, where the need for skilled employees to fill skill gaps continues to grow. However, levels of geographic mobility are still relatively low. Only around 3 percent of EU citizens and even smaller number of EU residents from third countries are mobile (Dhéret et al., 2013). Further, the majority of Europeans have no plans to work in another EU country. This problem is exacerbated when it comes to older people, who are not only less likely to be geographically mobile, but are also less likely to hold positive attitudes about geographic mobility in general. While EU policy plays an important role in encouraging and supporting geographic mobility, other social, cultural and individual factors are also at play. The empirical research provided in this project will help to shed light on the attitudes and policies of employers when it comes the hiring of older mobile ICT workers.

4.2 Job mobility

Also essential to economic growth and development is job mobility. As was identified 1.3, job mobility has certain costs as well as benefits. However, despite the various costs, job mobility is also a key aspect of the efficient allocation of productive resources. It supports ongoing restructuring and development of enterprises and helps the reallocation of resources from declining industries to growing industrial sectors. Further, job mobility can contribute significantly to innovation, particularly in ICT sectors. Further, job mobility is one of the key mechanisms through which knowledge diffuses. Since people are the main carriers of knowledge, workers moving from one organization to the other contribute to knowledge exchange and learning among different organizations. At the individual level, job mobility may lead to higher income, better job quality and higher job satisfaction.

4.2.1 Definitions

Contrary to geographic mobility, job mobility reflects a job-specific change, which can have socio-economic consequences, such as a change of role within an organization, a change of employer and change of occupation. Mobility can occur between jobs in the same enterprise, the same industry or the same sector of the economy, between different sectors. Vandenbrande (ed.) (2006) explains that job mobility 'comprises all transitions between different divisions of the labour market and between different socio-economic positions in the labour market.' More specially, Andersen et al. (2008, p. 16) define the following dimensions of job mobility:

- Job-to-job mobility, which is defined as change of employer;
- Occupational mobility, which is defined as change of occupational status e.g. change of job profile and job content;
- Employment mobility, which is defined as transitions between different labour market states, especially the ease with which it is possible to move between employment states (employment, unemployment, self-employment and inactivity) and between different contract types.

Cornelißen et al. (2007) define job-to-job mobility as an 'internal job-to-job transition', caused by 'promotion or transfer within the same firm', while 'external job-to-job transition' is considered as a change of employer.

In this project we define job mobility as internal mobility with the same employer (e.g. career advancement, occupational status) and external mobility with change of employer.

4.2.2 Theoretical framework

Labour mobility is a multi-faceted phenomenon and job changes can be based on a number of reasons. Evidence suggests that labour mobility has positive outcomes (e.g. in the employability of people) if it is for voluntary reasons (Vandenbrande (ed.), 2006). If workers are forced to change jobs (for example, downturn of the company, health related issues) it is unclear if the long-term outcome may turn into a positive one (Fasang, Geerdes, Schömann, & Siarov, 2007). This is particularly relevant for older workers where a higher proportion of forced rather than voluntary job mobility can be found (Vandenbrande (ed.), 2006). O'Brian's (2005) findings in Australia suggest that older male workers experience a much lower rate of successful labour mobility than prime aged male workers. The most significant finding relates to the voluntary nature of job change.

Internal mobility

Internal mobility is the worker's promotion or transfer within the same organization. The worker has the opportunity to search for a 'better' job within the same organization while being employed. Promotion may reflect the progressive career development, for example the change from an employee to a manager.

Internal mobility can support the harmonization of the worker's qualifications and interests with the job profile (Institut für Arbeitsmarkt- und Berufsforschung, 2012). Organizational training which supports this development can therefore benefit both the employer and worker and helps to create a better 'match quality' between the employer and employee (Cornelißen et al., 2007). The duration of tenure influences the internal transition as 'the longer the tenure -which indicates a high match quality- the more likely a transfer or promotion within the firm will be' (Cornelißen et al., 2007).

Career development is also strongly influenced by personal characteristics, such as educational qualifications (Bukodi & Róbert, 2007). Educational attainment significantly affects the worker's vertical mobility as the chance to move upwards the organisational hierarchy is highly correlated with the worker's educational level.

However, in a volatile labour market, where more and more workers are employed in flexible forms, the workforce is segmented into 'core' and 'periphery' parts (Bukodi & Róbert, 2007). 'Core' jobs are attached with long-term, stable employment conditions and with predictable career opportunities. Jobs in the 'periphery' segment are considered as the less appealing and/or entry jobs, which may imply lower skill requirements, lower wages, fewer career prospects and unstable employment conditions. This labour market segmentation may result in a possible entrapment for the 'periphery' workers in non-optimal positions with low mobility between these two segments (Bukodi & Róbert, 2007).

External mobility – change of employer

External job mobility can be caused by layoffs, end of contracts, and other reasons, such as by bankruptcy of the firm (Cornelißen et al., 2007). Such mobility types may imply periods of work, unemployment, education and non-activity in the move from one employment relationship to another.

In a volatile labour market, external mobility is high and may have many negative impacts. According to Vandenbrande (ed.) (2006) women, non-natives, less educated individuals, single parents and blue-collar workers are most exposed to jobs that are

'characterised by poor pay and working conditions, poor job security and few career prospects' and they may be more likely to move between precarious jobs.

4.2.3 Prevalence

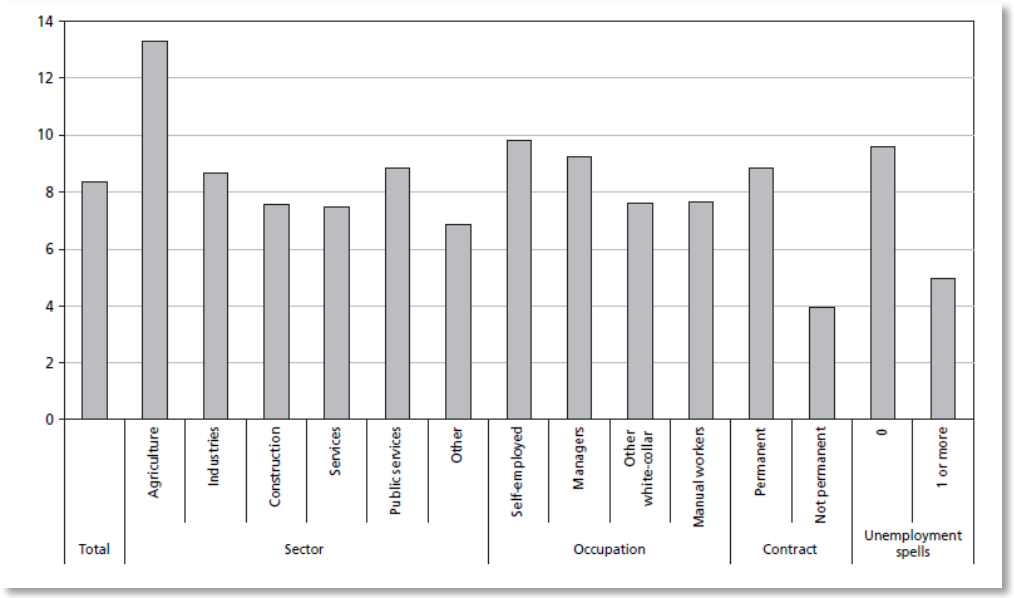
Stimulated by the globalisation process, a general rise in employment mobility can be noticed in all OECD countries (Castells, 2000; Bukodi & Róbert, 2007).

Analysing the 2005 Eurobarometer survey on 'geographical and labour market mobility', Vandenbrande (ed.) (2006) identified the following job mobility patterns:

- The overall attitude to job mobility is more positive among the younger cohorts;
- While 42% agreed that changing employer every few years is good for workers, only 10% of workers have changed employer in the last year;
- Job mobility is highest at the start of careers but slows down in the 35-44 age range;

There are significant differences in mobility across economic sectors. According to Andersen et al. (2008) the average job tenure is higher in agriculture and public administration and lower in, for example, the service industry (Figure 11).

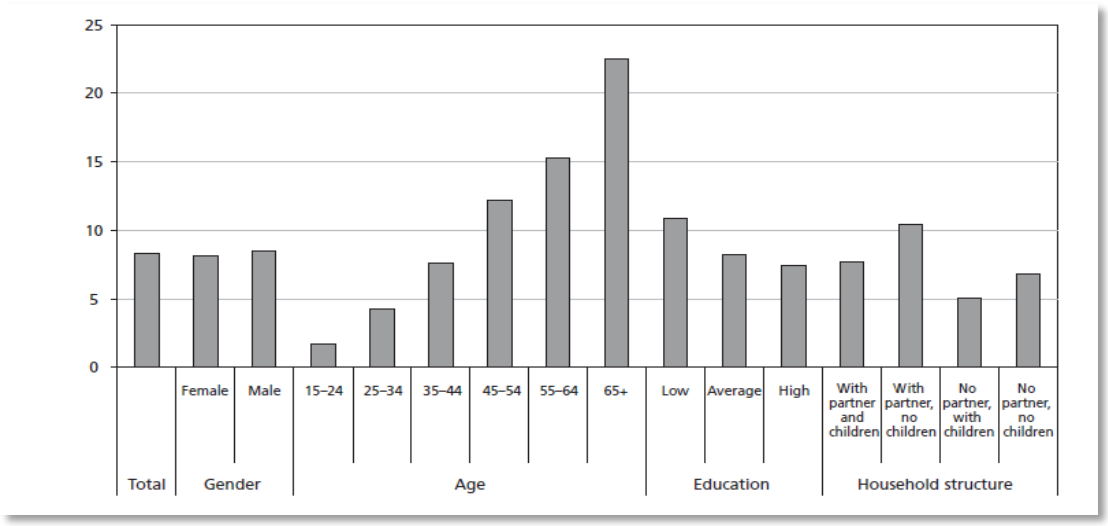
Figure 11 Average job duration, by sector, occupation and contract types



Source: Vandenbrande (ed.) (2006, p. 42)

Older workers tend to have a lower level of job mobility than their younger counterparts (Figure 12). This might be either because they have found a job that satisfies them or because they perceive their chances of finding another job to be small.

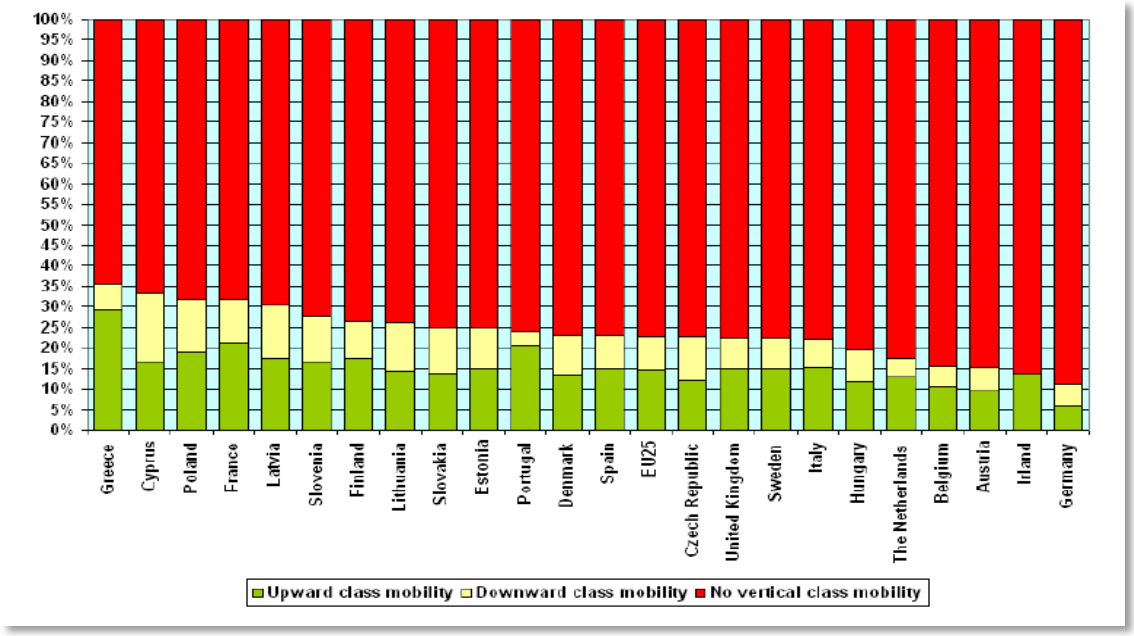
Figure 12 Average job duration in years, by demographic characteristics



Source: Vandenbrande (ed). (2006, p. 40)

Upward job mobility among workers aged 45 and over is highest among oldest workers aged between 50-64 years, which may be interpreted as strategy to obtain a better level of pension later. The risk of moving downward on the occupational ladder is greatest for workers of the lower salary class (Bukodi & Róbert, 2007).

Figure 13 Distribution of employed persons by mid and late career occupational category mobility experiences, EU25 (%)



Source: Bukodi & Robert (2007, p. 28)

The extent of mobility also varies across EU countries (Figure 13). The highest levels of job mobility are found in the UK, Denmark, Sweden, Finland, and the Baltic States (Andersen et al., 2008).

Job mobility over the course of people's working life has increased, but not for all social classes. Professional and managerial workers show a lower level of career occupational mobility than unskilled workers (Bukodi & Róbert, 2007). In the PwC Mobility Survey (2006) it was found that 45% of firms find it difficult to recruit senior managers and 40% have difficulty in recruiting professional staff. As such, they are more likely to promote from within.

4.2.4 Directions of the EU policy

In recent years, the European Commission has taken a number of policy and legislative initiatives aimed at promoting labour mobility in the EU. They are based on a three-pronged approach: further removing obstacles to labour mobility; actively supporting labour mobility; and addressing challenges linked to labour mobility (both for countries of origin and countries of destination).

In 2002, an action plan (European Commission 2002) for skills and mobility was drafted which focused on removing obstacles to labour market mobility. Lack of mobility was seen as a barrier to adapting to structural change. The following priorities related to occupational mobility and skills development were formulated:

Box 5 Priorities *Action Plan Action plan for skills and mobility* related to labour mobility

- Promoting access for all citizens to education and training, notably free access to the acquisition of key skills, regardless of age. Creation of European seals of quality for better ICT-based education systems;
- Encouraging students, particularly girls, to study mathematics, science and technology;
- Improving general education levels, and more specifically integrating into the education systems disabled youngsters, those with learning difficulties and those from immigrant communities or from ethnic minorities;
- Creating a better interface between the world of education and the world of work. Creation of a network to ensure communication between bodies operating in the private sector and the educational sector;
- Getting workers, particularly older workers, into in-house training programmes offered by their employers, and offering incentives both to employers and to workers in order to achieve this;

- Rewarding companies and public sector organisations which introduce particularly innovative education and lifelong learning strategies;
- Developing transparent ICT skills definitions based on European-wide standards and on validation and recognition schemes;
- Better monitoring of the demand for ICT skills, taking account of the requirements of the world of work, and creation of detailed skills profiles;
- Developing a European framework for the evaluation and recognition of non-formal and informal learning and work experience;
- Pursuing the further development of instruments such as the Europass, the European CV and the European portfolio by 2003, and at the same time developing a system for accumulation of qualifications acquired in different establishments and different countries;
- Making more funds available for investment in human resources.

Source: European Commission, http://europa.eu/legislation_summaries/internal_market/living_and_working_in_the_internal_market/c11056_en.htm (22/09/2014)

Job mobility and flexicurity

The Europe 2020 strategy (adopted in 2010) considers flexicurity policies as the best instrument to improve the functioning of the labour market. Flexicurity - a contraction of 'flexibility' and 'security' - is a concept which offers a policy configuration in order to ensure progress towards the Lisbon goals. Referring to the 2007 Commission Communication on flexicurity, flexicurity can be defined as an integrated strategy to enhance, at the same time, flexibility and security in the labour market. A flexicurity strategy comprises the following four components(European Commission, 2007a):

1. Flexible and reliable contractual arrangements (from the perspective of the employer and the employee, of ''insiders'' and ''outsiders'') through modern labour laws, collective agreements and work organisation;
2. Comprehensive lifelong learning (LLL) strategies to ensure the continual adaptability and employability of workers, particularly the most vulnerable;
3. Effective active labour market policies (ALMP) that help people cope with rapid change, reduce unemployment spells, and ease transitions to new jobs;
4. Modern social security systems that provide adequate income support to encourage employment and facilitate labour market mobility. This includes broad coverage of social protection provisions (unemployment benefits, pensions and healthcare) that help people combine work with private and family responsibilities such as childcare.

The emphasis on mobility is also evident in the current **Employment Guidelines** which address the need to make labour markets more flexible and adaptable (Council of the European Union, 2010).

Box 6 Mobility issues addressed in the Employment Guidelines (adopted 2010)

In **Guideline 7** it is recommended that Member States should:

- Integrate the flexicurity principles endorsed by the European Council into their labour market policies;
- Introduce a combination of flexible and reliable contractual arrangements, effective lifelong learning, policies to promote labour mobility, and adequate social security systems to secure labour market transitions accompanied by clear rights and responsibilities for the unemployed to actively seek work;
- Together with the social partners, pay adequate attention to internal flexicurity at the work place;
- Reward professional mobility.

In **Guideline 8** it is recommended that Member States should:

- Provide effective incentives for lifelong learning, thus ensuring every adult the chance to retrain or to move one step up in their qualification;
- Remove barriers to occupational and geographical mobility of workers;
- Focus on supporting those with low and obsolete skills, increasing the employability of older workers, enhancing training, skills and experience of highly skilled workers;
- Provide systematic information on new job openings and opportunities.

Source: Council of the European Union (2010)

4.2.5 Interdependency between geographical and job mobility

The relationship between the levels of geographical and job mobility can be very complex. Findings from the 2005 Eurobarometer survey on 'geographical and labour market mobility' (Fasang & Schömann, 2006; Vandenbrande (ed.), 2006) suggest that geographical and job mobility have a complementary relationship, and even mutually reinforcing effect: frequent job movers are also likely to move to other places more often. Specifically, 'the majority of persons, who moved two to four times, most frequently changed jobs five to nine times' (Fasang & Schömann, 2006). Better educated people tend to be high movers in both dimensions.

The same interdependency of geographic and job mobility can be found on the country level; countries with a high level of geographical mobility are also countries where people tend to change jobs more often. Regardless, older workers display the lowest level of both geographical and job mobility patterns (Vandenbrande (ed.), 2006).

4.2.6 Job mobility - Summary and conclusion

The conclusion to be drawn from the findings above is that job mobility is a multifaceted phenomenon. On the workers' side, job mobility decisions may be influenced by demographic features such as gender, age, household structure and country of birth. Characteristics of the job, such as, 'occupation, sector, type of contract, number of working hours, learning opportunities' may also influence job mobility (European Foundation for the Improvement of Living and Working Conditions, n.d.). Older workers tend to have a lower level of job mobility than their younger counterparts, but upward job mobility is highest among older workers aged between 50-64 years. However, training and in particular workplace trainings are seen as particularly relevant in a volatile labour market and in changing economies to improve the job mobility of workers. This is seen to apply specifically to older workers.

Vandenbrande (ed.) (2006) stressed that that mobility in Europe 'should not be maximised; rather, it should be optimised.' According to Anderson, job mobility needs to be at a balanced level in order to be most beneficial - that is, high enough that it supports productivity and innovation, yet not so high that it leads to low unemployment levels. As well, there is strong evidence that voluntary and positively motivated job mobility has many more beneficial effects at the individual level (Andersen et al., 2008), both in terms of economic and social effects, than involuntary and negatively motivated job mobility. Voluntary and positively motivated job mobility are more likely to lead to wage gains and a positive career development than involuntary and negatively motivated job shifts, and are associated with a higher degree of job satisfaction. Unfortunately, as was stated earlier, the job mobility of older workers tends to be negatively motivated.

This research may help to address this problem by identifying barriers and opportunities for older workers to become mobile in the ICT sector. In the following section, we explore virtual mobility, and in particular, the opportunities it presents older ICT workers to attract, acquire, and retain new jobs, new skills, and new ways of working.

4.3 Virtual mobility

Virtual mobility can support the learning, training and employment needs of older workers by enabling education and collaboration through the use of digital tools and mediums. In this way, virtual mobility can help to promote both education and employment without necessarily requiring geographic mobility; however, virtual mobility can in fact be utilized to promote both geographic and labour mobility. Below we explore

how virtual mobility may be applied to these goals, with particular consideration to their use in supporting older ICT workers in obtaining new skills and employment.

4.3.1 Definitions

Virtual mobility refers to the use of ICT as an alternative or supplement to physical mobility. Virtual mobility technologies can include a variety of tools which permit working and learning to take place in spite of challenges posed by geographical distances.

Virtual mobility has been defined in a number of ways, often highlighting one feature or another. For example we can define virtual mobility as the use of ICT ' to obtain the same benefits as one would have with physical mobility but without the need to travel' (Elearning Europe, 2006 cited in: Pavlikova 2011, p.8),

Definitions often tend to emphasize the opportunity for enhanced learning opportunities. For example, virtual mobility has also been defined as, 'a set of ICT supported activities that realize or facilitate international, collaborative experiences in a context of teaching and/or learning' (De Gruyter, Achten, Op De Beeck, & Van Petegem, 2010, p. 19) A more descriptive explanation is as follows:

> '*We think of virtual mobility as a set of ICT-supported activities that realize cross-border, collaborative experiences in a context of teaching and/or learning. These activities can take place in a fully ICT supported learning environment or as a complement to physical mobility (before, during and after). They can be aimed at the (practical) organization of the learning process or they can consist of actual teaching and/or learning activities. Virtual Mobility activities can cross borders between regions, countries, cultures and languages, but also between disciplines. Virtual mobility activities enable collaborative learning (i.e. learning from and with each other) and are always aimed at inter-cultural experiences.'*

The definitions above tend to focus on the potential benefits that virtual mobility can bring to educational activities. Virtual mobility may also benefit an organisation by enhancing internal training, creating collaborative workspaces, and supporting web conferencing, live streaming and videoconferencing (Pavlíková, 2011).

Related to virtual mobility is 'telework' or 'telecommuting', which is work performed at home, or away from the traditional office, often while using ICT tools (Daniels, Lamond, & Standen, 2002), Gajendran & Harrison (2007, p. 1525) define telecommuting as "*an alternative work arrangement in which employees perform tasks elsewhere that are*

normally done in a primary or central workplace, for at least some portion of their work schedule, using electronic media to interact with others inside and outside the organization''. Telecommuting can provide an opportunity to match skilled employees to employers, irrespective of location (Australian Government - Productivity Commission, 2014). Recent research revealed that 11% of respondents in EU member countries had worked or studied remotely for another country, either within or outside of the EU, and the majority of these respondents reported that they had worked for another EU member state (7% of respondents) (European Commission, 2014b). Clearly, virtual mobility may be used to reduce and even replace geographic mobility, but these are not the only benefits or applications of virtual mobility tools.

A broader, more inclusive definition, which recognizes the diverse benefits and uses of virtual mobility within and beyond the employment and education spheres, is put forward by Bijnens et al. (2006, p. 26).

> *'Virtual Mobility (…) includes cross-border collaboration with people from different backgrounds and cultures working and studying together, having, as its main purpose, the enhancement of intercultural understanding and the exchange of knowledge.'*

Given the above definitions, we can understand virtual mobility as digital tools and infrastructure that provide people with opportunities to work, study, learn and share, regardless of location or geographic region. Virtual mobility can replace the need for physical or geographic mobility, but it can also act as a catalyst to enhance geographic mobility, as virtual mobility can provide new learning and training opportunities and also allow employers to connect with skilled employees from around the world.

In this project we define virtual mobility as access to digital tools and infrastructure that support the execution of business processes from multiple distinct locations. Examples are collaborative working tools, and tools supporting remote working.

The lens with which we will explore these concepts below will apply specifically to older workers in the ICT sphere.

4.3.2 Theoretical Framework

We assume that virtual mobility provides a complement to other forms of mobility. In addition to providing opportunities to work remotely, virtual mobility can support remote learning and labour mobility in a variety of ways, for example by offering employers opportunities to upgrade their skills via e-learning programs. Virtual mobility can provide

opportunities to network, collaborate, and share knowledge (Costa & Leal, 2010) and provide a wide range of possibilities for individuals to engage in informal learning activities through distributed Personal Learning Networks (PLNs) (Couros, 2010).

e-learning has been shown to be a popular method of learning among older workers, in a study by Towers Perrin (2008), 71% of older workers surveyed rated online training as a preferred training method. However, e-learning methods work best when they are tailored to the needs of older workers and under the blended learning approach; this includes providing paper-based instruction manuals with screen shots, making adjustments to promote visual accessibility for those who have vision problems (such as using larger font sizes and avoiding certain colour schemes), and offering complementary computer skills training that may be needed to complete the course (Gosling, 2011).

Online training opportunities can be particularly useful in training older workers, as online learning tools can easily be adapted to the learners' needs. Online tools can allow participants to learn at their own pace, at a time and location that is convenient to them, and can offer opportunities for knowledge sharing (Themistocleous, Serrano-Rico, & Kamal, 2010). According to Gosling (2011), older workers tend to prefer a degree of control over their learning environment, a slower pace, lower intensity training, an informal learning environment, practical applications and opportunities for peer support and networking. e-learning opportunities can easily facilitate these learning requirements (Montes, Gea, Dondi, & Saladin, 2011). For example, virtual learning opportunities can encourage autonomy, giving participants a broader choice on what, how and when to learn. They can also provide a direct application of technology (Montes et al., 2011).

Telecommuting, another a form of virtual mobility, may also be particularly advantageous to older workers. Some of the benefits of telecommuting include flexibility; in particular, it offers employees the opportunity to contribute and participate, even when dealing with health problems (Barnett & Adkins, 2001).

As Andriessen and Vartiainen (2006, p. 3) assert, virtual mobility in the workplace is related to the globalisation of markets and businesses that lead to "higher mobility requirements and widely distributed international cooperation". In a globalised world, required expertise can be distributed more easily. In this sense, virtual mobility can broaden opportunities for employment and social inclusion. Of course, telecommuting may offer various disadvantages as well, including loneliness, lower productivity or motivation, and costs associated with technologies or occupational health and safety requirements in multiple spaces (Australian Government - Productivity Commission, 2014; Topi, 2004).

In summary, we base our approach to virtual mobility on the assumption that virtual mobility can foster the inclusiveness of older workers, both through e-learning, training and telecommuting options. Human capital theory may provide an explanation for why employers avoid training older workers, but when considering the speed with which information and communication technologies change, human capital theory could also offer a case to invest in the training of older ICT workers. Indeed, virtual mobility can offer opportunities to provide training to older workers, which is accessible and specifically tailored to their learning needs.

4.3.3 Virtual mobility to facilitate the recruitment, training and employment of older ICT workers

One clear example of utilizing e-tools to support the recruitment and hiring of older workers is the European e-Competence Framework (e-CF). The e-CF provides 'a reference of 40 competences as required and applied at the Information and Communication Technology (ICT) workplace, using a common language for competences, skills and proficiency levels that can be understood across Europe.' Targeted towards both public and private sectors, this framework helps organizations to more easily understand and recognize critical skills and qualifications in the ICT sector, thus supporting selection and recruitment (European Committee for Standardization, 2014). The e-CF supports geographic mobility by recognizing skills acquired through different educational formats from around the EU. This system may be of particular benefit to older workers, as this presents an opportunity for older workers to have their skills validated and recognized without the intrusion of negative stereotypes or attitudes. Furthermore, because the certification of skills has been a relatively recent trend, more young people than older people tend to have their skills certified (Green et al., 2013). The qualifications of older ICT workers may also be seen as outdated. Older workers in particular then, may benefit from having existing skills and experience recognized (Green et al., 2013). The e-CF can be seen as one example of a virtual mobility platform that supports the geographic and labour mobility of older ICT workers.

However, recognizing formal qualifications only provides one piece of information that contributes to overall employability; 'soft skills', basic skills and a number of individual characteristics and conditions all contribute to finding the right match between employer and employee (Green et al., 2013). There are a number of commercially-available virtual tools which are specifically designed to help employers measure these skills among new staff; many of these tools also offer the ability to measure progress in learning or in the development of new skills and some are targeted towards older people (Green et al., 2013).

There are also an abundance of tools that can support older workers in developing or upgrading their ICT skills. One example comes from SWAN - the Scottish Work-Life Adaptability Network (McKechnie, n.d.). The SWAN project developed online learning tools for company managers, human resource specialists and older workers, to support the development of IT skills, online learning and specialist training. This program supported older workers by creating opportunities for peer-learning through hands-on training and ongoing support with a matched 'computer buddy' of the same age (eInclusion Sub Group, 2007). As a result of incorporating techniques that are proven to respond to the needs of older learners, this project proved quite successful in 'helping older employees to get over the initial confidence and skill barriers' and in responding to individual needs (eInclusion Sub Group, 2007). This is but one example in which virtual mobility tools can be employed successfully to help older workers gain, maintain or upgrade computer skills, if employed in a responsive, accessible manor.

However, it should also be noted that the SWAN project found an 'unexpectedly high resistance' among certain employers, to the adoption of such ICT programs (eInclusion Sub Group, 2007). Resistance among employers may prove to be a significant barrier in the virtual mobility of older workers. Virtual training or learning opportunities may work best if employers take their own initiative to create a home-grown approach that matches the workplace culture (Leibold & Voelpel, 2006). One example of such an approach is the Volkswagen Level 5 Initiative, which aims to improve the basic Internet skills of all Volkswagen employees and to support active ageing. What is noteworthy about this program is that it uses techniques that are shown to be successful among older learners. These include a combination of online learning, learning in groups, seminars, and the opportunity to study at work, as well as at home (eInclusion Sub Group, 2007; Green et al., 2013).

Bringing together a plethora of ideas and opportunities of how to use ICT for the ongoing training, employment and knowledge-transfer & exchange of older workers, is the roadmap created by BRAID - Bridging Research in Ageing and ICT Development project. BRAID created this roadmap to identify a series of ICT-related research actions that should be useful in supporting ongoing employment of older and senior workers (Camarinha-Matos, Afsarmanesh, Ferrada, Oliveira, & Rosas, 2013, p. 244). This roadmap identifies sample priorities which may be relevant to this discussion:

- Build collaboration platforms and systems. Design and develop open ICT collaboration platforms, support, and systems aimed at facilitating value creation, addressing the specific needs of communities of senior professionals, and which promote intergenerational interaction and socialization, which are enhanced by affective computing, context awareness, and trust establishment.

- Develop advanced functionalities and systems for management of networks of senior professionals.
- Develop marketing and brokerage support tools for communities of senior professionals.
- Develop affections / emotions management systems for communities of senior professionals.
- Create adaptive solutions and services. Develop and integrate self-adaptive and configurable technology solutions and services in ICT environments, applying principles of e-accessibility, design for all, and usability in order to facilitate technology acceptance and enable customization for/by seniors.
- Develop self-customizable collaboration environments and services.
- Create a model framework. Develop approaches, models, and reasoning methods related to older people's occupation life cycle and their participation in the economic system, including value systems, behaviours, and issues of physical, cultural and emotional health.
- Weave online and offline collaboration. Develop integrative framework for identity management which effectively and seamlessly joins online and offline collaboration, for seniors, to create invaluable connections between virtual and real-world aspects of their occupation in life, namely when keeping the links with former employers.

The above selection reveals a snapshot of a near limitless number of opportunities in which ICT can be used to foster all forms of labour mobility among older workers. Most significantly listed above is the importance of building online platforms that are tailored to promote the changing needs and priorities of older workers; for example, the concepts of e-accessibility, design for all, and usability are important in building tools that are meant to be embraced by older workers. These concepts are worth considering when building new systems.

Finally, older ICT workers may be considered 'virtually mobile' if they perform their work remotely. Patrickson (2002) argues that older workers might be ideal candidates for teleworking, given that they tend to be self-reliant, have strong problem-solving skills, and can work without supervision. As well, Patrickson points out that older workers may be less likely to have young children in the home and therefore fewer distractions. Tele-work may also fit well with the needs of older workers, allowing them to work at their own pace. However, the author also concluded that, while telework might be ideal for older workers, many employers are likely to be resistant to the idea. An important element of integrating virtual solutions, as previously discussed, might be an employer's receptiveness. Working with employers is likely to be a critical element in successfully facilitating all forms of virtual mobility.

4.3.4 Directions of the EU policy

Typically, EU policies focus on geographic mobility and labour mobility rather than virtual mobility itself. Examples of policies supporting geographic or job mobility were presented in earlier chapters. European policies are not directed specifically towards virtual mobility, however this may provide an opportunity for further consideration. Virtual mobility could be considered an important component to labour mobility, but also to social inclusion, given that virtual mobility can support employment as well as other forms of participation. In particular, virtual mobility may be used to support social inclusion among people who are disadvantaged or marginalized.

The concept of virtual mobility was discussed among scientists and policy makers at the Euro Science Open Forum in June 2014. The delegates agreed that virtual mobility is an opportunity to promote inclusion within the scientific & research communities. For example, key findings from this forum included the belief that virtual mobility could offer an opportunity for equal participation among researchers who have physical disabilities or are living in poorer countries and do not have the capacity to travel (O'Carroll, 2014). Virtual mobility then, could be seen as an aid or replacement to both geographic and job mobility, as well as pursuing the agenda of social inclusion over all.

As well, virtual mobility can be built in some of the policies that were referenced in earlier chapters, such as the Action Plan for Skills and Mobility In particular, relevant priorities include, 'expanding occupational mobility and skills based on a series of benchmarks adopted by the Council' and'promoting access for all citizens to education and training.' Most notable are the goals to provide 'free access to the acquisition of key skills, regardless of age' and 'European seals of quality for better ICT-based education systems' (as referred to in box 5). Virtual mobility is likely to play an important role in reaching these priorities.

In the report on the implementation of the Action Plan (European Commission, 2007b), it was suggested that, 'in the field of information and communication technology (ICT), better understanding about the nature and structure of ICT practitioner skills should be fostered by the European ICT skills Meta-Framework which is currently being compiled. In this context, lifelong learning and continuing training should also be given support.' Ongoing challenges (many of which could arguably directly pertain to virtual mobility) were listed as the following:

- Lifelong learning, especially the development of coherent and comprehensive strategies open to all, as well as incentives and cost-sharing mechanisms so as to

enhance the adaptability and flexibility of the workforce in accordance with the Employment Guidelines and the Community Lisbon Programme;

- ICT skills with more investment in EU core comparative and competitive advantages and attention to factual information when debating the issues at stake;
- Removing the legal, administrative and cultural obstacles to mobility in order to create a genuine European labour market. The work on non-regulated professions should therefore continue and new initiatives be developed in areas such as language skills or appropriate training prior to mobility which form part of the new global approach put forward in the 2006 Annual Progress Report. The latter calls for a new partnership between the Commission and the Member States in order to meet the global challenges of more and better jobs;
- A framework for economic migration to turn this into a key asset for the economic and social development of Europe and the competitiveness of EU enterprises;
- An integrated approach to mobility in line with the European Commission's strategy for Europe 2020.
- Promoting access for all citizens to education and training, notably free access to the acquisition of key skills, regardless of age. Creation of European seals of quality for better ICT-based education systems.

In regards to the above reference to 'European seals of quality', policies that support easier recognition and validation of credentials and skills obtained online would help those using virtual mobility to obtain new qualifications or seek employment. Online qualifications or learning programs may still be considered as illegitimate or inferior, and some European countries still have legislation which actually prevents the official recognition of credentials obtained through distance learning programs (Vriens, Petegem, Op De Beeck, & Achten, 2010).

4.3.5 Virtual mobility - Summary and conclusions

Virtual mobility presents new opportunities for knowledge exchange and collaboration. As is illustrated above, virtual mobility can be applied to create new participatory learning environments, which can be tailored to meet a variety of learning needs. The practical applications of these tools are many. Specifically, they may be used to help older ICT workers to develop new skills, renew existing skills, and share and exchange knowledge with others. Virtual mobility tools can also provide older workers the ability to receive training to improve productivity and can also facilitate new employment. In addition, virtual mobility fosters increased connection to both people and information, supporting the goals of social inclusion. In this way, virtual mobility can easily be linked to the goals of geographic and labour mobility, as well as social inclusion over all.

Research by Brooke (2009) revealed that older ICT workers can be faced with formidable challenges in the workplace, including fast-paced technological change that exceeds their experience or familiarity, out-sourcing of jobs, ageist stereotypes among employers, and an intense work culture that expects long hours and a high level of commitment that may be difficult for workers with health concerns, families, or other priorities. In a report by the eInclusion Sub Group (2007), it was concluded that 'best use and diffusion of age-friendly ICT combined with exchange of best practices in this field can play a substantial role in improving the skills of older workers at all levels.' Based on the literature reviewed in this chapter, it seems that virtual tools and platforms that support the labour mobility of older workers are in abundance. What is highlighted in the literature though, is that it is important that these tools be adapted to the learning needs of older workers. Equally important, is that these tools are welcomed and integrated by employers. Tools or concepts that support the virtual mobility of older ICT workers will not be fully embraced unless employers have a sense of ownership and partnership in the process.

4.4 Summary of literature research

Extent and character of geographic, job and virtual mobility in the EU

Geographic mobility in Europe is relatively subdued, and is comparatively low when contrasted with other free mobility regions, such as Canada, United States and Australia. The low levels of geographic mobility in the EU may be partly explained by legal and administrative barriers but also by economic, social and cultural ones. Older workers are less likely to be geographically mobile. They are also less likely to search for jobs in other EU member states, and less likely to believe that they will be able to find work in another country. They are also less likely to hold positive attitudes about geographic mobility in general. Consistent with these findings is the fact that the vast majority of employers have never or have only rarely hired older workers across the OECD countries.

In the ICT sector, around 7% of all employees were geographically mobile in 2012. However, mobility patterns among ICT workers vary considerably between EU countries. Mobility is also age dependent; only 21% of all migrants in Europe are aged 50 and above.

While European policies have helped to simulate mobility, there are a variety of factors that can stimulate one's decision to become geographically mobile. This includes attitudes towards mobility. The older people are, the less optimistic they are about finding a job in another country.

As well, older workers tend to have a lower level of job mobility than their younger counterparts. This might be either because they have found a job that satisfies them or because they perceive their chances of finding another job to be small. Job mobility rates are partly dependent on the sector as well as the country.

Virtual mobility may have an important role to play in facilitating geographic and job mobility, but the extent to which it is used seems to have a high variation. Its use is heavily dependent upon workplace culture and attitudes of employers. However, age-friendly ICT can likely play a substantial role in improving the skills of older workers who require retraining. Based on the literature reviewed here, it seems that virtual tools and platforms that support the labour mobility of older workers are in abundance. What is highlighted in the literature however is that it is important that these tools be adapted to the learning needs of older workers.

Significance of labour mobility for businesses

Labour mobility is important for businesses, and this is particularly relevant in the ICT sector. ICT jobs are increasing and the demand for ICT practitioners is growing by around 3% a year, and is higher than the relevant supply. There is high demand potential in Europe for ICT workers especially for ICT practitioners and ICT management level employees. To respond to these vacancies, mobility is needed. This includes geographic mobility and job mobility. Virtual mobility is also important as a way of facilitating the former types of mobility.

Participation in lifelong learning is central for individuals' employability given the pace of technological change and the need to adapt to structural and/or organisational changes. Virtual tools may be an effective way to train new or existing employees. While older workers are more likely to suffer from skill obsolescence, workplace training – particularly training tailored to the learning needs of older workers – has been shown to improve retention rates in addition to skill development. Finally, virtual mobility may prove to be an effective medium for retaining older employees in the ICT field who wish for greater flexibility and may wish to telecommute.

Promotion of labour mobility

There are a number of European policies in place designed to stimulate and remove barriers to mobility, although these policies are not necessarily specific to older workers or to the ICT sector in particular. These include, for example, Action Plan for skills and mobility in Europe 2020. Typically, EU policies focus on geographic mobility and labour mobility rather than virtual mobility itself. However, virtual mobility, which is also not

included in European or other policies for the promotion of labour mobility, could be considered an important aspect of labour mobility as well as social inclusion, given that virtual mobility can support employment as well as other forms of participation.

Benefits and challenges of labour mobility

Labour mobility is an important element of a well-functioning labour market and has been an important mechanism for adjusting to the demographic, structural and technological forces shaping the European economy. Geographic and job mobility each play important social and economic roles, for example by helping to reduce labour shortages, responding to technological and economic change, and reallocating resources where needed. Geographic and job mobility can help skilled workers achieve higher income, better job satisfaction and better job quality, and overall can help to provide a better match between employer and worker. Geographic and job mobility are particularly important in the ICT sector, which is presently experiencing a shortage of skilled workers and where knowledge exchange and innovation is exceedingly important.

Job mobility is mainly beneficial to workers when it is positively motivated and voluntary; however, job mobility among older workers is less frequent and also tends to be negatively motivated.

Geographic mobility plays a particularly important role in the ICT sector, where the need for skilled employees to fill skill gaps continues to grow. However, levels of geographic mobility are still relatively low. This problem is exacerbated when it comes to older people, who are not only less likely to be geographically mobile, but are also less likely to hold positive attitudes about geographic mobility in general.

Virtual mobility may present some opportunities in addressing skills obsolescence. However, lifelong learning, virtual mobility and telecommuting opportunities all require buy-in and support from employers, which may present a challenge and may not be welcome in all workplaces. In addition, the negative perceptions and stereotypes about older workers, present an ongoing barrier to the employment of older workers in the ICT sector.

Employer's attitudes and perceptions

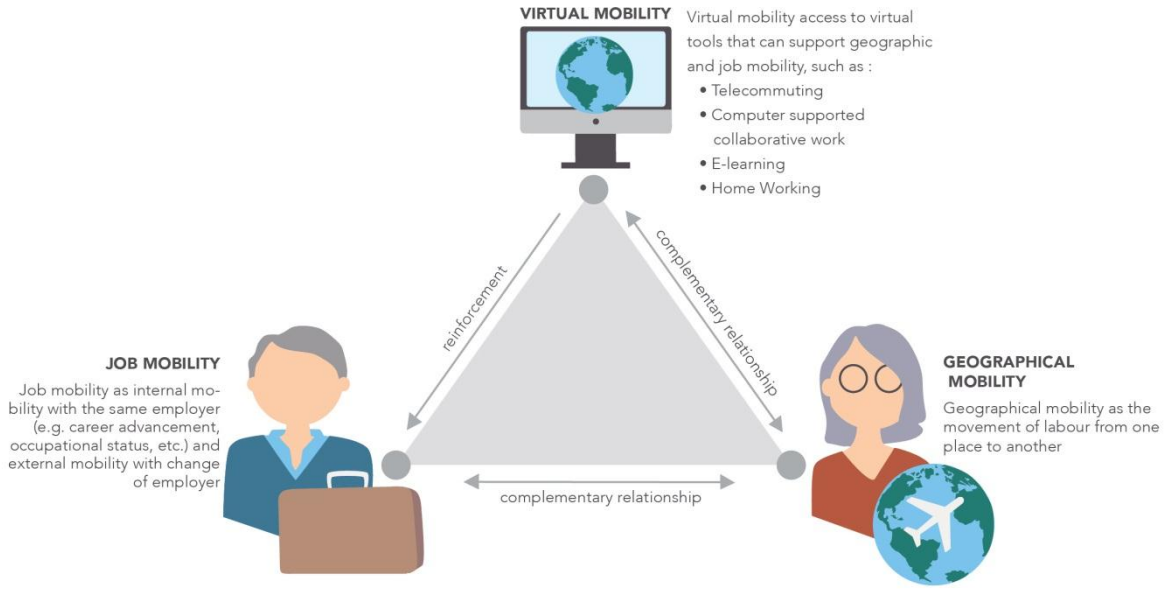
The research presented in this review suggests that the attitudes of employers play a critical role in the geographic, job and virtual mobility of older ICT workers. Despite existing tools, employers may have unsubstantiated negative attitudes towards which interferes with the hiring or training of older workers. Furthermore, in order for virtual mobility platforms to be utilized by employers, it is important that employers themselves

have buy-in and have a sense of ownership in these platforms. More importantly, employers may have negative perceptions or harbour unwarranted beliefs about older workers, especially in the ICT sector. The extent to which these attitudes interfere with the mobility of older ICT workers is not thoroughly explored in the literature. Our research helps to address this issue further, by investigating the attitudes and mobility policies of employers in the ICT sector.

Interrelation of geographic, job and virtual mobility – reconsidering the labour mobility concept

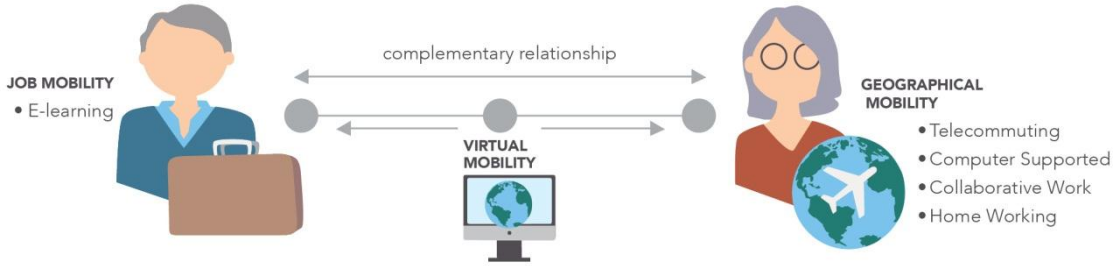
Initially, we have considered geographic, job and virtual mobility as stand-alone forms of mobility. However, based on the literature presented above, we conclude that geographical and job mobility are strongly interrelated as frequent job movers are also likely to move to other places more often. Further, the component of telecommuting, computer supported collaborative work, home working and e-learning under the umbrella of virtual mobility even reinforces job mobility, whilst it reduces geographic mobility (Figure 14).

Figure 14 Definition framework according to the project application



Thus, virtual mobility may be best seen as an integral part of geographic and job mobility. Therefore it may be best to consider virtual mobility, as a component, or complement, to other types of mobility (Figure15).

Figure 15 Virtual mobility as integral element of geographic and job mobility



In addition to offering new, more flexible ways of working (such as telecommuting), virtual mobility can support employers in recognizing the credentials and skills of mobile workers. For example, the European Complementary Framework helps organizations across Member States to recognize ICT skills and qualifications. Furthermore, e-learning platforms that are utilized by employers can allow employees to refresh or acquire new ICT skills. A variety of online tools can help older workers maintain their employability either through skill development, or by facilitating the measurement of existing skills.

5 Questionnaire survey

This study was conducted to determine employers' attitudes towards mobility of older ICT workers in the EU. Respondents were asked about their company policies or procedures on mobility. They were also asked about their views on the significance, the potential and actual benefits of mobility, and the key challenges in promoting mobility. The respondents were also asked to make relevant recommendations with the objective of identifying factors that may improve mobility patterns. Finally, a needs analysis for the CaMEO e-academy was conducted by asking the respondents about their suggested materials and tools.

The study was conducted between September and December 2014 and included the gathering of the data as well as its interpretation and the writing of the analysis.

Scope and approach of the survey

An online questionnaire (Lime Survey) was sent to around 136 selected representatives of the target group by reflecting the different employment regimes (see section 1.1.1). However, finding willing respondents proved challenging. The survey was advertised through partner agencies, including those with extensive networks. The survey was also promoted via multiplier organisations (such as BITKOM, IKT Konvent Austria, Austrian Computer Society, Sweden's Commission of Digitalisation and Association of Swedish Engineering Industries) and throughout personal and professional networks in the ICT domain. The majority of respondents filled in the questionnaire only after repeated requests. In some cases it was necessary for partners to follow up with potential respondents in person or via telephone.

A total of 117 people accessed the questionnaire. A total of 16 people started but did not complete the survey and 34 people completed it.

The answers were codified by using the professional software for qualitative data analysis MaxQDA and the content analysed by the method introduced by Mayring. The codification was conducted separately by two researchers who, following intensive deliberations defined the categories and abstract constructs.

Limitations

A key limitation of this survey was the fact that our survey required rich, qualitative answers. Although the questions were scripted in open-ended language, the format of

the online survey did not yield as rich data as might have been afforded by semi-structured interviews. At times, some of the answers were difficult to interpret.

Another limitation of the study is the predominant representation of SMEs. Only ten are big companies. Further, among the seven public organisations, three are universities, which may have special policies and practices that differ from other public organizations.

Further, a significant number of respondents reflected the workforce in general and did not focus on older ICT workers in their answers. It was often not clear whether the entire workforce or older ICT staff members were meant.

The respondents were asked to describe both the potential (Q12-14) and actual (Q15-17) benefits of mobility. However, more than half of respondents did not distinguish between these two questions; they rather treated them as the same. Because respondents did not appear to distinguish between potential and actual benefits in any of these sections, these have been merged together into the discussion of the "benefits" of job, geographic and virtual mobility.

Initially, it was planned to elicit policy recommendations along the country cluster of employment protection regimes (see section 1.1.1 and Table 1) which influence the individual's labour mobility. The aim of this approach was to deduce policy recommendations for each of the regions. However, the answers did not allow any references to existing national employment protection legislation because the majority of respondents did not distinguish between the three levels.

Finally, another limitation of this survey is that it only focuses on employers, and not ICT workers themselves. As is explained in the findings, the respondents provided explanations as to why older workers are less likely to experience geographic or job mobility. Many of these explanations have to do with the shortcomings or personal preferences of older workers. Since these reflect the attitudes of employers, it is unknown whether these beliefs reflect negative perceptions and stereotypes or are based in reality. Surveying older workers themselves would help to cross-check these findings but it might also yield an entirely different set of explanations.

Respondents

A final total of 34 HRMs, business owners, heads of ICT units and work councillors responded to the online survey[3]. Only fully completed questionnaires have been included in the following analysis. The data were analysed using a 5 point Likert scale, besides the

[3] http://survey.zsi.at/index.php/377269/lang-en

first three questions relating to the importance of geographic (Q1), job (Q2) and virtual mobility (Q3). Fifty respondents completed the first 3 questions. It must be noted that all of the survey questions were mandatory.

Table 1 below shows the respondents covered 11 European countries, and are representing all different employment protection regimes (EPL).

Table 1 Number of respondents per employment protection regime cluster and company profile

Type of EPL regime	Countries	Public Organisation	Big Company	SME	Total
Conservative	Austria / Germany	2	3	1	**6**
Liberal	Czech Republic / Poland	1	3	3	**7**
Mediterranean	Greece	0	2	4	**6**
Post-socialist liberal	Lithuania / Latvia	2	0	4	**6**
Social democratic	Norway / Sweden	0	0	3	**3**
Post-socialist conservative	Ireland / UK	2	2	2	**6**
Total		**7**	**10**	**17**	**34**

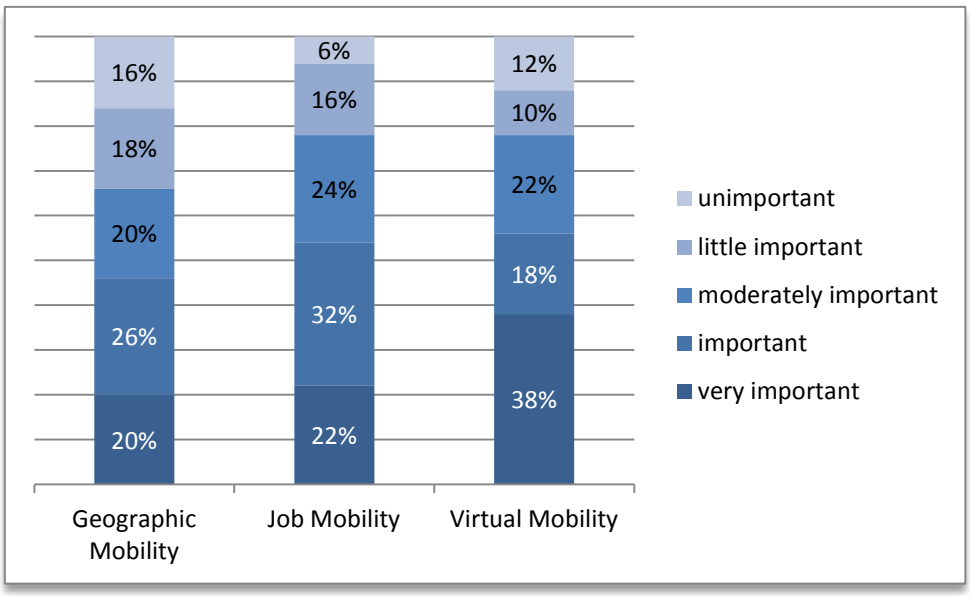
5.1 *Mobility is very important due to international environment of ICT*[4] – The significance of geographic, job and virtual mobility

Respondents were asked how important overall is geographic (Q1), job (Q2) and virtual (Q3) mobility for their business.

On a 5-point Likert scale, the slight majority of respondents (56%) think that virtual mobility and job mobility (54%) are important, while geographic mobility is considered as less important (46%). Vice-versa, more respondents consider geographic mobility (34%) as less important than virtual mobility (22%) (Figure 16).

[4] R26

Figure 16 Importance of geographic, job and virtual mobility in %, n=50



In Q4 respondents were asked to explain the significance of geographic and/or job and/or virtual mobility for their business in more detail.

Generally, in big companies and SMEs the competition for ICT workers is higher than in public organisations. In fact, the demand for ICT workers is so great, head hunters are desperately seeking for ICT experts. As one respondent reported, *'the fluctuation among ICT workers is extreme high, they stay 5 years maximum in one company. Every ICT worker receives 3 to 5 phone calls from head hunters every year'* (R68). However, public universities don't seem to suffer from skill shortages; as educational organisations, they have sufficient access to ICT workers (R82).

Virtual mobility allows people to cross spaces and shift between different fields of life. A 'global nomad' describes his lifestyle as following:

> *'As I'm running a consultant firm, I'm working with different projects located in different places in Europe and in my home country. Depending on which customer I work with, I got different tasks, "mobility in my job" is a part of my working-day. Virtual mobility, with support from different tools, is a necessity for me when carrying out my work. I work from home, I work on the spot together with my client, I work during my travels. To able to do that I use modern electronic tools'* (R114).

5.1.1 Know-how can be transferred to other regions – Significance of geographic mobility

The majority of the respondents representing **big companies** deem geographic mobility as essential for their international business success. This is particularly true for ICT companies due to its '*internationalization and digitalization'* (R48), where local knowhow has to be transferred to other regions and vice-versa. (R68, R63, R26, R101, R97). However, to send qualified ICT workers or managers to emerging markets requires the willingness of current employed staff to move, which is a challenge for companies. For example, respondents reported that '*we have great difficulties to find people for ex-pats' (R68), and 'We don't have fully qualified teams in all regions'* (R54).

For seeking companies, geographic mobility is essential to fill in job vacancies:

> *'We would need much more ICT specialists. The search for SAP specialist averagely requires 1.5 years. Thus, our hope was that Spanish ICT workers will move to Austria to reduce this long-lasting search process, which unfortunately didn't happen'* (R68).

Geographic mobility in **SMEs** tends to be lower than in big companies (R43, R43, R66, R16, R106, R103) and is mainly in conjunction with international projects (R51, R78) or in order to involve experts from abroad (R66).

Also for **public** organisations, geographic mobility seems to be less important; for public universities, either ICT workers are sufficiently available (R82; R84) *'as an university we have access to enough ICT workers, thus geographic mobility in the sense of filling in vacancies, is not a big issue'* (R82) or their mobility refers only to commuting between cities within the country (R49).

However, if geographic mobility is not promoted, and – compared to more attractive organisations - staff does not have the opportunity to participate in attractive international projects, they may become demotivated and ultimately leave the employer. For example, one respondent reported, *'the technology agency of the municipality was in former time an attractive employer for ICT workers. But now, we suffer from a substantial brain-drain, because the experienced ICT workers let themselves recruit to the private sector.'* (R82).

5.1.2 We would like to recruit the older ICT workers, but they don't apply[5]– Significance of job mobility

Around half of respondents consider job mobility as important for their business, whereas it seems to be more pronounced for both **big companies** and **SMEs**, and rather less by **public** organizations. For example: *'The most important area for our business is job mobility. We are a practicing Investor in People and we have a very good track record for facilitating career progression internally'* (R106), *'employees have to switch jobs and responsibilities if they want to advance'* (R54), *'we actively encourage staff to gain experiences in other areas of the business to increase their skills and experiences'* (R103).

Employers want to rely on a pool of qualified and experienced staff that is adaptable to changing labour market conditions. This is the key reason why respondents consider job mobility as significant for their business. Companies prefer to recruit first internally when managerial or other positions are vacant: *'Professional mobility that enables using gained experiences on new posts is important'* (R100), *'management functions become more and more important'* (R68); *'We also really try to promote internally as much as possible'* (R116).

5.1.3 Virtual mobility is reality but not recognized as such[6] - Significance of virtual mobility

Virtual mobility seems to be widely practiced in almost all companies / organisations. **Regardless of type** of company/organisation, the majority of respondents emphasises the significance of virtual mobility for their business success. Moreover, *'it is reality but not recognized as such'* (R82) because it integrated in many fields of the working life.

Collaborative working and conferencing tools are essential for international enterprises: (R48, R26, R82, R54, R43) *'we share tools across countries and require people to use them in all locations. They also often are involved in the roll-out of the tools themselves'* (R54), *'we use fast communication tools that allows us to do your daily tasks from any place in the world'* (R92) and support managers who are responsible for differently located branches (R97).

The e-learning component of virtual mobility is also relevant for a number of respondents, where e-learning is an essential tool for career prospects (R49, R84, R83,

[5] R68
[6] R82

R103, R116) *'…because it give opportunities and tools to employees to grow faster, easier and more efficiently* (R43).

Remote working – as integral aspect of virtual mobility – is often mentioned, but practiced only in few companies/organisations (R34, R92): *'The bulk of our work is carried out remotely'* (R103).

However, the complementary relationship with geographical mobility is clearly recognized. As one respondent reported, *'if there is virtual mobility, geographic mobility is then not important'* (R16). In other words, the use of computer supported collaborative working tools decreases the demand of geographic mobility. This sentiment was echoed by others. For example, *'Virtual mobility is increasing and the geographic mobility is declining therefore'* (R82).

Practicing virtual mobility relies on internal and national policies: either *'e-working is not allowed in our organisation'* (R82) or *'is not supported by Greek labour law'* (R38).

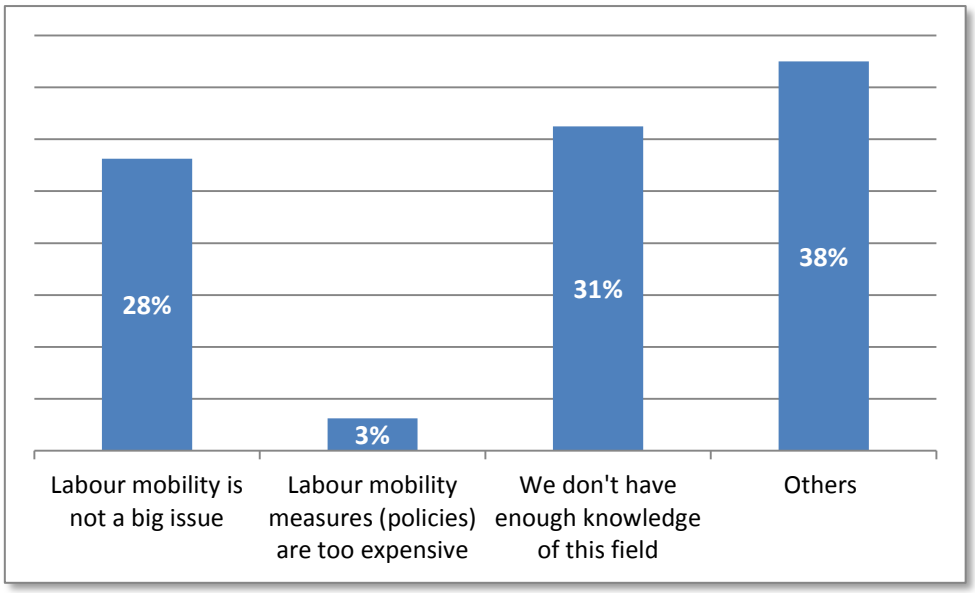
5.2 *We don't see the issue*[7] - Measures / Policies for the mobility promotion in place

Respondents were asked whether they have any particular measures (policies) for the promotion of geographic (Q5) and/or job (Q6) and/or virtual mobility (Q7) of older ICT staff members in place.

In contrast to the finding that more than half of respondents consider labour mobility as important for their business (section 5.1), 29 respondents (81%) of 32 respondents stated that they don't have any promotional policies or measures in place. The reasons, as depicted in Figure 17, are that for 26% of respondents, labour mobility is not a big issue (Q8), 3% consider labour mobility measures as too expensive (Q9) and 29% stated they don't have enough knowledge in this field (Q10).

[7] R108

Figure 17 Reasons for not having promotional measures or policies for older ICT workers' labour mobility in place, in %, N=32



Furthermore, 35% of 32 respondents stated other reasons for not promoting older ICT workers' labour mobility (Q11). The main issue is that they prefer to have promotional measures related to e-skills of workers (Q84) in place, rather than for older ICT workers (R68). Thus, they don't '*see the issue and we don't focus on age in this respect'* (R108).

This is particularly true for countries where positive discrimination is prohibited, where promotion based on the age dimension is thus not eligible and therefore *'all staff are treated equally'* (R86).

> *'We don't have specific policies that target OLDER workers because employers have to be very careful not to target specific groups; this could be considered discrimination. However, we have lots of policies and systems that do support the job and virtual mobility of ALL workers.'* (R116)

5.2.1 Examples of promotional measures or policies

Contrary to the opinion of one respondent that mobility measures may be a matter of the organization's size (P113), only two among the big company respondents were found with promotional policy of **geographic** mobility in place (Q5). One big company encourages ICT workers in general to move by offering apartments and a substantial number of free flights, even on an almost daily basis, reflecting the ICT workers unwillingness to change residences. *'We would offer them 2 to 3 flights per week to Austria from Spain, but all these don't help to get more technical staff in the company'* (R68). Another big company provides also the moving employees '*with support and lots*

of flexibility' (R116). However, in the interest of the individuals' work-life-balance, geographic mobility is approached with an open mind, more or less as an issue of negotiation (R116).

Also one SME offers an apartment, a company car and additional pay for ex-pats. *'The company provides additional pay, a company car with a driver and a flat for employees working outside the company's registered office'* (R78).

Job mobility (Q7) is promoted by one company by the provision of flexible working hours. *'Flexible working hours are very important'* (R116). One big company goes much beyond and has provide a comprehensive training programme, which

> *'…allows employees to be promoted to new areas of the company, or even pursue a personal goal. For example, we provide opportunities for peer-knowledge sharing, through a buddy-system (where employees are matched with a buddy who is their peer) so that they can learn something new and access coaching. This allows us to promote internally and give priority to existing staff (however they still need to demonstrate that they have mastered their own area and are qualified - and complete an interview process). We also provide a volunteer opportunity, where employees can volunteer for a day at an organization of their choice, with pay (*R116).

For the promotion of **virtual** mobility (Q7), one public organization has in place an employment agreement for teleworking *'which affects older ICT workers strongest'*, (R82), because it supports them to participate in an international working environment, which could otherwise not happen due to health problems. As *'older workers have great knowledge and experience to share, abilities, values, and customer service skills'* this big company provides *'opportunities for online learning, training and testing methods. We also provide bite-sized modules ranging from 15 minutes to one hour to help people develop the skills that they are lacking or that they wish to acquire'* (R116).

5.3 *There are only advantages and any disadvantages*[8] - benefits of labour mobility

Respondents were asked what are the key benefits they experience in practicing geographic (Q12, Q15) and/or job (Q13, Q16) and/or virtual (Q14, Q17) mobility for older ICT staff members. Overall, all respondents have a number of arguments in mind,

[8] R82

why mobility is an advantage both for the employer and the workers. **Regardless of type** of organisation the potential benefits are described in the same directions.

5.3.1 To attract good staff to our organisation[9] - benefits of geographic mobility

Overall, geographic mobility has the potential of a better match of labour supply and demand. It offers a greater pool of labour and facilitates the attraction of qualified staff (R82, R49, R68, R100, R70, R100, R96, R38, R113). On the EU-labour market, *'it would even be possible to cut the recession and start a quicker development in many countries'* (R114).

It enhances the skills and competences by knowledge exchange in an international environment (R70, R92, R54) and may enhance the creativity by *'looking at things from different angles'* (R16). According to the thesis that ideally the staff are supposed to reflect the demographics of the customers, the enrichment of staff with different ethnicities, is another business value (R116).

As older ICT workers are somewhat rare and they tend to have 'exotic' standing in organisations, the opportunity to physically meet with other older ICT workers would be particularly an asset for them. *'Especially for older ICT workers the knowledge exchange would be a great value'* (R82).

Despite the availability and use of virtual conference tools and computer supported collaborative working tools, geographic mobility can't be yet wholly replaced by virtual mobility. Physical meetings, *'to meet people eye-to-eye'* (R48) are still an asset for the success of collaborative work. This is particularly true for problem solving processes. *'In bigger and maybe problematic projects the mobility of ICT staff might bring the project to a positive end which would otherwise not happen (the project would fail)'* (R44).

Respondents reported that they have experienced the benefits of geographic mobility in that employees gain more experiences and broaden their knowledge and creativity (R68, R106, R114), which *'serves corporate interests, make the employee more useful'* (R26), and hence leads to better employment opportunities. One respondent noted that geographic mobility led to a *'greater use of technology, resulting in increased efficiencies'* (R106). Another one declared that the time-to-market had already improved (R63) due to geographic mobility.

[9] R86

The tremendous economic benefit of older ICT workers' readiness to move to other countries is spectacularly described by this respondent:

> *'A 59 years old Swiss technician was ready to move to India and took over the overall technical lead at this site. This was a big success for our company, as he has extreme high knowledge and expertise. There, in India, he could bring in all his experiences. Before his leadership, the turnover was 70 million and then 1,4 billions' (R68).*

Geographically mobile staff, mirrors the multi-ethnicity of the customers, which is another benefit of geographic mobility: *'In our case, our customers are very diverse so it is important that our employees are also diverse' (R116).*

5.3.2 A more flexible workforce in general[10] - benefits of job mobility

Career progression is an inherent element of job mobility, which is a commonly expressed belief of the respondents (R54, R26, R97, R96, R92, R100, R16, R113, and R106). The opportunity for internal skills development and career progression is an important motivational factor. *'It's very important that our employees are able to move within the company and achieve whatever goals they have set out for themselves'* (R116) and *'Increased motivation for employees who can see the opportunity for career advancement'* (R106). It is essential that workers have the *'opportunity to develop their skills and build a professional career'* (R92) which in turn *'increases staff satisfaction and retention'* (R103, R106).

For numerous reasons, employers prefer to first look internally for suitable candidates, because *'internal staff has wider experiences and a better overview of the complex processes. It is better to recruit those knowing already the organisation'* (R54) and they are *'better adaptability to new requirements'* (R96). Companies can assign people *'to the most optimum position based on the needs of an international company'* (R26). Further, internal recruitment *'makes the process to gain proper competences or candidates easier'* (R97).

A number of respondents confirm that job mobility policies lead to a better recognition of workers' skills and experiences, optimize strategic personnel planning for the employers and support career planning for the workers (R86, R83, R26, R63, R26, R43, and R114). Consequently, for employers job mobility leads to a greater retention of skills (R106,

[10] R114

R114) and for employees it enhances the level of work satisfaction (R106). Further, internal recruiting requires smaller training investments (R83).

On a horizontal level, job mobility means to change to different roles and tasks. This is particularly an asset in interdisciplinary teams where the adaption to changing roles and tasks is immanent (R103, R63).

5.3.3 *Safes time and costs*[11] - benefits of virtual mobility

Virtual mobility potentially reduces travel and therefore saves time and costs (R82, R48, R97, R16, R92, R69, R106, R101, R82, R38, and R114).

Teleworking – as an aspect of virtual mobility- contributes significantly to a better work life balance which is particularly relevant for older workers (R92, R16, R101, R82).

The 'easy and fast' access to collaborative working is another benefit of virtual mobility (R48, R16, R106, R38). Moreover, it provides the opportunities to work in an international environment which wouldn't otherwise due to financial restriction for travel purposes take place. *'As travelling is costly – the internationalization of the working environment is safeguarded through the virtual mobility, otherwise this wouldn't be the case'* (R82). Practicing virtual collaboration instead of traveling is particularly relevant for older workers with health problems, *'when they are not able to fly due to health problems, for example in case of a thrombosis danger'* (R82).

Virtual mobility contributes further to easy and fast access to learning facilitation, either related to informal learning, because workers can *'up-skill without travel costs'* (R103) or to formal learning, because it is an 'absolutely effective way to gain new skills and competences when participating in known university courses from USA, Australia, etc.' (R84, R49) or to self-directed learning, because it 'supports self-study processes' (R100), which in turn 'increases staff participation in subject areas' (R86).

> *'For some older workers who have been out of the labour force for some time and are re-entering, for example they may be 55+ and are re-entering because they were caring for children, or because they need to go back to work due to a marriage breakdown, they may need additional kinds of computer skills, basic programming skills, and that sort of thing. Certainly lifelong learning programs or courses should be available and useful for that' (R116).*

[11] R96

Further, virtual mobility is not only relevant for the staff, rather for (new) market orientation too. Markets themselves are becoming increasingly virtual and therefore require virtual mobility. '*New virtual markets demand virtual mobility'* (R96). Virtual mobility *'provides the opportunity for in time reactions to consumer needs'* (R73). It supports the usage of readily available systems and tools from around the world, without requiring significant internal investment in creating them. It '*limits the necessity for local development of systems and tools and supports higher integration of processes'* (R54).

Again, virtual mobility is strongly interrelated with job and geographic mobility; it accelerates the reduction of traveling, it supports career prospects, and it creates favourable conditions for both job and geographic mobility, because it '*can give the initial impetus to effective job and geographic mobility*' (R43).

The main benefit of virtual mobility is clearly the access to tasks irrespective of time and space, either with work colleagues (R73, R101, R43, R16, R63) or with clients (R43, R73). It is an inherent instrument in the knowledge society, as it *'Facilitates your working-day in a modern society'* (R114). In case a job location has changed, the workers are not necessarily required to move. '*Actual benefit is that older staff members do not need to move if the job location changes because they can work online even from home'* (R43).

Virtual learning facilitation is seen as a special benefit for older workers. *'Virtual mobility - is one of the best ways for older ICT workers to take care about their qualification using virtual mobility '* (R49). Contrary to common perceptions that older workers have fewer ICT skills, this respondent described the opposite.

> *'Banking has become digitized. Some employees who have been working in the banking sector for a long time have seen a big change - from when the skills used were very basic, to now when everything is digital. As a result they need to transfer their skills. But we offer programs for that. Some are mandatory and some are voluntary. The older workers have great knowledge and experience to share, abilities, values, and customer service skills'* (R116).

Further, respondents confirm that virtual mobility leads to faster services *'in time reaction to costumer needs*' (R73) and enables access to emerging markets (R96).

5.4 *They don't want to leave the comfort zone*[12] - Difficulties for labour mobility

The respondents were asked for the key difficulties they experience in practicing geographic (Q18 and/or job (Q19) and/or virtual (Q20) mobility for older ICT staff members. There were no apparent differences between how public organizations, big companies and SMEs answered the questions. All of the various types of organizations reported similar difficulties.

5.4.1 *Unwillingness to relocate and costs* - Difficulties in practicing geographic mobility

The main barrier of geographic mobility is older workers' reluctance to change their place of residence (R43, R100, R16, R54, R101, R68, R79, R86, R100, and R47). Older workers have often achieved a certain lifestyle and a good work-life balance, which they want to keep. '*They want to preserve work-life balance and relocation does not fit into this strategy'* (R54). Further, they have achieved a certain level of required knowledge and skills, which can't be transferred that easily to other jobs. '*Staff tend to stay in the same organisation, ours in particular, as their personal skills are recognised and appreciated but when looking elsewhere they may have less current qualifications'* (R86). The psychological difficulties in practicing geographic mobility are vividly described by one respondent who travels a lot:

> *'If you haven't got any "home-base", you can feel a bit unsecure/unsafe. If you move very often, permanently, to have a new job, you will get some private extra work in moving to new place and settle there'* (R114).

Another reason for the unwillingness to leave what has been achieved is the observed difficulty to adapt to new work environments with new working cultures (R92, R96, R100, R106). Also the lack of foreign languages is frequently mentioned as a barrier for older ICT workers to move to other countries (R16, R63, R66, R96, R51, and R68). Further, health problems (R96) and insufficient ICT competences (R49) are observed barriers for geographic mobility.

The older workers' family obligations which prevent them from relocating (R16, R96, R100, R51, R73) run against the perceived notion that parents with adult children are

[12] R54

more mobile compared to younger generations of parents with small children. *'45plus ICT experts should be better ready for GeoMob having adult children'* (R47).

Sometimes the reason why geographic mobility is not practiced is just a question of cost for the company. Geographic mobility is clearly less affordable for SMEs (R16, R83) but is also a significant expense for bigger companies (R48). Thus, it requires *'negotiation between the company and employee'* (R116). Delegating older ICT workers and not younger ones as ex-pats is not common practice; in fact, it requires economic justifications at board of directors' level. *'Sometimes the costs are hard to explain to CEO'* (R48).

However, not supporting the geographic mobility of the workforce has significant impact on the companies' ability to expand to emerging markets. The difficulties are either the reluctance of older ICT workers to move or they may not have the right skills. *'40plus workers are rather unwilling to change the geographic location of their workplace which would be important for the companies with branches around the whole country'* (R100). *'We lack qualified employees ready to work abroad'* (R78).

> *'Before the economic crisis we had 30 sites, and nowadays we have 250 sites. This means we urgently need qualified people for manager positions and encouraged older employees for taking over these roles. But we learned that older employees don't want to accelerate anymore, it is very difficult to recruit internally. Thus, we have tendentially younger managers only.' (R68).*

5.4.2 *Lower innovation potential* – Difficulties in practicing job mobility

With regard to job mobility, the main difficulties are identified in the (assumed) lower innovation potential of older ICT workers. (R54, R100, R86, R70, R96, R49, R63, R47, R92, R43, R101, R96, R68, R78). On the one hand, their skills are sometimes obsolete and they don't master well enough the new skills on demand (R96, R49, R47). *'It's difficult to promote them for a certain innovation.'* (R92) *'It is not always easy for older staff to acquire new skills which are necessary to do a career'* (R43). But this doesn't necessarily mean that older workers' rich work experiences are not recognized and appreciated. Rather it was reported that older workers *'…have good generic experience and are very capable.'* (R86) On the other hand, respondents believed that older workers are less willing to be trained (in their spare time): *'Older employees do less sacrifices for training/educational (e.g.) after work'* (R70).

Similar to the idea that older workers are reluctant to relocate due to having achieved a

certain level of satisfaction with their current job or position, respondents believed that older workers are unwilling to leave their comfort zone of specialization. Thus, older workers were reported as '*unwilling to risk and change what has already been achieved'* (R100) and they '*just want to focus on their core business, but don't want to broaden their focus'* (R68); they are rather '*more geared towards a stable environment that leads to retirement'* (R70). In other words, '*they do not want to leave the comfort zone of deep specialist knowledge in a given area and instead of gathering experience in new areas'* (R54). However, respondents held different attitudes as to what makes an older worker reluctant to change jobs or roles. Some respondents believed that older workers were less adaptable to new environments and roles (R101, R96, R97), or to the new working cultures (R63). Others believed that older ICT workers had difficulties attempting to '*master the rapidly changing knowledge'* (R92).

But the question of whether job mobility or career progress is even an attractive goal, is challenged by no less than four respondents, who reached the following negative conclusions about job mobility:

- A high level of job mobility may lead to lower quality in performance. *'To high speed in your job mobility could damage the quality of your performance. You move too quickly to have enough time to learn every new job you get' (R114).*
- Vertical mobility may have become less attractive in recent times, as manager positions tend to combine managerial and administrative tasks. *'I must say first, that the positions of managers changed substantially in recent years. Formely it was normal that a manager had at least two secretaries. Now they don't have any, only maybe 1/25 secretary and they have to do everything themselves. And this is not so attractive anymore to move upwards'* (R68).
- Some ICT workers may not seek to continue their career when they get old; instead they are seeking to apply their creative potential in other domains of activity, *'Older ICT workers tend to be very creative people and when they get older they leave their ICT jobs and offer their (creative) knowledge e.g. to a NGO. For example, we had a very tough programmer, but then he quit and programmed learning programs for slow learning children.' (R82)*
- Moreover, older workers may want to focus on personal development rather than seeking a promotion. *'Sometimes the mid-late 50s don't always want professional development. Sometimes they want to be involved in coaching or volunteering'* (R116).

However, one respondent from a big company did not see any difficulties in the job

mobility promotion of older workers. Besides the fact that *'their training time might be slightly longer'*, there aren't any *'disadvantages to hiring or retaining older workers, but there are lots of benefits'* (R116).

5.4.3 *Virtual tools less effective than expected*[13] - Difficulties in practicing virtual mobility

Limited digital competences of older ICT workers is considered as the main difficulty to fully adopt and use computer supported collaborative working tools (R49, R84, R96, R47, R106), as they don't have sufficient *'skills to play in virtual ICT environments'* (R96). The same applies to the use of virtual learning tools, where older workers have difficulties to master the new e-learning technologies (R86, R92, and R43). The dominant language in virtual mobility activities is English, which for older ICT workers is not a major problem. *'For ICT workers the situation is slightly better'* (R63).

Virtual mobility presupposes a well-functioning technical environment. However, there may be difficulties in taking full advantage of virtual mobility using the technology (R48, R54, R51, R78). *'Technology as an enabler in some cases is less effective than expected'* (R26) or suffers from problems such as *'the internet connections are unstable, frequent changes of software, program modification, upgrades'* (78).

Also the expected reduction of travel activities due to computer supported collaborative working or learning tools is not fully realizable. Moreover, *'face-to-face exchange is quite often needed to be fully focused on specific tasks'* (R63) and *'staff is still required to travel to test centres to complete courses in many cases, e.g. Microsoft certification'* (R103).

In some cases, despite well-equipped video conferencing facilities, older workers among others still prefer face-to-face over virtual meetings. *'The older ones still prefer to travel over using virtual conferencing tools. We have 6 rooms only dedicated for video conferences, but they are extremely rarely used'* (R68).

Virtual mobility is not purely a benefit, as it may entail some risks for the psycho-social health of workers. Potentially, it may blur the line between job and spare time (R73) and may cause social isolation for remote workers (R106).

If remote working and flexible working arrangements is too tailored to one specific person, it may be difficult to fill in this job once this person exit. *'It can be hard to bring new people in to fulfil such specific requirements'* (R113).

[13] R26

5.5 *For young people there are many promotions but for older there aren't any*[14] - Policy recommendations

The respondents were asked for policies they would recommend to support labour mobility of older ICT workers on regional (Q21), national (Q22) and EU (Q23) level. As already stated in section 'scope and limitation' the answers don't allow deductions related to the national employment protection legal frameworks. Also in terms of type of organisations, no typologies of answers can be deduced.

Respondents provided a broad variety of interesting ideas and concrete suggestions. However, the majority of respondents didn't distinguish between recommendations related to the EU-level, national level and regional. Under Q22 and Q23, the answer 'as above' was frequently given. Thus, in the following analysis the three policy levels are integrated.

5.5.1 Laws and regulations

Generally, 'more motives' (R26, R116, R51) should be provided to foster the free movement of labour within the EU and any obstacles are supposed to be removed; in other words, *'every nation-specific obstacle that prevents or complicates the free movement of labour between the countries inside the European Union'* (R114) should be removed, which is considered as '*pseudo-protection of know-how by blocking the free movement of employees and their development'* (R78).

However, *'if a strong recommendation isn't enough the EU has to establish rules'* (R114). One respondent considered whether *'the tax and social security rules are the most useful ones'* (R63).

Further, the introduction of (financial) **incentives** for employers are suggested, such as '*concrete cost benefits for businesses (e.g. reductions in employer contributions)*' (R34) or related to relocation expenses (R96) or in case of hiring '*experienced older staff to mentor youngers'* (R96) or benefits related to up-skilling (R106).

Further, more regulation is needed so that *'employer and employees are fully covered by laws'* (R38). Specially regarding virtual mobility, '*clear rules in the Labour Code on remote work, tracking the work time, and registering it would be very helpful'* (R101). In the knowledge society, stress at work is a big issue, where one respondent suggested an '*anti-stress-workforce-law for all ages'* (R73).

[14] R82

However, one respondent recommended looking for a solution that creates employment in the places where people are unemployed, rather than asking the people to move to other areas.

> *'The main recommendation for labour mobility policies makers would be to pay attention to the areas where it is low employment levels and how to make more work places around so people would cover their needs and won't need to change their residences.' (R43)*

5.5.2 Learning and Training

Also in the field of learning and training a broad variety of concrete recommendations were provided. Starting by general upgrading measures of ICT competences (R84), and mentoring programmes (R96), to the provision of EU-support programmes for older peoples (R16, R82), and further, to the provision of exchange programmes of older ICT workers in order to '*cross fertilize with their experience areas'* and particularly provide in *'countries lagging behind the ICT utilization*' (R96).

Other measures suggested are further investigations *'on standardization and certification of ICT skills'* (R96), and the free and open access to certified training material provided by the technology vendors'. […] '*…this could facilitate more consistent product knowledge all over Europe'* (R96). Also the establishment of an EU-wide social network platform of ICT experts for the debate on '*needed topics'* (R47), or for ICT experts aged 45plus (R47). In addition a *'better or more organised accreditation of online courses'* (R83) is recommended.

5.5.3 Research and innovations

A number of recommendations are directed towards innovation for the promotion of labour mobility.

With regard to **geographic** mobility, it is recommended to:

- Invest in R&D to better match the demand and supply of ICT workers. *'What can be done that the Spanish ICT workers are more ready to move?*' (R68);
- Conduct research related to the questions, why *'older ICT* workers don't apply for jobs', '*where are the older ICT workers, where can they be found'*? '*How can we move them to us'* (R68);
- Screen existing research to model new policies and programs that specifically target areas with high unemployment (R113);

- Include the age dimension in international university rankings (R82).

With regard to **job** mobility, it is recommended to:

- invest in innovation related to the assessment of older workers' skills and abilities, '*so they can compete at an interview with those who have latest qualifications'* (R86);
- overcome the sole focus on product specific ICT skills and also appreciate skills such as 'organization skills, project management skills programming best practices, software engineering*, testing strategies, security problems in systems including the human environment*.' which are typical for older ICT workers (R96, R86) and 'analyse the usable experiences of 45plus aged ICT experts' (R47)
- Invest in standardisation of job descriptions (R48);
- '*continue to promote the benefits of employing older workers'* (R106);

With regard to **virtual** mobility, it is recommended to:

- provide and/or to 'enhance infrastructure required for virtual mobility' (R34);
- invest in improved technology for remote (e.g. home) working, in order to give *'older ICT workers more opportunities on working from a distance*.(R92);
- Take advantage of virtual mobility for the *'creation of specific new learning opportunities and intercultural and/or joint curricula design at HE institutions'* (applies to universities and educational institutions) (R49).

5.6 Suggested content and materials for the setup of an e-academy – a needs analysis

Respondents were asked to suggest possible topics/contents for training sessions, consultancy work or materials that they feel would support labour mobility for older ICT staff members (Q24). This question aimed to indicate user needs for the setup of an e-Academy in the following context:

- Firstly, the e-Academy will provide an online environment where older ICT workers will be able to digitally map their skills, experiences, competences and qualifications against the European Qualification Framework and its ICT mirror, the "e" competences framework.
- Secondly, it will provide older ICT workers with appropriate training modules to help them establish an approach for the lifelong learning required in their career and acquire e skills and competencies through continuing vocational training.

5.6.1 Learning areas

Starting with general statements like 'technical skills in different disciplines' (R26), the respondents provided specific suggestions for training topics:

- Social media, and its use in business (R106);
- Use of dedicated software for CAD design (R78);
- Database administration, business analysis, solution architecture, applications consultancy, hardware design engineering, web software design (R38);
- remote working, online communication and collaboration (R32);
- Web 2.0 Open source educational technologies (R32);
- Project management (R78).

Two respondents (R96, R103) suggested certified training on specific technology vendor products in the context of "Open Standards" which 'could facilitate more consistent product knowledge all over Europe' (R96).

A substantial number of suggestions relate to non-digital specific training topics varying from trainings in English language (R63, R114)), to intercultural skills trainings (R16, R63, R114) and to communication skills (R26).

5.6.2 Assessment and mapping of skills

Self-assessment that focuses on the individual's ICT skills (R49, R48) has been suggested as relevant to the learning process, incorporating experiences and intangible knowledge (R86). . Additionally, after the assessment is completed (R82):

- a selection of highly demanded ICT profiles should be presented , which fit the user's profile (R82); a mapping with the European Qualification Framework should also be available (R96);
- EU programs and/or initiatives whose products and outcomes support the improvement of the employee's ICT profile (R82) should be made available;

ICT workers '*tend to be very creative people'* (R82) and as such they often reflect upon their professional career with a view to continue it or to pursue other activities that enable them to enhance their personal development, and/or offer services and value to society. Thus, for a better mobility or balance between job and other interests it has been suggested to provide also a self-assessment tool of professional versus social skills which is particularly important for older ICT workers (R82). For people who may be looking to retire soon, materials focusing *'on personal development rather than seeking a promotion'* (R116) should be provided.

5.6.3 Tools and materials

Some respondents suggested the provision of an exchange and/or networking platform (R100, R101, R78, R82, and R86) where older ICT workers, for example, can exchange '*professional experience when working at a specific problem solution'* (R100). Others suggested that the e-academy should '*be a portal with a vast choice of courses in various fields of IT'* (R101).

Another respondent suggested using the platform for creating an understanding of the added value of an overall ICT qualification as opposed to high specialization of expertise (R54). In addition, the platform should be a repository of professional magazines (R100). Finally, two respondents recommended the platform to be providing methods and good practice examples of mobility practices (R51, R97).

5.7 Summary of questionnaire analysis

The survey underlines once more the well documented shortage of skilled ICT workers and consequently the high competing demand in countries with a labour shortage. On the one hand, there is anecdotal evidence that ICT workers tend to stay in the same company for a maximum of five years, but on the other hand, the move of ICT workers to countries with e-skill shortages appears to be limited. For older ICT workers, relocation is not attractive enough, despite various promotional measures companies have in place. This may imply a better skills match on the country level but imperfect matching patterns among EU-countries.

Depending on the required profile, the search for qualified ICT specialists may last 1 ½ years on average. The survey suggests that employers (in private enterprises) may turn away from juvenile recruitment patterns, and actively pursue applications from a wider age spectrum of ICT workers.

Confirming the forecast literature (empirica, 2014), the demand of management ICT professionals is increasing, and older- (more experienced) ICT workers would be therefore well positioned to apply and be considered for the job.

Significance of labour mobility for businesses

Generally, more than half of respondents feel that mobility is important for business success, whereas virtual and job mobility rank higher in the importance scale than geographic mobility. However, there seems to be significant variations among the organization types.

For big companies, geographic and job mobility is a more important issue than for public organisations. Know-how has to be transferred to third countries or to emerging markets. However, employers in some countries suffer from substantial unfilled ICT vacancies and in spite of their efforts, the currently employed promotional measures aren't attractive enough for ICT workers to move to the countries of demand. For SMEs geographic mobility is mainly related to international projects and for public organizations it seems to be less of a concern.

Virtual mobility seems to be, to some extent, utilized in all enterprises and organizations. Whether used for collaborative working or for e-learning, the use of virtual tools is a common practice.

The reciprocal relationships of these three mobility components are clearly stressed: where virtual mobility is increasing, geographic mobility is declining; increased job mobility supports geographic mobility and vice-versa. Virtual mobility may provide an alternative to geographic mobility in some situations, however it cannot eliminate the need for geographic mobility altogether.

Promotion of labour mobility

Despite the perceived importance of labour mobility, only few companies stated that they have in place policies or measures promoting labour mobility of older ICT workers. Just three companies provide incentives for geographic mobility, such as perks, company cars, apartments, and even '2 to 3 flights per week' in case employees don't want to relocate to another country. Promotional measures for job mobility are described by only one respondent and measures for virtual mobility are described by two respondents. One third of those respondents who don't promote labour mobility stated they don't have enough knowledge and another third do not consider labour mobility to be a big issue. Among other reasons is that discrimination (or preferential treatment) of a certain age group is illegal in some countries.

However, despite the fact that essentially all companies /organisations use virtual tools, the stated lack of promotional measures in geographic and job mobility needs to be questioned. The described benefits imply that many more measures must be in place to promote geographic and job mobility but were not discussed. This may be partly due to how the respondents have interpreted the questions. For example, policies that indirectly promote mobility, but are not named as such, may have not been reported by the respondents.

Benefits of labour mobility

The overwhelming majority of respondents are convinced that labour mobility can result in a number of benefits.

From geographic mobility, employers may potentially benefit due to attracting qualified staff and to relying on a greater pool of labour. Although virtual mobility substantially decreases the need for geographic mobility, the latter can't replace the former altogether.

Career progression and skills development are key to keep staff motivated. Thus, employers may potentially benefit from job mobility by relying on a pool of qualified staff for internal recruiting purposes which is highly preferred over external recruitment strategies.

Potential benefits of virtual mobility are numerous. The major benefits are that it decreases the need to travel– which is particularly important for older workers - and therefore it saves time and (travel) costs. Teleworking, virtual collaborative working and e-learning facilitations are further key benefits of virtual mobility. With regard to the market, virtual tools help respond to to consumer needs and new market development in a timely fashion.

In terms of geographic mobility, employers are benefiting from staff who are open minded, creative and have broader knowledge. When the workforce mirrors the socio-demographic profile of the consumer market the organisation may benefit in some cases. Moreover, relying on a mobile workforce may have significant economic benefits, as was shown by the example of a 59 year old ICT worker who was moved as manager to another country, and brought enormous economic benefits to the company.

Retaining in-house qualifications, skills and experiences, is the main benefit of job mobility to employers. Job mobility positively impacts training and leads to better flexible adaption of roles and tasks.

Virtual mobility can provide for quick and easy accesses to (collaborative) tasks and/or clients.

Challenges of labour mobility

Older workers may have achieved a certain level of a satisfying lifestyle and thus, tend to be reluctant to change location or their job position. Their knowledge and experiences are, to a certain extent, gained in-house and can't necessarily be easily transferred to other enterprises. Working in a new country would require the adaptions to new work environments and new working cultures. In addition, not all ICT workers speak the necessary foreign languages. These are some possible reasons which prevent older ICT workers from becoming geographically mobile. However, in other cases, geographic mobility is simply not affordable by companies.

Respondents reported that older workers have lower innovation potential, which was considered as a main barrier to job mobility. Respondents stated that older ICT workers are less likely to master rapidly changing knowledge in the ICT domain and may be more focused towards retirement. However, it is unknown whether this is reality, or simply reflects negative perceptions of employers to older workers. It should be noted that not all respondents agreed that older ICT workers were lacking in motivation or skill.

The attractiveness of job mobility for older (ICT) workers was questioned. Possible reasons why upward job mobility may not be attractive to older ICT workers includes the

belief that manager positions may now include administrative tasks more often than not, In addition, older ICT employees are sometimes concerned about the extent to which a new job may enable them to unleash their creative potential.

The main difficulties in practicing virtual mobility, according to the respondents, are older (ICT) workers' limited e-skills in using up-to-date collaborative working and e-learning tools, followed by an ineffective technological infrastructure. Again, it is unclear whether these perceptions can be validated, or reflect stereotypes about the abilities of older workers.

Policy recommendations for improved labour mobility

A broad variety of recommendations were provided related to **laws and regulations**. For workers, every obstacle regarding the free movement between countries should be eliminated.

Indicative employer incentives for boosting geographic mobility are:

- Reduction of employers' contributions;
- Relocation expenses.

Relevant incentives for job mobility are:

- Lifelong learning;
- Hiring older staff for mentoring purposes.

Further, it seems labour mobility requires the relaxation of some employment regulations.

However, clear EU-wide rules regarding e-working are recommended.

In the field of **learning and training**, mentoring and general support programs for older workers were suggested, particularly in countries with lower ICT standards. Further, open and free access to vendors' training materials, the establishment of a social network platform and think thanks for ICT experts were recommended (more learning needs can be found in section 5.6).

A wealth of ideas were presented in the area of **research and innovation** First of all, research is needed to understand better the gap between ICT vacancies and ICT workers, particularly regarding the recruiting of ICT workers from one country to the other (e.g. from Spain to Austria). Further, for targeted recruitment approaches, research is needed in order to identify the untapped resources of older ICT workers who are in this role but

not in the labour market anymore and better motivate them to apply for jobs. In international university rankings, the age dimension should be integrated. Secondly, innovations are recommended in assessment tools for organization and project management skills and 'typical' e-skills of older ICT workers, such as related to software testing and solving security problems in ICT systems. This would support the standardisation of job descriptions, which is recommended too. It appears in this respect that the respondents were not aware of the 23 European ICT Job Profiles defined by the European Committee on Standardisation (CEN). Technical innovations in order to enhance the infrastructure required for virtual mobility in general, and related to remote (or home) working, which is considered as particularly relevant for older workers.

Topics and materials suggested for learning purposes

Although this research question was intended as a needs analysis for the set-up of the CaMEO e-academy, it helped to further identify the learning needs of older ICT workers. Learning facilitation related to the improvement of e-skills were equally emphasized as non e-skills, such as language skills, intercultural and communication skills, and management skills. However, learning should be aligned with the needs resulting from the ICT professional's self-assessment of digital and non-digital skills. Informal learning could be facilitated by the provision of a social network platform either for joint technical problem-solving or for the exchange of experiences between older ICT workers. Furthermore, good practice examples of mobility practices should be provided too. Further research could be conducted on the basis of these examples..

6 Concluding Summary – Employers' perception toward labour mobility of older ICT workers

Contentious character of mobility

Labour mobility ranks high on the EU-policy agenda in order to manage various social, economic and technological trends. It is hoped that labour mobility holds socio-economic benefits for employers and employees alike.

Economic benefits for employers may include attraction of labour to where demand is high and efficient adaptation of the workforce to changes in the market, technology and working conditions. The economic costs for employers may include investment in trainings, lower productivity of new staff, recruitment and attraction costs.

For workers, economic benefits may include better wages, the development of new skills, advancement of their career, and better working and living conditions. However, social costs for mobile workers may be manifold. For example, it may negatively affect work-life-balance and weaken the worker's professional and private networks. This may partly explain the relatively lower level of geographic mobility patterns both within in and between EU countries, compared to US, Canada and Australia.

Particularly, older workers show lower mobility patterns and, for a number of reasons, their job mobility tends to be negatively motivated. They may have taken time to find the best possible job match for their capacities and they may have little reason to leave it. Hence, they rely on accumulated knowledge and skills in very specific areas, which, however, can't be easily transferred to other companies. Further, older workers' wages are relatively higher and they may not accept lower pay at a new job. Their levels of formal educational attainment tend to be lower than their younger counterparts, which makes a job move more difficult. Thus, on EU average, only 21% of all migrants are aged 50plus, although there are significant country variations.

On the other hand, employers tend to view labour mobility as a definitely positive policy, considerably more so than workers. According to the Eurobarometer survey 2005, almost 80% of employers believe that mobility is good for the labour market, while fewer than 50% or workers share this position. Only 42% of the 55plus years old believe that mobility has a positive impact on individuals, while 45% of them envisage to work abroad.

Mobility of ICT workers

ICT workers display a similar degree of mobility to employees as a whole in the27 EU countries in 2012, around 7% of all ICT workers were mobile. Most of the mobile ICT workers move within the EU. However, the demand of ICT workers is increasing considerably. In 2020 '*the labour market would be able to absorb 630,000 potential additional jobs which could be created in ICT practitioner occupations and around 283,000 at ICT management level'* (empirica, 2014). Substantial efforts are required both to increase the overall supply of skilled ICT workers and to improve the matching of supply and demand of digital skills.

Increased levels of geographic, job and virtual mobility of ICT workers are urgently needed. Our thesis is that older ICT workers are a widely untapped potential to fill the predicted ICT shortage. Greater understanding of employers' perceptions towards older ICT workers and mobility helps to explain why older workers may or may not be hired to fill these positions.

Employers' perception of older ICT workers' geographic mobility

- Geographic mobility enlarges the pool of labour, contributing to a better match of supply and demand.
- Geographic mobility improves and broadens the skills of workers and stimulates creativity.
- Geographic mobility improves the time-to-market management.
- A multi-ethnic workforce reflects the socio-demographic profile of the clients, which is good for business.
- Knowledge can be effectively transferred within different and to emerging regions, but in practice it is a big challenge. It is difficult to nominate internal staff as IT managers in other markets and to relocate qualified staff for knowledge circulation in regions of demand.
- It is assumed that older ICT workers want to preserve the achieved life-style and work-life-balance, may have difficulties to adapt to new (work) environment and may not have sufficient language skills.
- The perks offered for recruiting non-national ICT workers, such as extra pay, provision of apartments and company cars are not effective. Even offers to cover commuting costs several times per week to the country of demand, are not attractive enough.
- Geographic mobility would be an economic asset but is not affordable financially by all companies.

- Geographic mobility cannot be fully substituted by virtual mobility; it is still essential for successful international collaborations.
- Policies and measures must be developed in order to::
    - Better handle the ICT labour supply from Southern and Eastern to North and Western countries.
    - Better understand how to re-recruit older ICT workers.
    - Create employment in regions with low employment levels instead of relocating people to regions with low supply ofpersonnel.
- Mobility promotion activities targetingolder workers should be included in EU or national reward systems.

Good practice example of geographic mobility: *'A 59 years old Swiss technician moved to India and took over the overall technical lead at this site. This was a big success for our company, as he has extreme high knowledge and expertise. There, in India, he could bring in all his experiences. Before his leadership, the turnover was 70 million and then 1,4 billion'* (R68).

Employers' perception of older ICT workers job mobility

- Job mobility is essential for maintaining a pool of skilled staff, adaptable to changing requirements.
- The provision of career progression opportunities is fundamental to retention management.
- Job mobility measures lead to fuller recognition of workers' skills and experiences and hence, to better personnel planning.
- Internal recruiting incurs lower recruiting and training costs.
- It is assumed that older ICT workers:
    - Have a lower innovation potential
    - Prefer a stable work environment to one that changes
    - Have difficulties in updating or broadening their skills and struggle to master the rapidly changing knowledge
- Lack of older workers' career ambitions is somewhat understood.
- Further research is needed in the following areas:
    - improved assessment tools of older workers' abilities and experiences
    - systematic acknowledgement of skills, such as IT project management skills, software testing skills, problem solving skill in terms of system security, which are all typical skills of older ICT-workers
    - standardization of job descriptions
    - promoting effectively the benefits of employing older workers

Good practice example of job mobility: *'Banking has become digitized. Some employees who have been working in the banking sector for a long time have seen a big change - from when the skills used were very basic, to now when everything is digital. As a result they need to transfer their skills. But we offer programs for that. Some are mandatory and some are voluntary. The older workers have great knowledge and experience to share, abilities, values, and customer service skills'* (R116).

Employers' perception of older ICT workers virtual mobility

- Virtual mobility implies substantial economic benefits as it saves costs and time.
- Virtual mobility supports the transnational development of ICT and supports further the higher integration of business processes.
- Virtual mobility is particularly relevant for older (ICT) workers:
    - in case of health problems, when geographic mobility is too risky (e.g. thrombosis danger when flying), virtual conferencing tools facilitate participation;
    - by increasing the recreation time, tele-working tools contribute to improvements in work-life-balance;
    - by participating without traveling in training and up-skilling using e-learning tools ;
    - in case the job location changes, older workers don't need to move, as they can work remotely.
- It is assumed that older ICT workers
    - Have limited or obsolete ICT skills related to computer supported collaborative working and e-learning tools;
    - Prefer face-to-face over virtual meetings.
- Virtual tools as enablers of remote working are less effective than expected and require bigger investments.
- Lack of and problems with ICT are more widespread than assumed.
- Virtual mobility may cause social isolation and effect the work-life-balance as leisure becoms more fragmented.
    - The following areas require further research:advanced infrastructure for virtual mobility
    - improved e-working technology which is particularly relevant for older workers

Good practice example of virtual mobility: **'***virtual mobility can give the initial impetus to an effective job and geographical mobility'* (R43) '*Virtual mobility is one of the best ways for older ICT workers to obtain qualifications.'* (R49) '*Benefits would be better work-life-balance, as traveling is expensive and older ICT workers could participate in an*

*international working environment. There are only advantages and no disadvantages'(*R82).

Policy recommendations

Mobility

- To expand matching systems of e-skills shortages and surpluses in different geographic areas;
- To overcome national barriers for the free movement of labour in terms of social security and pension systems on the employees side and tax systems on the employers side;
- To regulate EU-wide remote working issues;
- To make funds available for helping companies in terms of transition costs;
- To provide knowledge about barriers and obstacles of older ICT workers geographic mobility in order to facilitate targeted recruitment strategies and to reduce the required time.
- To reward companies and organisations which introduce promotional mobility programs for older ICT workers.

Skills, qualifications and recognition

- To raise awareness of the value of older ICT workers non-digital skills and competences, in order to overcome the age bias in mobility patterns;
- To improve recognition methods and tools of older ICT workers skills and competences;
- To provide knowledge about polices measures, resources and good practice examples related to geographic mobility;
- To disseminate existing age management strategies and tools of older (ICT) workers, such as mentoring programs, peer learning, and others.
- To create a social network platform for older ICT workers for peer exchange

Technology

- To further improve and integrate ICT infrastructures and virtual tools.

8 Bibliography

Andersen, T., Haahr, J. H., Eggert Hansen, M., & Holm-Pedersen, M. (2008). *Job Mobility in the European Union: Optimising its Social and Economic Benefits*. Danish Technological Institute. Retrieved 09/23/2014, from http://www.dti.dk/_root/media/47335%5FJob%20Mobility%20in%20Europe.pdf

Andriessen, E., & Vartiainen, M. (2006). *Emerging mobile virtual work*. Springer Berlin Heidelberg.

Australian Government - Productivity Commission. (2014). *Geographic Labour Mobility* (Research report). Canberra. Retrieved 09/09/2014, from http://www.pc.gov.au/projects/study/labour-mobility/report

Barnett, K., & Adkins, B. (2001). Social inclusion: Computer practices enabling older people's "virtual mobility" between homes and communities. Presented at the TASA 2001 Conference, The University of Sydney, 13-15 December 2001.

Bijnens, H., Bouseemaere, M., Rajagopal, K., Op de Beeck, I., & Van Petegem, W. (2006). *Virtual Mobility. A best-practice manual*. Heverlee, Belgium. Retrieved from http://www.eurashe.eu/wp-content/uploads/2011/10/Virtual-Mob-Best-practice.pdf

Brooke, J. (2009). Prolonging the careers of older information technology workers: continuity, exit or retirement transitions?., *Ageing and Society, 29, pp 237-256*.

Bukodi, E., & Róbert, P. (2007). *Occupational mobility in Europe* (Article). European Foundation for the Improvement of Living and Working Conditions. Retrieved 01/29/2014, from http://www.eurofound.europa.eu/pubdocs/2007/11/en/1/ef0711en.pdf

Camarinha-Matos, L., Afsarmanesh, H., Ferrada, F., Oliveira, A. I., & Rosas, J. (2013). A Comprehensive Research Roadmap for ICT and Ageing. *Studies in Informatics and Control, Vol. 22, No. 3, September 2013 (pp 233 – 254)*.

Castells, M. (2000). *The rise of the network society.* Oxford, Blackwell Publishers.

Cedefop. (2010). *Skill mismatch in Europe - Briefing Note* (No. ISSN 1831-2411). Retrieved 07/10/2014, from http://www.cedefop.europa.eu/EN/Files/9023_en.pdf

Commission of the European Communities. (2002). *Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions: Commission's Action Plan for skills and mobility* (No. COM(2002)72 final). Retrieved 09/22/2014, from http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52002DC0072&from=EN

Cornelißen, T., Hübler, O., & Schneck, S. (2007). *Cyclical Effects on job-to-job Mobility: An Aggregated Analysis on Microeconomic Data* (ISSN: 0949 - 9962 No. Discussion Paper No. 371). Retrieved 09/24/2014, from http://www.zew.de/de/publikationen/dfgflex/paperCornelissen5.pdf

Costa, N., & Leal, R. (2010). Curriculum Development in Virtual Mobility'. *In: Teresevičienė, M (ed), Virtual Mobility for Teachers and Students in Higher Education. 1st Ed. Portugal: University of Aveiro. pp.35-42*.

Council of the European Union. (2009). *EMCO opinion on Skills and Mobility* (No. 10132/09). Retrieved 09/23/2014, from http://register.consilium.europa.eu/pdf/en/09/st10/st10132.en09.pdf

Council of the European Union. (2010). *Council Decision of 21 October 2010 on guidelines for the employment policies of the Member States* (No. 2010/707/EU). Retrieved 09/23/2014, from http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32010D0707&from=EN

Couros, A. (2010). Developing Personal Learning Networks for Open and Social Learning. *Veletsianos, G (ed), Emerging Technologies in Distance Education.*, (1st ed. Canada: Athabasca University), 35–42.

Daniels, K., Lamond, D., & Standen, P. (2002). Teleworking: Frameworks for Organizational Research. *Journal of Management Studies. 38 , 1151–1185*.

Danish Technology Institute. (2008). *Job Mobility in the European Union: Optimising its Social and Economic Benefits. Final Report*. Retrieved 09/23/2014, from http://ec.europa.eu/social/BlobServlet?docId=514&langId=en

De Gruyter, J., Achten, M., Op De Beeck, I., & Van Petegem, W. (2010). Virtual Mobility: Definition and Types. In *Home & Away: Conference Proceedings, eds. Mart Achten, Ilse Op De Beeck and Wim Van Petegem (Heverlee, Belgium:EuroPACE ivzw, 2010), 19.*

Dhéret, C., Lazarowicz, A., Nicoli, F., & Zuleeg, F. (2013). *Making progress towards the completion of the Single European Labour Market* (No. EPC Isuue Paper No. 75). Retrieved from http://www.epc.eu/documents/uploads/pub_3529_single_european_labour_market.pdf

Dixon, M. (2009). *Information and communication technology, work and employment. Beyond Current Horizons*. Retrieved 09/25/2014, from http://www.beyondcurrenthorizons.org.uk/information-and-communication-technology-work-and-employment/

eInclusion Sub Group. (2007). ICT for Active Ageing at Work: Reflection Paper for the i2010 eInclusion SubGroup. European Commisssion. Retrieved from

http://ec.europa.eu/information_society/activities/ict_psp/documents/einc_tn_aaw.pdf

Elearning Europe. (2006). Glossary of the e-learning portal. Retrieved from http://elearningeuropa.info/index.php?page=doc&doc_id=5906&doclng=6&menuzone=1

empirica. (2014). *E-skills for Jobs in Europe: Measuring Progress and Moving Ahead. Final Report*. empirica. Retrieved 08/23/2014, from http://ec.europa.eu/DocsRoom/documents/4398/attachments/1/translations/en/renditions/pdf

European Commission. (2007a). *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Towards Common Principles of Flexicurity: More and better jobs through flexibility and security {SEC(2007) 861} {SEC(2007) 862}* (No. COM/2007/0359 final). Retrieved 09/23/2014, from http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52007DC0359&from=EN

European Commission. (2007b). *The European Job Mobility Action Plan 2007-2010. Implementation Report*. Retrieved 11/19/2014, from http://ec.europa.eu/social/BlobServlet?docId=5515&langId=en

European Commission. (2008). *Geographic mobility in the European Union: Optimising its economic and social benefits* (No. Contract VT/2006/042, Final Report). IZA, AMS, NIRAS. Retrieved 10/21/2013, from http://ec.europa.eu/social/BlobServlet?docId=512&langId=en

European Commission. (2010). *Geographical and labour market mobility* (No. Special Eurobarometer 337 / Wave 72.5). TNS Opinion & Social. Retrieved from http://ec.europa.eu/public_opinion/archives/ebs/ebs_337_en.pdf

European Commission. (2013a). *Digital Agenda: ICT for jobs*. Retrieved 08/20/2014, from http://ec.europa.eu/europe2020/pdf/themes/12_digital_agenda_ict.pdf

European Commission. (2013b). *Employment and Social Developments in Europe 2013* (No. ISBN 978-92-79-35281-2 (web)). Retrieved 07/17/2014, from http://ec.europa.eu/social/BlobServlet?docId=11365&langId=en

European Commission. (2013c). *European Vacancy Monitor* (ISSN:1977-3897 No. Issue No.11). European Union. Retrieved from http://ec.europa.eu/social/BlobServlet?docId=11089&langId=en

European Commission. (2013d). *Mobility in Europe 2013*. MobilityLab. Retrieved 09/23/2014, from http://www.mobilitypartnership.eu/Documents/EJML%20Mobility%20in%20Europe%202013%20final.pdf

European Commission. (2014a). *Employment policy beyond the crisis - Social Europe guide* (Catalog N. : KE-BC-14-002-EN-C No. Volume 8). Retrieved 09/25/2014, from http://ec.europa.eu/social/BlobServlet?docId=12637&langId=en

European Commission. (2014b). *European Area of Skills and Qualifications. Special Eurobarometer 417*. Retrieved 10/17/2014, from http://ec.europa.eu/public_opinion/archives/ebs/ebs_417_en.pdf

European Commission. (n.d.). *Action plan for skills and mobility*. Retrieved 08/20/2014, from http://europa.eu/legislation_summaries/internal_market/living_and_working_in_the_internal_market/c11056_en.htm

European Committee for Standardization. (2014). *European e-Competence Framework 3.0 - A common European Framework for ICT Professionals in all industry sector*. Retrieved 10/17/2014, from http://www.ecompetences.eu/wp-content/uploads/2014/02/European-e-Competence-Framework-3.0_CEN_CWA_16234-1_2014.pdf

European Council. (2009). *Education and Training 2020*. Retrieved 09/26/2014, from http://europa.eu/legislation_summaries/education_training_youth/general_framework/ef0016_en.htm

European Foundation for the Improvement of Living and Working Conditions. (n.d.). *Voluntary and forced job mobility in Europe*. Article. Retrieved 03/19/2014, from http://www.eurofound.europa.eu/publications/htmlfiles/ef0712.htm

European Union. (2014). *Employment and Social Developments in Europe 2013* (No. ISBN 978-92-79-33878-6). Retrieved 08/13/2014, from http://www.eu-employment-observatory.net/resources/reports/ESDE-SynthesisPaper-June2013-Final.pdf

Eurostat. (2013, April). *EU citizenship - statistics on cross-border activities*. Retrieved 09/12/2014, from http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/EU_citizenship_-_statistics_on_cross-border_activities

Fasang, A., Geerdes, S., Schömann, K., & Siarov, L. (2007). *Job satisfaction and labour market mobility* (Report No. ef0710). Retrieved 01/31/2014, from http://www.eurofound.europa.eu/pubdocs/2007/10/en/1/ef0710en.pdf

Fasang, A., & Schömann, K. (2006). The relationship between geographic and labour market mobility within the European Union. *OVER WERK Tijdschrift van Het Steunpunt WAV*, (3/2006).

Gajendran, R., & Harrison, D. (2007). The good, the bad and the unknown about telecommuting: Meta-analysis of psychological mediators and individual consequences. *Journal of Applied Psychology, 92(6), 1524-1541*.

Gielen, A. (2007). Performance Pay, Training and Labor Mobility. Forschungsinstitut zur Zukunft der Arbeit / Institute for the Study of Labor.

Gosling, M. (2011). Older learners in the workplace: Research Report. City & Guilds Centre for Skills Development.

Green, A., de Hoyos, M., Barnes, S.-A., Owen, D., Baldauf, B., & Behle, H. (2013). *The Concept of Employability with a Specific Focus on young People, Older Workers and Migrants* (No. Report EUR 25794 EN). Luxembourg. Retrieved 03/25/2013, from http://bookshop.europa.eu/en/literature-review-on-employability-inclusion-and-ict-pbLFNA25794/downloads/LF-NA-25794-EN-N/LFNA25794ENN_002.pdf

Haig, R. (2009). *Understanding the Job Mobility and Employability of Older Workers*. New Zealand Government, Department of Labour. Retrieved 07/25/2013, from http://www.dol.govt.nz/publication-view.asp?ID=332

Innovation Value Institute, & Council of European Professional Informatics Societies. (2012). *e-Skills and ICT Professionalism. Fostering the ICT Profession in Europe*. Retrieved 11/14/2014, from http://ec.europa.eu/enterprise/sectors/ict/files/eskills/ict_professionalism_report_en.pdf

Institut für Arbeitsmarkt- und Berufsforschung. (2012). *Berufswechsler in Deutschland und Großbritannien* (No. SOEP paper 442). Berlin: DIW. Retrieved 09/23/2014, from https://www.diw.de/documents/publikationen/73/diw_01.c.399419.de/diw_sp0442.pdf

Käfer, G. (2006, April 19). *Todays Challenges and Requirements for Industrial Employees*. University Liaison Management. Retrieved from https://www.bmbf.gv.at/schulen/euint/sb/ws7_comment_kaefer_18055.ppt?4dzi3h

Leibold, M., & Voelpel, S. C. (2006). *Managing the Aging Workforce: Challenges and Solutions* (Auflage: 1. Auflage.). Erlangen Germany : [s.l.]: Publicis Publishing.

Makara, E., Csatari, F., Juhasz, J., & Makara, P. (2011). *New mobility trends in Europe. A preliminary analysis for further research.* European Foundation for the Improvement of Living and Working Conditions. Retrieved 03/22/2014, from http://www.eurofound.europa.eu/docs/areas/populationandsociety/labourmobility2011.pdf

McKechnie, B. (n.d.). *Recruiting and Retaining Older Workers in Scotland*. Retrieved from http://einclusion.hu/wp-content/uploads/2007/09/brian-mckechnie_recruiting-and-retaining-older-workers-in-scotland.pdf

Montes, R., Gea, M., Dondi, C., & Saladin, T. (2011). eLearning Papers: Virtual Mobility: the value of inter-cultural exchange. Elearningeuropa. P.A.U. Education, S.L.

O'Brien, M. (2005). *Older Male Workers and Job Mobility in Australia* (Economics Working Paper No. wp05-04). School of Economics, University of Wollongong, NSW, Australia. Retrieved 03/21/2014, from http://ideas.repec.org/p/uow/depec1/wp05-04.html

O'Carroll, C. (2014). Careers: Virtual mobility can drive equality. *Nature*, *511*(7509), 292–292. doi:10.1038/511292b

Patrickson, M. (2002). Teleworking: potential employment opportunities for older workers? *International Journal of Manpower, Vol. 23 Iss: 8, pp.704 – 715*.

Pavlíková, E. A. (2011). Being Mobile Virtually. *Acta Univ. Agric. et Silvic. Mendel. Brun*, *Volumne LIX*(7), 9–16.

Public Policy and Management Institute. (2008). *Evaluation of the European Year of Workers' Mobility. Final Report* (No. Service contract no. VC/2006/0324). Vilnius. Retrieved 05/29/2014, from http://ec.europa.eu/social/BlobServlet?docId=2211&langId=en

PWC. (2012). *Talent mobility 2020 and beyond*. Retrieved 02/16/2015, from http://www.pwc.com/en_GX/gx/managing-tomorrows-people/future-of-work/pdf/pwc-talent-mobility-2020.pdf

PwC. (2014). *Moving people with purpose. Modern mobility survey*. Retrieved 02/16/2015, from http://pdf.pwc.co.uk/modern-mobility-survey-full-report.pdf

Themistocleous, M., Serrano-Rico, A., & Kamal, M. (2010). Training senior employees for ICT skills enhancement through "Refocus": The European project. Presented at the European and Mediterranean Conference on Information Systems. May 25-26. Dubai, UAE.

Topi, H. (2004). Supporting telework: Obstacles and solutions. *Information Systems Management, 23(3), 79–85.*

Vandenbrande (ed.), T. (ed. . (2006). *Mobility in Europe. Analysis of the 2005 Eurobarometer survey on geographical and labour market mobility* (No. ISBN 92-897-0955-3). European Foundation for the Improvement of Living and Working Conditions. Retrieved 02/12/2014, from http://www.eurofound.europa.eu/pubdocs/2006/59/en/1/ef0659en.pdf

Vriens, M., Petegem, W., Op De Beeck, I., & Achten, M. (2010). Virtual Mobility as an alternative or complement to physical mobility. Retrieved from http://move-it.europace.org/data/Edulearn_Move-IT_VM_paper.pdf

Warwick Institute for Employment Research. (2006). Ageing and employment: Identification of good practice to increase job opportunities and maintain older workers in employment: Final report. Retrieved from http://www2.warwick.ac.uk/fac/soc/ier/publications/2006/ageingreport_en.pdf

9 Annexes

9.1 Annex 1: Profile of Respondents

No.	Country	Organisation	Gender	Position	Number of ICT employees	% of ICT employees aged 45plus
R16	Latvia	SME	Female	Head of Unit	< 250	20
R26	Greece	Big Company	Female	Head of Unit	> 250	40
R34	Greece	SME	Male	Head of Unit	< 250	n.A.
R38	Greece	SME	Female	HRM	< 250	5
R43	Lithuania	SME	Female	Head of Unit	< 250	25
R44	Austria	SME	Male	Head of Unit	< 250	15
R47	Czech Rep.	SME	Male	Head of Unit	< 250	100
R48	Austria	Big Company	Male	Other	> 250	45
R49	Lithuania	Public Org.	Male	Head of Unit	> 250	50
R50	Poland	Public Org.	Male	Other	< 250	50
R51	Greece	SME	Male	Business Owner	< 250	10
R54	Czech Rep.	Big Company	Male	Head of Unit	< 250	10
R63	Germany	Big Company	Male	Head of Unit	> 250	20
R66	Lithuania	SME	Male	Head of Unit	> 250	10
R68	Austria	Big Company	Male	HRM	> 250	10
R70	Greece	Big Company	Male	HRM	< 250	30
R73	Germany	Public Org.	Male	Head of Unit	< 250	50
R78	Poland	SME	Male	Head of Unit	< 250	50
R82	Austria	Public Org.	Male	Other	> 250	40
R83	UK	Big Company	Female	HRM	> 250	32
R84	Latvia	Public Org.	Male	Head of Unit	> 250	50
R86	UK	Public Org.	Male	Head of Unit	< 250	25
R92	Latvia	SME	Female	Head of Unit	< 250	12
R96	Greece	SME	Male	Business Owner	< 250	10
R97	Poland	Big Company	Female	HRM	> 250	10
R100	Poland	SME	Male	Head of Unit	< 250	60
R101	Poland	Big Company	Male	Head of Unit	< 250	30
R103	Ireland	SME	Male	Other	< 250	0
R106	UK	SME	Male	Other	< 250	1
R108	Norway	SME	Male	HRM	< 250	n.A.
R109	Norway	SME	Female	HRM	< 250	n.A.

R113	UK	Public Org.	Male	Head of Unit	< 250	n.A.
R114	Sweden	SME	Male	Business Owner	< 250	100
R116	UK	Big Company	Female	Head of Unit	> 250	n.A.

9.2 Annex 2 Questionnaire

Dear Madam/Sir,

Greater labour mobility is of significant value the European community and both the economy and the individual workers can benefit from it. However, older workers are still displaying a lower level of mobility than their younger counterparts.

The EU-project *CaMEO - Career Mobility of Europe's Older Workforce* aims:

- to improve the knowledge base of job-, geographic-, and virtual mobility of **older** (45 plus aged) **ICT workers** (Questions 1-4).
- to help to shape future policies in the field of labour mobility (question 5)
- to develop an e-academy that provides older ICT workers with an opportunity to digitally map their skills, experiences and qualifications against the EQF (questions 6-7).

Definitions:

- *Geographical mobility is defined as the movement of labour from one place to another.*
- *Job mobility is mobility within the same employer (e.g. career advancement); occupational mobility; and job mobility proper (change of employer).*
- *Virtual mobility is access to virtual tools that can support geographic and job mobility, such as e-learning tools, collaborative working tools, tools supporting remote working, etc.*

We kindly ask you to share below your attitudes and experiences with us for scientific purposes. This questionnaire is explorative and as such the questions are manly open ended. Your responses will remain confidential.

Contact Person for this research is Maria Schwarz-Woelzl (schwarz@zsi.at).

Estimated time for completing the questionnaire: 20 minutes

Please complete the survey by 26/09/2014

Thank you for your support and cooperation!

How important overall is geographic and/or job and/or virtual mobility for your business?

1. Geographic mobility

   1 …… 2 ……. 3 ……. 4 ……..5

   Very important not important

2. Job mobility

   1 …… 2 ……. 3 ……. 4 ……..5

Very important not important

3. Virtual mobility

   1 …… 2 ……. 3 ……. 4 …….5

   Very important not important

4. *Please explain the significance of geographic and/or job and/or virtual mobility for your business in more detail.*

   ……

   ……

Do you have any particular measures (policies) for the promotion of geographic and/or job and/or virtual mobility of older ICT staff members in place?

***If you do**, please describe for which of these three types of mobility and what kind of measures (policies)*

5. Measures / policies for the promotion of **geographic** mobility…….
6. Measures / policies for the promotion of **job** mobility ……...
7. Measures / policies for the promotion of **virtual** mobility ……..

***If you do not**, please describe the reason(s)*

8. Labour mobility is not a big issue
9. Labour mobility measures (policies) are too expensive
10. We don't have enough knowledge of this field \
11. Other reasons …….

What are the potential and actual key benefits you experience in practicing geographic and/or job and/or virtual mobility for older ICT staff members?
Please describe the benefits you experience in these three types of mobility.

Potential benefits of labour mobility

12. Geographic mobility…….
13. Job mobility ……...
14. Virtual mobility ……..

Actual benefits of labour mobility

15. Geographic mobility…….
16. Job mobility ……...
17. Virtual mobility ……..

What are the key difficulties you experience in practicing geographic and/or job and/or virtual mobility for older ICT staff members?

Please describe the difficulties you experience in these three types of mobility.

18. Key difficulties in practicing geographic mobility…….
19. Key difficulties in practicing job mobility ……...
20. Key difficulties in practicing virtual mobility ……..

CaMEO aims to draw recommendations for policy makers and others for formulating a new strategy on labour mobility inclusive of older ICT workers. Thus, we want to know what policy recommendations you would recommend to support geographic and/or job and/or virtual mobility of older ICT workers?

21. For regional policies ……
22. For national policies ……...
23. For European Union policies ……..

24. CaMEO aims to set up an e-academy with dual purpose. Firstly, it *will provide an online environment where older ICT workers will digitally map their skills, experiences and qualifications against the European Qualification Framework. Secondly, it will provide older ICT workers with appropriate training materials to help to broaden their skills and competencies through continuing vocational training. Thus, we would like you* to suggest possible topics/contents for training sessions, consultancy work or materials that you feel would support geographical and/or job and/or virtual mobility for older ICT staff members?

……

……

25. Do your ICT workers have access to any virtual tools (e.g. collaborative tools) that can help them to increase their professional competence/profile and geographic mobility of your workforce?
***If you do**, please describe these tools.*

……

……

……

****

Do you have an ICT manager? If yes, for our further learning on ICT applications in place to support geographic and/or job and/or virtual mobility for older ICT staff members we may want to contact him/her for a short email exchange.

Name of person in charge for ICT applications: ……..

Email of person in charge for ICT applications: ……

****

Please provide us with the following personal data:

Country:

Gender: female, male

Position: business owner, HRM, head of unit
Organisation type: public, big company, SME
Number of ICT employees: < 250, > 250
% of ICT employees are graduates:
% of ICT employees are aged 45plus:

Thank you very much for your cooperation and important contribution!

If you interested in the survey report you are welcome to contact Maria Schwarz-Woelzl (schwarz@zsi.at)

Consortium Members:

- University of Strathclyde, Centre for Lifelong Learning / UoS - UK
- Zentrum fuer Soziale Innovation / ZSI – AT
- Life Long Learning Research Institute / LLLRI – EL
- Baltic Education Technology Institute / BETI – LT
- European Centre for Women and Technology / ECWT – NO
- University of Social Sciences / UoSS – PL

This document may change without notice.