Tavistock Institute

Status of eInclusion measurement, analysis and approaches for improvement

Topic Report 4:
Recommendations for future action

Final Report

Joe Cullen
Kari Hadjivassiliou
Kerstin Junge

Tavistock Institute
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1 INTRODUCTION AND SCOPE OF THIS REPORT

This is the fourth Topic Report of the project 'Status of eInclusion measurement, analysis and approaches for improvement', covering the work carried out in work package 5 of the study ('Synthesis and Recommendations'). It draws together and synthesises the results of the previous three Topic Reports, and hence the work of the three main data gathering and analysis activities of the project, i.e.:

- Work package 2: Review of policy at EU supra-national level (Topic Report 1)
- Work package 3: Review of policy initiatives, programmes etc. at non-EU level (Topic Report 2)
- Work package 4: Review of instruments/indicators, with a view to producing benchmarking models and indicators (Topic Report 3). In thjs report we have included the main recommendations of this Topic Report.

On the basis of this integration and synthesis of results, the Report goes on to identify policy recommendations intended to support a number of eInclusion initiatives, particularly the 'Riga Ministerial Declaration'; the eInclusion 2008 initiative and i2010. The main objectives of the Topic Report are therefore:

- to identify key findings from each aspect of the review (EU initiatives; non-EU initiatives; measurement tools and indicators);
- to undertake a comparative assessment across each of these three tasks;
- to identify ways of improving synergies of eInclusion work already undertaken;
- to identify areas where further actions should be implemented;
- to advise on ways to improve the dissemination and impact of EU activities in this field.

The Topic Report is set out as follows:

- Following this Introduction, Section 2 outlines the approach used in the Report and the analytical framework developed
- Section 3 provides a comparative assessment of the results of the study
- Section 4 provides illustrative examples of good practices – 'what works for whom and under what conditions' – together with examples of approaches and practices that appear to have been less successful
- Finally, in Section 5 we provide recommendations to support current and future work in the eInclusion field.

2 APPROACH AND ANALYTICAL FRAMEWORK

2.1 Starting position

The analytical framework for this Report takes as its starting point the model developed in Topic Report 2. As outlined in Topic Report 2, we explored the efficacy of the 'three mode' digital divide model originally developed by Molnar – in the light of the results of the mapping exercise of eInclusion policies and initiatives at trans-national and national levels. We looked at the level of alignment ('goodness of fit') between the 'Molnar model' and our own classification typology developed by the mapping exercises carried out in our study. Secondly, we set what is happening in the EU Member States against the key policy agendas formulated and implemented at the trans-national level (including the recent 'Riga declaration'[1]), in order to identify areas of complementarity, and to identify 'gaps'.

As discussed in Topic Report 2, the 'Molnar model' suggests that 'digital divides' follow three distinctive modes, reflecting the dominance of access, usage and quality of use factors respectively. In turn, the model suggests that each mode reflects a particular combination of key variables:

- Geography, Income, Education, Ethnicity, Gender and Age, in the case of 'Access' mode
- Income and Age, in the case of 'Usage' mode
- Income, Education, Gender, Age and Period of Use in the case of 'Quality of Use' mode.

Our mapping of the initiatives carried out at both trans-national and Member State supported Molnar's model to some extent, and highlighted the three types of 'digital divide' portrayed by the model – access, usage and quality of use. This Review also argued that the 'quality of use' dimension could be sub-divided into three distinctive types (citizen participation; social capital and service development). However, the review concluded that the detailed picture is more complex. As Molnar himself suggested, the three digital divide 'stages' in reality show considerable overlap. Our mapping exercise showed that just over half of the 160 initiatives included in the exercise could be classified as 'multiple' eInclusion initiatives, typically spanning the spectrum of the six types used in the classification model. The 'multi-dimensionality' of eInclusion approaches is therefore more of a norm than an exception, and this undermines the commonly held view that Member States can easily be positioned on a continuum – from 'infrastructure' through 'usage' to 'quality'.

A key conclusion of the review of policies, initiatives and instruments carried out in our study was the need for a more elaborated conceptual framework than that based on Molnar's model. We then elaborated an initial framework based on 'distal-proximal interactions' (Cooper and Law, 1995; Tomassini, 2002; Cullen et al, 2002). Put simply, this model considers eInclusion in terms of how 'macro-level' distal forces (for example the social structure and cultural dynamics of a member State) interact with

[1] http://europa.eu.int/information_society/events/ict_riga_2006/doc/declaration_riga.pdf

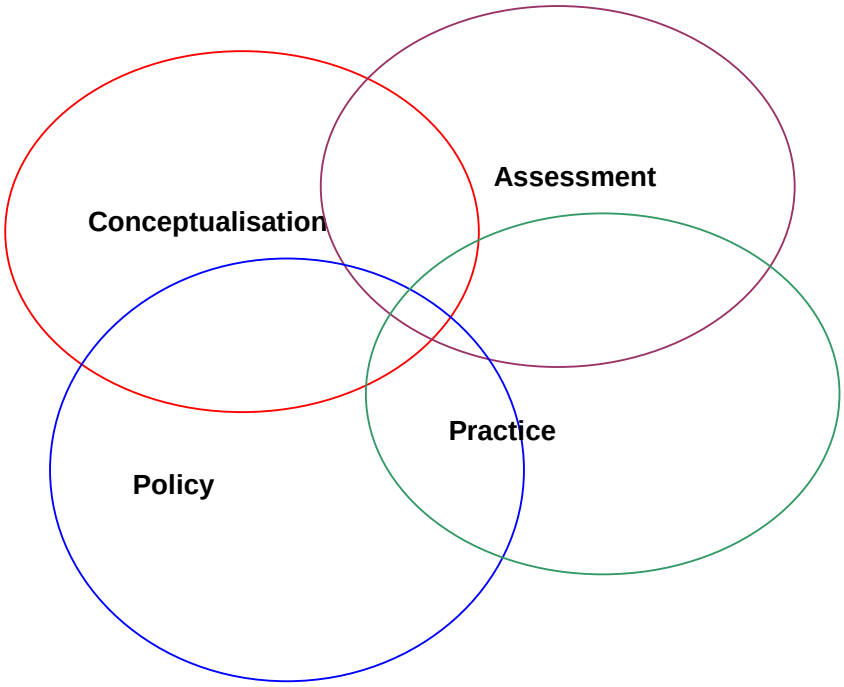
'proximal' forces at the local level (for example the specific labour market conditions at work in a community setting).

For this Topic Report we continue to build on and develop the ideas and concepts suggested by the 'distal-proximal' approach. The analytical framework used for this Topic Report in particular addresses the major deficiencies in the 'Molnar' model highlighted by our study. These are elaborated below.

2.2 Analytical framework

The analytical framework for this Topic Report further develops the ideas and approach discussed above. It focuses on four key dimensions, or 'spheres of influence', of eInclusion, and their relationships, as illustrated in Figure 1.

Figure 1 The four dynamic 'spheres' of eInclusion



- Conceptualisation – focuses on identifying the theories, concepts and approaches that shape eInclusion policy and practice, and considers their strengths and weaknesses in terms of delivering EU objectives;
- Policy – focuses on developing a meaningful typology of policies and what the key features of the different types are;

- Practice – focuses on what is actually done at a practical level to promote eInclusion trans-nationally and in EU Member States, and particularly the role of 'cultural patrimonies' and 'localisation effects' ; and
- Assessment – looks at the approaches, methods and tools that have been developed and applied to evaluate whether and in what ways policy and practice has been successful.

In addition to exploring how these four 'spheres of influence' are constituted individually, this Topic Report will look at the 'goodness of fit' between the four dimensions. We will consider the extent to which concepts, policies, practices and assessment approaches are consistent with, and support each other at the trans-national level, or whether there is 'dissonance' between different elements. We will also compare the nature and interaction of the four dimensions within Member States.

2.3 Applying the analytical framework

2.3.1 Analysis and integration method

As discussed above, our approach argues that a review of what is being done to promote eInclusion at trans-national level and within Member States needs to go beyond the 'functional' – i.e. the systematic mapping and classification of the attributes of policies and initiatives – to look at the ***intentionalities*** and discourses that underlie policy and practice. It needs to consider the models and concepts that shape policy and practice, as well the 'visions' of technology and society that these policies and practices are intended to achieve. In turn we argue that the processes that create and sustain e-exclusion and eInclusion, and the policies and initiatives developed to promote eInclusion, are themselves subject to cultural adaptation and localisation effects.

This Topic Report integrates two methods to apply this analytical framework: cluster analysis and cultural logic analysis.

Cluster analysis considers the characteristics and attributes of the policies, initiatives and measurement approaches identified by the mapping exercise. It looks for similarities and differences within and between the examples identified by the mapping exercise in order to derive meaningful clusters that share similar and distinctive features. On this basis, the main object of the exercise is to derive a 'typology' of eInclusion policies and practices. A second objective of the exercise is to assess the extent to which there is variability in the distribution of the typology across Member States. To carry out the cluster analysis, we devised a functional classification framework which contains 15 major categories,[2] each of which is again broken down into several sub-categories. The top-level categories are listed below, and the full framework can be found in Appendix 2 of Topic Report 2:

- Target groups addressed by the eInclusion policy

[2] Attention was also paid to policy outcomes and any good practice examples highlighted. The full classification framework can be found in Appendix 2 of this report.

- Geographic scale of the measure
- Link to related (broader) policy domain
- Link to EU eInclusion priorities
- Social factors of digital exclusion addressed
- Economic factor of digital exclusion addressed
- Technical factors of digital exclusion addressed
- Cognitive factors of exclusion addressed
- Technology choice to combat digital exclusion
- Tactics / policy focus to combat digital exclusion
- Delivery setting of eInclusion policy
- Delivery mode of eInclusion policy
- Method of implementation of eInclusion policy (partnership configurations)
- Timing of eInclusion policy
- Funding mechanism

The functional cluster analysis method is supported by '***cultural logic analysis'.*** This involves a 'discursive' approach aimed at de-constructing the conceptual and theoretical paradigms underlying policies and initiatives, their 'vision' of eInclusion and their intended outcomes. 'Cultural logic' can be defined as a set of paradigms which reflect the 'image' of a policy or initiative (what it sets out to do in terms of the aims and objectives ascribed to it by key stakeholders, for example policy makers; field staff involved in projects); the 'world view' or conceptual and ideological assumptions supporting these objectives and the strategies adopted to carry them out. Following Habermas (1981) and Strydom (1992), the cultural logic of an initiative is typically expressed in four key dimensions:

- *Universalisation* - the 'image' or 'vision' at the core of policy and practices, which shapes the aims and objectives subscribed to by key stakeholders.
- *Closure* - the coherence of the image, in terms of the extent to which the policy 'vision' and objectives are shared by stakeholders, and the extent to which there are different variations and interpretations of policy and practice.
- *Specification* - the operational and methodological choices made in relation to the realisation of the 'image' of policy and practices, and their aims and objectives.
- *Situational change* - the capacity for learning from policy and practice, and hence their capacity to evolve and adapt in response to external and internal influences.

The method entails carrying out a parallel analysis of the same examples of policies and initiatives used in the cluster analysis described above. In this case, we use content and discourse analysis to classify the database of examples. A more detailed summary of the method used is set out in Annex 1. Each of the four dimensions is analysed in relation to a classification framework. This is shown in Table 1.

Table 1: Cultural logic analysis framework

Dimension	Focus	Analytical constructs
Universalisation	Conceptual and theoretical models 'Vision' of eInclusion Intended outcomes and impacts	Technology and technological change Social inclusion models Empowerment Citizenship and participation
Closure	Coherence of models, approaches and partnerships	Integration of 'spheres' Inclusiveness of stakeholders and partnerships
Specification	How vision is converted into policy and practice	Societal specification Technical specification Economic specification Institutional specification
Situational change	Capacity for promoting change and learning from it	Position in diffusion life cycle Prospective planning Evaluation and monitoring Knowledge sharing

2.3.2 Drawing conclusions and recommendations

As stated above, the main objective of applying the analytical framework and methods is to identify and integrate key findings from each aspect of the study and to produce policy recommendations intended to support a number of eInclusion initiatives, particularly the 'Riga Ministerial Declaration'; the eInclusion 2008 initiative and i2010. These focus on the following elements:

- ways of improving synergies of eInclusion work already undertaken;
- areas where further actions should be implemented;
- ways to improve the dissemination and impact of EU activities in this field.
- This involves an interpretative task carried out by the study team and entailing triangulation of the results of the analytical and integrative exercises. Triangulation is based on: Analysis of the conceptual, theoretical and practice models and approaches and their 'goodness of fit' with over-arching eInclusion objectives, such as the revised Lisbon agenda; the 'Riga Declaration'; the 2008 eInclusion initiative and i2010

- The characteristics of current policies, initiatives and measurement approaches and any ‘gaps’ in provision that can be identified. Analysis of ‘what works’ and ‘what does not work’ and what can be learned from this analysis in terms of how to develop and implement effective eInclusion policies and how to design effective actions.

3 RESULTS OF THE STUDY

This section examines key eInclusion measures taken at the European and the national level and test them in terms of their underlying vision, the coherence of this vision, the conversion of this vision into policy and practice and the capacity (of key actors) for promoting change and learning from it.

3.1 The eInclusion 'vision'

As we have explained in the introduction to this report, this dimension of our analytical framework captures the 'image' or vision behind European and national eInclusion policies which shapes the aims and objectives subscribed to by key stakeholders. This means, we are looking at the policies, programmes, initiatives and projects relating to eInclusion initiated both by different DGs and in the Member States of the EU with the intention to make explicit those factors that motivated the conceptualisation of these measures.

The starting hypothesis for this section is that there are essentially four – overlapping and mutually non-exclusive - dimensions of an eInclusion vision that are likely to underpin EU and member state policies and practices:

- The **economic vision** puts eInclusion measures in the overarching context of the Lisbon Agenda. Thus, eInclusion policies are an auxiliary instrument to achieve the Lisbon vision of making the EU "the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion". As such, they are primarily aimed at human capital building and participation in the labour market. At the same time, measures aimed at using ICTs to reduce regional divides and encourage the regeneration of deprived areas are also included in this economic vision for eInclusion.
- The **societal vision** of eInclusion represents a specific idea of how those groups regarded as at risk of eInclusion are to be helped and specifically how ICTs are to support and create new opportunities for excluded people to participate in society. eInclusion measures guided by this 'societal vision' can therefore be expected to promote a particular understanding of empowerment and (active) citizenship, and to place greater weight on these issues than on issues relating to the knowledge economy in the widest sense.
- The **institutional vision** underpinning eInclusion measures at both the EU and the national level focuses on explicit or implicit preferences regarding the delivery of eInclusion measures. This includes: centralised or regionalised (federated) delivery, a preference for top down or bottom up approaches, a focus on market mechanisms or government intervention, an emphasis on partnerships (and what kind of partnerships) or single-institution delivery.
- The **technical vision** behind eInclusion measures looks at which technologies are given preference in order to achieve the eInclusion goal of the EU and the Member States. Computers (be they individually owned or publicly accessible) are the most obvious technology on which eInclusion measures can be based. In addition to computers, however, commonplace

technologies such as mobile phones, digital televisions and others can be used to bring people at risk of exclusion into the Information Society. The technical vision section looks to surface similarities and/or differences in emphasis between the Member States in this respect. For example, a major policy communality between the EU and Member States has been the emphasis on broadband technologies as key development and inclusion drivers.

It is clear that these 'visions' underpinning approaches and measures to tackling digital exclusion are not mutually exclusive. They can coexist within one member state's approach to tackling social eInclusion. This not only reflects the multitude of actors and measures that exist to tackle this issue, it also reflects the multi-dimensional character of the digital exclusion issue and the multi-dimensionality of the different visions themselves. When categorising EU and national eInclusion policies, therefore, we focus on extracting the dominant discourse as expressed in the different policy documents analysed and aim to cluster the approaches accordingly.

3.1.1 Excursion: linking eInclusion to social inclusion models

It is clear that the vision underpinning digital exclusion measures in the EU and the Member States is closely linked to dominant approaches, strategies and models at these governance levels to social inclusion in general. This is the case because digital or 'e'-inclusion is in reality a new dimension of social inclusion rather than being separate from it. Indeed, the 'digital divide' has been described by some authors as a new form of social exclusion. "The specific form of exclusion is both seen as a *result* of […] social exclusion (those who suffer from a lack of financial resources, skills or capabilities will also have trouble accessing ICTs and handling the information that is accessible through ICTs) and as a *factor that will aggravate* the other dimensions of social exclusion."[3] In our overview of EU initiatives and policies on eInclusion, we ourselves defined eInclusion as "social inclusion in a knowledge society … [which] […] should focus on people's empowerment and participation in the knowledge society and economy."[4] This link is further demonstrated by the fact that the National Action Plans (NAPs) on social exclusion, which the Member States drew up as part of the Open Method of Co-ordination on social inclusion (OMC/inclusion), contain a section on digital inclusion.[5]

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[3] Brants, K and Firssen, V. (2003) *Inclusion and exclusion in the Information Society*, Final deliverable, The European Media and Technology in Everyday Life Network, 2000-2003, p. 5

[4] Jalava, J. (2006) Status of EInclusion measurement, analysis and approaches for improvement. Review of policy at EU supranational level. Topic Report 2, p. 6 (unpublished)

[5] At EU level, the OMC in social inclusion agreed to at the Nice Council in 2000 set four common objectives:

- Access to employment and resources, rights, goods, services
- Prevention of risks of exclusion
- Help for the most vulnerable
- Mobilisation of all relevant actors

Policies are asked to integrate 'the solidarity principle into Member States' employment, education and training, health and housing policies and defining priority actions for specific target groups (single parent families, refugees, homeless, children at risk, elderly and people with disabilities). Two rounds of NAPs have been published since Nice. The overall aim is to 'eradicate poverty and social exclusion by 2010.' (See: Kroeger, S. (2004) 'Let's talk about it.'

Due to the close link between social inclusion and digital inclusion, it stands to reason that the dominant discourse in the EU and the Member States on eInclusion will be significantly influenced, and take place in the context of, current dominant thinking about strategies to tackle social exclusion. For this reason, and in the absence of a 'theory of eInclusion', it is helpful to remind ourselves of the set of broad strategies that can be used to address social exclusion, and to use these as a frame of reference for investigation of the social (and economic) vision behind eInclusion approaches.

The STEP programme has recently undertaken the task of categorising approaches to addressing social exclusion.[6] Their classification includes the following five possible approaches: [7]

- **Individualised approaches**. This approach views individuals as being responsible for their situation. It questions the value of charity, and strategies instead aim at motivating people (or force them) to enter the labour market. Individualised approaches to tackling social exclusion have their origin in the protestant work ethic and re-emerge in current labour policies and the activation of social security measures. Britain, for instance, has been favouring an incentives-based approach to social policy and welfare since the 1980s. In the field of eInclusion, individualised strategies could include some approaches explicitly linking digital literacy measures to the labour market.
- **Economic approaches** regard economic development as the key to eliminating social exclusion: economic growth over a sustained period of time will increase the material well-being of the whole population. Economic approaches therefore seek to create the necessary preconditions for economic growth and ensure that all members of society are able to participate in an increasingly demanding labour market, in particular the most vulnerable groups. eInclusion measures based on this 'vision' are likely to stress links to the Information Society or knowledge economy and emphasise digital skills and the importance of lifelong learning.
- **Palliative and curative strategies** attempt to heal the wounds that social exclusion produces by curing the most urgent effects of the most precarious situations. These approaches do not address causes of exclusion and thus risk continuing to reproduce the conditions which have brought about social exclusion in the first place. In the social exclusion field in general measures might focus on health or urban issues (e.g. the reconstruction of housing) or education (literacy). In the field of eInclusion, a curative strategy might focus on helping people purchase IT equipment or extending ICT infrastructures.
- **Preventative approaches** try to anticipate the most immediate causes of exclusion and the mechanisms that generate it. These approaches tend to place emphasis on education and training systems. In the field of eInclusion, policies guided by this approach are likely to focus on infrastructure measures (broadband, computers) and lifelong learning approaches to digital skills targeting people from school-age onward.

– Theorisizing the OMC (inclusion) in light of its real life application, http://www.uni-goettingen.de/show.php)

[6] Estivill, J. (2003) Concepts and Strategies for Combating Social Exclusion, International Labour Office, STEP / Portugal

[7] The original paper includes two more. Due to a lack of relevance for the eInclusion sphere, these have, however, been left out of this description.

- **Emancipatory approaches** aim at transforming the causes of exclusion and at seeking the involvement of citizens and of those affected by exclusion. These strategies try to provide those affected by social exclusion with greater self-sufficiency and empowerment. Empowerment here can be understood in two ways. Emancipatory strategies generally seek out the root causes of exclusion. They can follow two different models of empowerment.[8] The *professional model of empowerment* is concerned with personal empowerment: people taking increased responsibility for managing their lives, relationships and circumstances (…) in accordance with professionally set goals and norms. This might be better described as enablement since it is essentially about the development of another's capabilities and entails promoting participation and involvement. In a professional context, empowerment may be more accurately interpreted as creating opportunities which enable and encourage power to be taken. *The exchange model of empowerment* recognises that both service users and the professional possess expertise. This model is based on negotiation about who should do what for whom. It recognises the expertise and skills they have, thus enabling their development in the interests of achieving goals they have themselves defined. The professional is often charged with making an assessment of need. It recognises the expertise and skills they have, thus enabled their development in the interests of achieving goals they have themselves defined. The professional is often charged with making an assessment of need. Within such an exchange model, assessment involves an understanding of a social situation, of the pattern of relationships in which a person's needs are perceived by somebody as not having been met. It is not just the assessment of an individual but of the relationship between them and the people with the resources to support or change the situation. Emancipatory approaches to eInclusion would thus focus on the potential of new technologies for personal well-being and active citizenship.

The table below summarises the key features of these strategies to tackle social exclusion and their link to eInclusion.

[8] Cullen, J et al (2002) Common Health Promotion and Health Support Model, Deliverable 12: Health and Educational Support for the Rehabilitation of Offenders (Hero)

Table 2: Strategies of addressing social exclusion and their reflection in eInclusion measures

Approach to social exclusion	Individualised	Economic	Palliative and curative approaches	Preventative	Emancipatory
Explanatory variables	"If you are poor or excluded, that is because it is your fate or because you want to be."	Economic development (growth) over a sustained period of time increases the material well-being of the population.	Attempts to "heal the wounds" that social exclusion produces by curing the most urgent effects of the most precarious situations.	Tries to anticipate the most immediate causes of exclusion and the mechanisms that generate it.	Intends to transform the causes of exclusion and seeks the involvement of citizens and of those affected.
Approach to address social exclusion	Questions the value of charity and views individuals as being responsible for their situation. Strategies aim at motivating them or force them to enter the labour market. Originates in the protestant ethic and re-emerges in current labour policies and the activation of social security measures.	Create the necessary preconditions for economic growth and ensure that all members of society are able to participate in an increasingly demanding labour market, in particularly the most vulnerable groups. Minimum income schemes, social protection and the increasing emphasis on vocational integration are integral elements of this strategy.	Measures can be long-term and address aspects such as health, urban issues (e.g. reconstruction of housing) or education (literacy). It does not address causes, and thus risks continuing to reproduce the conditions which have brought about social exclusion in the first place.	Advocates place emphasis on education and training systems.	Strategies try to provide those affected by social exclusion with greater self-sufficiency and empowerment. Strategies are implemented by associations and reflect the will of public and socio-economic actors and seek out the causes of the phenomena. These strategies can be based on 2 models of empowerment: professional and exchange (see HERO).
Link to eInclusion measures	Explicitly linking digital literacy measures to the labour market	Links to the knowledge economy; importance of digital skills and lifelong learning for competitiveness and employment	Helping with purchasing IT equipment.	Infrastructure measures and lifelong learning approaches to digital skills	Focus on the potential of new technologies for personal well-being and active citizenship

Source: Estivill, J. (2003) Concepts and Strategies for Combating Social Exclusion, International Labour Office, STEP / Portugal (modified)

3.1.2 The eInclusion vision at EU level

Following the analytical framework laid out above, this section explores the vision behind key EU-level initiatives in the field of eInclusion. Before embarking on this venture it is useful to remember that the Lisbon process, which constitutes the dominant paradigm of EU policy-making since 2000, has resulted in a theoretical context of reference for social inclusion policies based on the concept of an active welfare state based on employment.[9] This concept rests on the idea that 'increased growth with more and better jobs should reduce social exclusion' and that the modernisation of what is broadly called the European social model, by 'generating a 'productive' approach to social protection, should increase the ability to grow more rapidly. The goal is furthermore to be reached through 'lifelong learning' and the investment particularly in information and communication technologies. Considering the dominance of the Lisbon paradigm, and the inter-connectedness of social inclusion and digital inclusion, we can therefore anticipate the economic approach to social / digital inclusion to be reflected in EU-level measures on eInclusion. To explore the extent to which this is true (or not) we have examined a number of key EU initiatives relating to eInclusion. These include: eEurope 2002 Action Plan and its successor eEurope 2005; i2010; the eLearning programme; the eContent programme; the Socrates-Minerva programme; and projects funded under the research framework programmes 5 and 6. For this analysis we also consider the conclusions of the 2006 Riga Ministerial Conference on ICT for an Inclusive Society.

Examining these initiatives we can make the following observations:

- Firstly, there is an economic vision underlying EU initiatives on eInclusion.
- Secondly, this vision is firmly embedded in the discourse of the Lisbon process.
- Thirdly, a discourse about participation and active citizenship is beginning to (replace) the dominance of the economic vision in EU eInclusion initiatives.

In the following sections we will unpick these trends a little further.

The economic vision underlying EU eInclusion initiatives

Examining key initiatives relating to eInclusion at the EU level it quickly becomes clear that the dominant underlying vision has long been economic and, in particular, linked to the implementation of the Lisbon strategy. eInclusion initiatives are being framed in the context of the efforts to move European economies towards a knowledge-based economy, and to make extensive use of ICTs to promote this growth. True to the idea of an economic approach to (social) inclusion, the – implicit – idea appears to be on the one hand that this greater economic growth will have a positive impact on inclusion, but also that technology can enable all European citizens (including those at risk from exclusion) to participate in economic and social life and that therefore they need to be equipped to participate in the knowledge economy. This economic vision is all encompassing, i.e. it captures all levels of economic activity, from the individual, through to the local and regional levels of governance to EU Member States and the EU as a whole.

[9] Kroeger, S. (2004) 'Let's talk about it.' – Theorisizing the OMC (inclusion) in light of its real life application, http://www.uni-goettingen.de/show.php, p. 6

The Commission communication preceding the eEurope 2002 Action Plan reveals the underlying economic vision of the proposed eInclusion measures in a number of places. The first paragraph, for instance, reads:

> "The world economy is moving from a predominantly industrial society to a new set of rules – the information society. What is emerging is often referred to as the *new economy*. **It has tremendous potential for growth, employment and inclusion (our emphasis)**. Yet Europe is not fully exploiting this potential as it is not moving fast enough into the digital age. The present initiative aims to accelerate this process."[10]

The quote in bold reveals the link underpinning basic EU eInclusion policies ever since about the expected positive impact of economic growth for inclusion. The section on eParticipation of the disabled, moreover, reveals the vision of technology as an enabler for participation in both economic and social life:

> "Developments in digital technologies offer extensive opportunities to overcome barriers (socio-economic, geographical, cultural, time, etc.) for people with disabilities. **Accessible technologies which address their specific needs enable their participation in social and working life on an equal basis (our emphasis).** A challenge for the coming years is thus to reduce the remaining gaps between technologies and this user group."[11]

Whilst the underlying vision for EU eInclusion initiatives is thus strongly economic, from the early documentations onward a secondary vision (as it were) shines through: that of technology as an enabler to participation. This 'secondary vision' however, took a number of years to assert itself against the dominant economic vision. Indeed, the eEurope 2002 Action Plan (based on the 2000 Communication), the declared objectives thereof as well as the actions agreed upon under the heading 'participation for all' reflect the dominant economic vision behind eInclusion expressed in the Communication. Thus, the stated objectives of the eEurope 2002 Action Plan are:

- Bringing every citizen, home and school, every business and administration, into the digital age and online.
- Creating a digitally literate Europe, supported by an entrepreneurial culture ready to finance and develop new ideas.
- Ensuring the whole process is socially inclusive, builds consumer trust and strengthens social cohesion

The last two bullet points in particular indicate how closely the 'inclusive' elements of the action plan are linked to the overall Lisbon objective of making the EU the most competitive knowledge-based economy in the world. Individual actions of the programme, as well as the justification and anticipated benefits for them, further play into this vision. One example that shall be named here is the section on 'participation for all' which frames the potential benefits of accessibility actions agreed fist of all in terms of the (potentially) positive impact on employability of the disabled. Another example is the importance attributed to less favoured regions and their ability to take up the new technologies and thus benefit economically. Thus, the eEurope 2002 Action Plan states that:

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[10] European Commission (1999) *eEurope. An Information Society for All,* Communication on a Commission initiative for the Special European Council of Lisbon, 23 and 24 March 2000.
[11] *ibid.,* p. 13

> "Ensuring that less-favoured regions can fully participate in the information society is a priority for the Union. Projects encouraging up-take of new technologies must therefore become a key element in regional development agendas."[12]

The eEurope 2005 Action Plan continues the theme of the document preceding it, stipulating an eInclusion vision that is firmly economic: "The objective of this Action Plan is to provide a favourable environment for private investment and for the creation of new jobs, to boost productivity, to modernise public services, and to give everyone the opportunity to participate in the global information society. *e*Europe 2005 therefore aims to stimulate secure services, applications and content based on a widely available broadband infrastructure."[13]

Whilst the eInclusion vision underlying both documents is firmly economic, the framework for action is a mix of economic, palliative and preventative approaches. Skills measures are both linked to employment in the knowledge economy (and thus economic in nature) or aimed at 'future proofing' the education systems (preventative) whilst the infrastructure measures imply a palliative approach towards addressing issues of eInclusion.[14]

Moving towards an emphasis on participation

Whilst, as we have indicated above, the economic vision of key eInclusion measures was dominant, there were little pointers towards a more emancipatory vision, in particular seeing technologies as an enabler to economic - and social – participation. This kind of emancipatory – or empowering – vision is becoming more prominent in later EU documents on the topic. These include in particular i2010, the Riga Ministerial Declaration and the 2003 Council resolution on social and human capital.

The full title of i2010 - The "i2010 – A European Information Society for growth and employment" – firmly links it back to the Lisbon goals and as such highlights the economic vision underpinning it. Indeed, the third objective of i2010 further highlights this: "achieving an inclusive European Information Society that promotes growth and jobs in a manner that is consistent with sustainable development and that prioritises better public services and quality of life."[15] At the same time, however, i2010 perhaps for the first time puts eInclusion in the context of 'quality of life':

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[12] European Commision (2000) eEurope 2002. An Information Society for All. Action Plan, p. 6

[13] Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions eEurope 2005: An information society for all. An Action Plan to be presented in view of the Sevilla European Council, 21/22 June 2002, p. 2

[14] Other EU initiatives appear to primarily be based on a preventative approach. Relevant actions of the Socrates-Minerva programme (DG EAC), for instance, aim to promote an understanding of the implications of ODL and ICT for education, to ensure pedagogical considerations are given proper weight in the development of ICT and multi-media based educational products and services and to promote access to improved methods and educational resources as ell as to results and best practices in this field. The eAccessibility work done by the Commission as well as the eLearning programme are also firmly preventative in nature.

[15] Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions "i2010 – A European Information Society for growth and employment" {SEC(2005) 717}

> "ICT can contribute strongly to improvements in the **quality of life**. ICT are capable of improving the health of our citizens via new ICT enabled medical and welfare services. In light of the demographic challenges facing Europe, ICT can help make public health and welfare systems more efficient and effective. ICT can be a strong force for reinforcing Europe's cultural diversity by making our heritage and our cultural creations available to a wider number of citizens. ICT are also a tool for environmental sustainability, e.g. through monitoring and disaster management and through clean, low energy and efficient production processes. ICT can help to make transport safer, cleaner and more energy efficient."[16]

This moves the i2010 initiative towards an empowerment vision for eInclusion, and in particular a personal empowerment model, where ICTs can provide the tools for greater independence and a more active life. This vision is made even more explicit in the 2006 Riga declaration which builds on and extends the emancipatory vision for eInclusion measures. The following two quotes from this initiative highlight this:

> "**'eInclusion' means both inclusive ICT and the use of ICT to achieve wider inclusion objectives (our emphasis)**. It focuses on participation of all individuals and communities in all aspects of the information society. eInclusion policy, therefore, aims at reducing gaps in ICT usage and promoting the use of ICT to overcome exclusion, and improve economic performance, employment opportunities, quality of life, social participation and cohesion."

This quote is to date perhaps the clearest expression of the dual role attributed to ICTs with regard to inclusion: both an instrument for exclusion which must be overcome through specific measures and a means to achieve inclusion. The model of empowerment thus promoted is that of professional empowerment and active citizenship. The emancipatory vision is further outlined elsewhere in the strategy:

> "Realising increased quality of life, autonomy and safety, while respecting privacy and ethical requirements. **This can be done through independent living initiatives, the promotion of assistive technologies, and ICT-enabled services for integrated social and healthcare, including personal emergency and location-based services (our emphasis)**. The ambient assisted living initiative of the 7th Framework Programme is an important initiative in this respect."

Thus, what the Riga declaration continues to expand is the emancipatory vision for eInclusion where ICTs support the personal empowerment of people through a variety of means, a view that can also be found in the 2003 Council resolution on human and social capital.

3.1.3 National eInclusion policies: the economic vision

In the same manner as we hypothesised that the dominant discourse on social policy that has emerged since the 2000 Lisbon Council, i.e. that of an 'active welfare state based on employment' is mirrored in EU initiatives relating to eInclusion, we can

[16] Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions "i2010 – A European Information Society for growth and employment" {SEC(2005) 717}

hypothesise that it is likely to be reflected in Member States' measures, in particular those at national and regional levels[17]. This assumption appears sensible as the Lisbon Agenda was adopted by all Member States. If we also consider the four common objectives Member States set themselves at the Nice Council for the OMC/inclusion, this hypothesis seems to gain further ground. These four objectives are:

- Access to employment and resources, rights, goods, services
- Prevention of risks of exclusion
- Help for the most vulnerable
- Mobilisation of all relevant actors

However, what do the measures we identified in the course of this project tell us about EU countries' societal vision underpinning eInclusion measures? Looking at the eInclusion related activities carried out in the EU Member States (both at the national and the regional level) in the light of our analytical framework and Member States' social inclusion commitments as listed above, we can indeed observe a strong **economic vision** underpinning national (and regional) activities in this field. This finds its expression in the fact that the vast majority of Member States policies and programmes related to eInclusion are embedded in the discourse about the knowledge economy and its potential for employment as expressed in the Lisbon strategy. This link is further strengthened by the fact that in many Member States eInclusion policies are currently embedded in Information Society programmes rather than being stand-alone policies. The following two quotes, taken from key programmes in the UK and Latvia, show in a quasi representative way the link to the information society, and thus the economic vision, that currently permeates all of the Member States' eInclusion initiatives. The UK's 2005 digital strategy gives as a rationale for the programme:

> "[…] (I)f the UK is to **thrive in the future, to succeed in competitive markets and to enjoy better and better services** (our emphasis), all of us need to be confident and comfortable, living and working in a digital world. Information and communication technology (ICT) has become all pervasive in our working lives and increasingly in our homes as well. How we adopt and use this technology will be crucial for our future prosperity (our emphasis)."[18]

Similarly, the eLatvia Programme for the years 2005-2008 starts off with the words:

> "*eLatvia* is a socio-economic programme, which aim is by intensifying the performance of **the primary tasks for creation of the national information infrastructure to increase the effectiveness and the competitiveness of Latvia's national economy in the global market** (our emphasis), to accelerate the improvement of welfare's level of the society as a whole and of each of its members and thus to encourage a sustainable development of Latvia (our emphasis)."[19]

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[17] Our review covered the perio 1998 to date

[18] Prime Minister's Strategy Unit and DTI (2005) Connecting the UK: the Digital Strategy, http://www.dti.gov.uk/files/file13434.pdf , p. 5

[19] Socio-economic programme eLatvia. Conceptual baselines, p. 1, http://lnweb18.worldbank.org/eca/helsinkikef.nsf/ECADocByUnid/A87216857C6755B685256CE0006C95E6/$FILE/Programme%20e-Latvia.doc

The two programmes, and the rationale for intervention provided in them, show by way of example for most EU Member States how closely measures relating to eInclusion tend to be linked to the Lisbon paradigm and through this also to the four objectives EU countries set themselves for their social inclusion policies. In this sense there is a strong match between a long-standing dominant discourse at EU level as expressed in particular in the eEurope action plans (and papers preceding them) and national discourses. At national and regional level, this eInclusion vision manifests itself primarily in the strong focus of national (and regional) measures relating to eInclusion on digital skills.

In consistency with the underlying economic vision, the skills dimension of eInclusion is strongly represented in respective national (and regional) policies. As we have indicated above, economic approaches to tackling social / digital exclusion aim at ensuring that all members of society are able to participate in an increasingly demanding labour market, in particularly the most vulnerable groups. Translated into the digital exclusion field, this would encompass policies and measures aimed at providing individuals, and in particular those groups particularly at risk form exclusion, with ICT skills and also those measures that link digital literacy with employment measures. Generally we would describe these measures as 'individual capacity building' or 'human capacity building'.

Indeed, examining the eInclusion policies and measures we collected as part of this study we can observe that all EU countries run policies to this effect. It could even be argued that in some countries, measures to improve digital skills currently constitute the main focus of eInclusion activities). In general, this is the case in countries where IT infrastructure has already been developed to some extent, or in the case of some new Member States where the impetus is on both infrastructure and digital skills. This is for instance the case in Germany, where all of the major national policies relation to eInclusion have a strong skills focus. Reflecting the underlying economic vision for digital literacy measures, frequently, the provision of ICT training has the wider objective of integrating trainees into the labour market. Indeed, several Member States, among them Slovenia, run national ICT training programmes especially for the unemployed. At a project level, The Latvian EQUAL project 'Training in Computer and Internet Usage of Unemployed', aims to help the unemployed to overcome digital exclusion and to motivate this group to join the labour market and lead more active social lives. In Finland, the mobile media education for professionals programme (MMEP) is a training programme for SMEs and their employees to develop networks between companies and to develop mobile technologies to help create new jobs and to keep current jobs. The project offers the companies a new model for planning and acquiring education for the growth of human capital in business. The aim is also to support the co-operation of local companies by defining the common needs for education and by setting the appropriate schedule.

Whilst there are some digital literacy programmes addressing a country's population in general (for instance the Lithuanian Programme for Universal Computer Literacy or the Luxembourg programme 'Internet pour tous'), more frequently digital literacy programmes are aimed at specific target groups. Thus, across the EU Member States, four population groups are a particular focus of national eInclusion policies: women, children and young people, older people and the disabled. The unemployed are also another key target group as are people in rural/remote areas.

Confirming our hypothesis, (a discourse analysis) of these documents thus reveals that these digital literacy measures tend to have an economic motivation: (better) ICT

skills tend to be seen as an essential precondition for participating in the labour market of a knowledge-based economy and thus run as capacity building measures. This is expressed explicitly in introductory statements to respective policies, the respective policies (and projects) themselves but often also implicitly by including these measures in IS documents rather than ones focusing on eInclusion (and indeed, frequently these are one and the same).

3.1.4 The social vision underpinning Member States' eInclusion policies

Whilst the economic vision permeates much of national activity in the field of eInclusion, national approaches mirror EU policies in applying a multi-strategic approach. Thus, in all Member States the economic vision for eInclusion is supplemented by palliative / curative and aspects of preventative strategies. Where we see a greater differentiation, and are able to group Member States, is in the extent to which an emancipatory vision is embedded into national (and regional) strategies.

The palliative / curative approach

In a discourse based fundamentally on an economic vision of eInclusion, at member state level – as was the case at EU level – palliative / curative approaches abound, ensuring, in particular access to computers and high-speed Internet connections (ie access measures). These measures can be categorised as 'palliative / curative' because in making it easier for disadvantaged people to access ICTs the causes of their 'digital exclusion' (insufficient funds to purchase equipment, lacking exposure, market mechanism that make it uneconomical for private providers to install broadband connections in rural areas, etc.) are not being addressed but the effects (no access to ICTs) are. Thus, reflecting EU policies on access, all Member States are currently running access, and access related, measures (though the emphasis of these measures differs). They include most notably:

- Public Internet Access Points (PIAPs). All Member States have been putting efforts into equipping public locations (such as libraries, town halls, community or youth centres and others) with PCs thus making it easier for people to use ICTs and go online.
- All Member States have national broadband strategies, stimulated by the eEurope 2005 action plan, which aim at making broadband widely available in under-served areas. Increasingly, these activities are focusing on (remote) rural areas where it is less economically viable. These measures may also involve financial incentives to take up broadband, such as low-rate loans or tax relief.

In addition, some Member States use more specific measures to address access issues:

- Support (tax relief, subsidies) for individuals suffering from exclusion (due to low income or disability) to purchase IT equipment. Schemes like this can only be found in some Member States, for instance in Malta (the 'affordable hardware initiative'), Italy (under the 'digital reform' programme), or Poland (the 'computer for homes' initiative).

- Wireless access to the net in public spaces is another measure that some Member States experiment with.

Based on these observations we can thus conclude that the eInclusion policies of all Member States are based on a strong (ideological) foundation of current thinking on the (future) benefits and needs of the knowledge economy as well as the fight against the effects of digital exclusion by providing access to ICT infrastructures to in particular people suffering from various means of exclusion.

Indeed, while eInclusion policies in the Member States are currently dominated by an economic and palliative vision, we can in some countries observe an emerging preventative and / or emancipatory vision in national and regional eInclusion measures.

The preventative vision

Similarly, in all countries' approaches there is a distinct preventative vision to eInclusion to be found. As we have outlined above, preventative strategies to tackling social exclusion attempt to anticipate the most immediate causes of exclusion and the mechanisms that generate it. In the eInclusion context this approach means going deeper than the infrastructure measures to tackling people's attitudes and abilities and the factors shaping them. Based on respective EU policies, all Member States did or still do run initiatives to equip schools with computers and broadband connections. Based on the eAccessibility directive, Member States have also taken measures to ensure that online government services are usable by people with disabilities.

In addition, some Member States are incorporating a preventative vision into their access measures. Some countries use mediators with their access measures, in particular those establishing PIAPs. The use of mediators can be found in Italy, Spain, Portugal, Slovenia and Hungary. All of these countries commit themselves in national programmes to providing tutors at PIAPs to offer support and guidance to people using the terminals thereby, amongst others, overcoming issues such as technophobia. In the UK this approach is taken one step further by the national Everybody Online project which introduces 'technology hubs' into communities and, crucially, integrates these with measures that remove barriers to participation (for instance by providing childcare facilities). A number of Member States are also running trust-building measures in order to address lacking trust as a reason for non-use of digital media. The French National Framework Programme RE/S) 2007, the Spanish Plan Avanza and some of the work carried out by the Greek not-for-profit organisation 'Digital citizen' are examples for this.

Above we have highlighted the large amount of digital skills initiatives run by the Member States as part of their economic vision for digital exclusion. Some of these measures have a decidedly preventative aspect to them, going beyond the teaching of new skills to looking ahead and anticipating what might prevent participation in the future. These include measures such as including digital skills into school curricula and that of other educational institutions and combining skills training with promoting careers in ICT. The former tend to be part of national initiatives aimed at the inclusion of basic ICT literacy lessons into school curricula. Initiatives such as these can be found in Belgium, Austria, Portugal, Germany and the UK (where digital skills have become one of the core skills on top of literacy and numeracy).

At project level we are beginning to see in some countries the emergence of initiatives aimed at tackling the root causes of eInclusion for specific target groups, in particular girls and women. In the UK, for instance, the Computer Clubs for Girls aim at developing their IT skills and also their interest in careers in this field. The annual 'girls' day' run by the German Initiative D21 – business 'open days' allowing girls to gain an insight into careers in science and technology. EQUAL projects in Austria (Women and ICT in the Burgenland region) and Spain (e-Andalusians in the knowledge Society) seek to improve women's ICT skills whilst at the same time addressing gender stereotypes to improve women's chances on the labour market.

There is also a preventative vision underlying the awareness raising campaigns run by the Member States, often targeting in particular groups at risk of digital exclusion (in particular the disabled and older people).

It is thus in the preventative vision that we are beginning to see a growing differentiation between Member States' approaches to eInclusion. This is expressed in the degree to which the 'preventative' potential of access measures is being exploited and wider social causes for digital exclusion tackled.

Emancipatory vision

We can observe an even greater differentiation when it comes to the use of preventative and emancipatory approaches. As we have described above, the emancipatory vision intends to **transform the causes of exclusion** and **seeks the involvement of citizens and of those affected**. In seeking to empower people, two models can be followed:

- The professional model is essentially about developing an individual's capabilities and entails promoting participation and involvement. In the eInclusion context this would refer to measures promoting social capital. This can mean empowering the sick, elderly or lonely to take part in society and live an active life. It can also mean lifting whole communities out of isolation.
- The exchange model of empowerment which recognises the expertise of both service users and providers and includes negotiations about who provides what services for whom.

In the section above we have indicated that at EU level the emancipatory / empowerment vision is gaining in importance. How far are Member States' approaches to digital exclusion based on an emancipatory vision?

The emancipatory vision is not as universally embedded in national and regional eInclusion policies as the economic and palliative vision. Whilst a number of examples across the EU Member States can be found which experiment with eVoting and assistive technologies for the elderly, disabled or sick, the degree to which the scope of ICTs for building social capital is embedded in the approach towards digital exclusion varies greatly. Examining purely national and regional strategies on eInclusion, several groups of countries stand out as stressing the emancipatory potential of ICT particularly strongly in their national and regional programmes.

- The Scandinavian countries are particularly strong in this area. Here, the scope of ICTs to promote social capital seems to be quite routinely exploited. ICTs are already regularly used to improve democratic processes, for instance by providing alternative means of communication at local level between Councillors and citizens. The ubiquity of this vision is further

exemplified by a number of projects which also aim at empowering citizens to participate in the (information) society. One example for this would be the Seniornet Sweden which links real-life social networking for older people based around ICT with building a virtual community. It is also here that the use of ICTs for assistive purposes is most advanced. One project in Finland, for instance, integrates the use of assistive technologies with an involvement of family carers.

- In Ireland, too, the emancipatory vision flows through key programmes such as the eInclusion fund and the Group Broadband scheme. The aim of the eInclusion fund is to exploit the potential of ICTs to foster communities of common interest. The Group Broadband scheme aims to empower small rural or remote communities to implement their own broadband plans in partnership with service providers. The empowerment vision running through Irish eInclusion policies is characterised by a strong bottom up approach embedded in national initiatives which provides an opportunity to communities to create the conditions which will allow the use of ICTs not only for economic but also for participation purposes.
- In addition, some of the new Member States are also strong in this area. Hungary underpins key eInclusion measures with an emancipatory vision. The Information Society Strategy, for instance, emphasises small community access and equal opportunities in order to strengthen the cohesion of these communities and local social capital. The sub-programme eChance views the "opportunities offered by the Information Society (…) (as) an unparalleled chance for creating new social justice through which the former injustices of a structural origin could be reduced (…)." The eDemocracy sub-programme aims at a closer relationship between the state and citizens.
- Finally, some southern European Member States also incorporate an 'empowerment' vision into their national or regional programmes. In Italy, both in the national plan to innovate Italy and the eLazio Programme, the development of eGovernment services is regarded as a way to empower citizens by providing access to services and information. In Portugal, 'empowerment' seems to be the theme underpinning key national programmes. In the National Plan for the participation of citizens with special needs in the information society, for instance, empowerment and active citizenship are key issues and, though the plan also has an economic connotation, it is based on a social capital premise. The Ligar Portugal Programme addresses issues of active citizenship.

Whilst not all Member States express an empowerment vision in their national or regional programmes, in some this vision finds it primary expression in the types of projects that are being funded. This is, for instance, the case in the UK where a number of projects with an 'empowerment' vision can be found targeting young people, older people, prisoners and others. We can also find this vision underpinning a number of EQUAL projects related to eInclusion. The Latvian EQUAL project "Training in Computer and Internet Usage of the Unemployed", for instance, is based on the individual model of empowerment described above in aiming to help the unemployed to overcome digital exclusion and to motivate this group to join the labour market and lead more active social lives. Targeting female prisoners, the French EQUAL project europ@acte2 issues surrounding inmates' re-integration and resettlement after their release by providing ICT-based training as a means to foster autonomy and re-integration into the labour market.

On the basis of this analysis, we can therefore distinguish three groups in terms of the emancipatory vision underpinning eInclusion measures:

- **An integrated emancipatory vision**. In these countries the emancipatory vision is fully integrated into national eInclusion strategies. This would, for instance, include the Scandinavian countries and Ireland.
- **A 'bottom up' emancipatory vision**. Here, a significant number of projects with an emancipatory vision can be found, but national or regional programmes do not fully integrate this vision with the economic and preventative visions promoted. This would, for instance, include the UK.
- **An emerging emancipatory vision**. In these countries, economic, palliative and preventative approaches to eInclusion are dominant, but there are selected projects promoting the emancipatory vision. This would include some of the new Member States in central and Eastern Europe.

3.1.5 To sum up: the economic and social vision underpinning eInclusion policies in the EU and the Member States

A closer analysis of these activities indicates that they are primarily based on three visions: economic, palliative and preventative. These visions can be found in the national and regional measures relating to eInclusion of most, if not all, Member States and are predominantly represented through digital skills and infrastructure measures. Whilst these are thus the dominant visions socio-economic visions underpinning national and regional measures, in some Member States we can also find an emancipatory approach guiding eInclusion measures. The emancipatory approach is at the moment an emerging vision in most Member States, though in some it is clearly the guiding principle of policy making on eInclusion.

3.1.6 The institutional dimension

The way Member States approach eInclusion is also informed by the prevailing cultural patrimony and institutional mode. The influence of national and regional institutions and the historical traditions from which they have emerged is important in understanding how Member States address eInclusion issues. In our scanning of developments at non-EU level we have identified four institutional modes or visions as regards eInclusion. First, there is the *centralised vision* where most of the eInclusion related policy is driven from the centre of national government , e.g. France, Finland, Greece, Lithuania, etc. For example, in Finland the National Information Society Programme[20] which articulates the Government's vision as

[20] The National Information Society Programme aims at improving Finnish competitiveness and productivity, social and regional equality and enhancing the wellbeing of citizens through ICTs. The programme, first launched in 2003, updated in 2004, 2005 and 2006, consists of the following areas of activities: (i) telecommunication infrastructure and digital television, e.g. ensuring that citizens have access to fast broadband connections, including addressing issues of geographical digital divide as regards isolated and sparsely populated regions; (ii) improving citizens' ability to utilize ICTs and ways to boost the use of IS services; (iii) promoting use of ICTs for and through training, working life, research and development; (iv) using ICTs and providing electronic services in public administration; (v) developing social and health services through ICTs; (vi) promoting e-Commerce, digital content and services;

regards IS, including eInclusion, is directed and co-ordinated by a ministerial group chaired by the Prime Minister and assisted by a programme director in the Prime Minister's Office. The progress and impacts of the Programme are monitored annually by the Government and bodies outside it using information society variables drawn up nationally and by the EU as a basis for comparison. The Information Society Council situated at the national level is also a key negotiation body for steering the development of the IS and for co-ordinating co-operation between administrative branches and between administration, business and other organisations[21].

Second there is the *federated vision*, e.g. Germany (16 Länder), Austria (9 states), Spain (17 autonomous communities), Belgium (1 region and 2 communes), Italy, etc. where regions have considerable autonomy in how specifically they address eInclusion issues. For example, in Spain although the Plan AVANZA[22] for the development of the IS (2006-2010) was adopted by central Government in November 2005, its implementation rests with the autonomous communities. Specifically, its implementation is based on a co-operative model in which each of the 17 Autonomous Communities are directly involved and have a separate Action Plan and budgetary contribution. This is, in turn, articulated around bilateral institutional agreements signed between the government and each Autonomous Region. The agreement defines the implementation instruments, the funding schemes, and the schedule of the planned actions. Crucially, one of the plan's five key policy areas is the promotion of citizen inclusion, through measures aimed at expanding the use of ICTs at home, promoting eInclusion and extending the scope of participation and citizenship in public life. Four such agreements have been signed to date with the Communities of Cantabria, Catalonia, Aragon and Asturias. Each sets out the concrete measures that will be taken in that Community to advance the objectives of the Plan, based on the specific priorities of the regional government. In Cantabria, for example, €14.78 million will be allocated to supporting the multi-annual 'Internet in the Classroom' and 'Health On-Line' programmes. With regard to eGovernment, the Autonomous Communities are responsible for the creation of telecentres (available to all citizens) and local/regional eGovernment services, with the national Government being in charge of other eGovernment services.

(vii) introducing appropriate legislative measures; etc. The programme also calls for PPPs and greater private sector involvement in IS developments

[21] *Towards a Networked Finland*, Finnish Information Society Council Report, January 2005 http://www.tietoyhteiskuntaohjelma.fi/tietoyhteiskuntaneuvosto/en_GB/information_society_council/_files/11233297000012864/default/TietoYnRap-Eng-7-6-05.pdf and
Efficiency and Vitality in Future Finland, Finnish Information Society Council Report, February 2006
http://www.tietoyhteiskuntaohjelma.fi/tietoyhteiskuntaneuvosto/en_GB/information_society_council/_files/75492482856518294/default/TynRap_englanti300606.pdf

[22] The Plan focuses in particular on the investments needed for the further development of the IS and includes five key areas: (i) citizen inclusion, where measures aim at expanding the use of ICTs at home, promoting eInclusion for all and extending the scope of participation and citizenship in public life; (ii) competitiveness and innovation, where measures aim at promoting ICT adoption by both large companies and SMEs; (iii) education (eLearning) in the digital era; (iv) digital public services aimed at improving service quality and efficiency of the public administration; and (v) new digital context, where measures aim at expanding broadband infrastructure across all Spanish regions, instilling confidence in citizens and companies in the use of ICTs; generating new and relevant digital content; and providing advanced mechanisms of security in the new context.

A similar pattern is discerned in Belgium where although there is a national plan (The National Plan to combat the digital divide[23]), launched by the Federal Government in April 2006, its implementation is local. Specifically, the scope of the Plan is national, and as such it is to be enforced at the federal level. It provides the general framework within which local/regional implementation actions have to be designed and developed. In other words, delivery and implementation of the Plan is realised at regional level. Here, the regions which make up the federal state will define implementation tactics independently, according to regional development priorities and needs. Illustrative of this is eFl@nders[24], published in July 2005, which is the Digital Action Plan for Flanders and a regional translation of the National Digital Action Plan. Specifically, eFl@nders is a regional programme that translates the national objectives of the National Action Plan against the Digital Divide into regional actions for Flanders.

Third, there is *the market-driven approach*, e.g. UK, new Member States to some extent (e.g. Lithuania), where a number of eInclusion related developments are jointly steered by government and industry. For example, in the UK the Government and the IT sector have collaborated to develop a joint market map for eInclusion. This is, in turn, segmented by type of access, sophistication of use, and detailing the demographics of each segment of users and non-users. The aim is to use this map to promote collaborative cross-sectoral activity tailored specifically for particular market segments of non-users[25].

Finally, we have come across a *grass-roots approach*, e.g. Ireland, the Netherlands, Portugal, etc. where local, bottom-up initiatives are encouraged. For example, in Ireland such initiatives are encouraged, not least by the explicit recognition of the importance of the community and voluntary sector in catering for the needs of the at-risk groups combined with appropriate support mechanisms, e.g. multi-annual funding, for this sector. This acknowledgement formed the basis for the White Paper on the community and voluntary sector[26] which, *inter alia*, underlined the use of ICTs both in building the capacity of the community and voluntary sector and in its ability to reach out, engage and transfer ICT skills to later adopters. The Information Society Commission also clearly recognised the role of the community and voluntary sector with regard to IS policy by setting up a relevant advisory group, Connected Communities. Similarly, as of February 2003 the County/City Development Boards (CDBs) were formally recognised as the central bodies to co-ordinate local and

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[23] In this National Plan, the Belgian Government identifies three levers for action: (i) awareness raising; (ii) training and education; and (iii) access. Furthermore, it also identifies some transversal actions: information on open source and the related pros and cons; measures to keep the traditional public services (bureaus and desks for face-to-face contacts between the citizens and the administration); measures to favour access to ICT for disadvantaged citizens (e.g. women, elderly, disabled); support measures for associations and other civil society organisations recognised as the levers of grass-root actions; set up an observatory capacity for detecting the progress in combating the digital divide.

[24] http://www2.vlaanderen.be/ned/sites/media/eflanders/informatiemaatschappij/DigitaalActieplanVlaanderen/digitaalactieplanvlaanderen.htmigitaal

[25] *Enabling a Digitally United Kingdom*, Cabinet Office, 2004, http://www.cabinetoffice.gov.uk/publications/reports/digital/digitalframe.pdf

[26] White paper on a Framework for Supporting Voluntary Activity and for Developing the Relationship between the State and the Community and Voluntary sector (2000) http://www.welfare.ie/publications/naps/socincl/supporting_whitepaper.pdf

community development programmes, including eInclusion policies at local level in Ireland. Similarly, a key feature of Portugal's plan for the active participation of people with special needs is the requirement of projects and actions/initiatives to promote the IS at local level, involving players and generating added value for the addressed target groups. Local implementation is considered to be key to the success of the Plan. By February 2006, 40 new projects were approved which deal with: access to information without obstacles; ICT in educational support services; service platform for the elderly; braille-based applications for visually impaired, adaptive technologies for people with the mentally impaired, online museums, digital literacy courses. Since 2004, at least 50 locally-based projects/initiatives start every year.

In the Netherlands, although part of the national Nederland Kennisland Programme, the Network digital playgrounds (Netwerk Digitale Trapvelden) consist of Internet and computer centres located in neighbourhoods, e.g. in neighbourhood centres, libraries, schools, etc. Their main objectives are to foster general ICT skills in order to improve digital literacy, enhance the employability of local residents and fight digital divide. Crucially, one of their key aims is to strengthen social cohesion or community building in problem neighbourhoods. Moreover, the cities/localities themselves carry out the projects, thus providing a context-specific approach to and promoting local ownership of the local digital playgrounds. This, in turn, means that there is a strong regional and local input, while they are fully embedded in regional/local reality. This is then reflected in the priorities that each digital playground sets for itself. For example, in a number of cities the digital playgrounds target women, the elderly, the unemployed, and/or ethnic minorities, e.g. the Cybersoek Amsterdam offers ICT skills courses to ethnic minorities.

The above discussion has highlighted the four predominant discourses that underpin eInclusion visions as articulated in national policies. However, it should be noted that these four visions co-exist to a greater or lesser degree in the policy and practice encountered in all Member States. For example, in France since 1997, the Ministry of Economy and Finance, the Ministry of Culture and Communication and the Department of Industry have taken general action to promote the Information Society. However, rather than create a centralised institution responsible for new technologies, the French Government took the decision to involve all public services at both national and local level. Despite this, the co-ordination and monitoring is still carried out to a considerable extent by a central Government body. For example, responsible for France's eGovernment strategy is the Commissariat Général du Plan. This body ensures the overall coherence of the government and organises committees and working groups, under the direct authority of the Prime Minister. Similarly, although Lithuania is characterised by a centralised administrative system[27], it allows for and supports market-driven approaches such the "Window to

[27] One of the key actors in Lithuania is the Information Society Development Committee (ISDC), set up in July 2001 under the Government of the Republic of Lithuania. Among other things, the Ministries of Communication and of the Interior were then charged to transfer functions of the regulation of ICTs and telecommunications and co-ordination of the development of the IS to this Committee. The ISDC's task is develop strategic plans and implementation measures at the state level in accordance with the guidelines of the European Union, to draft, revise and review the outline of the state information policy and to co-ordinate the implementation of the work in this field, thus ensuring effective, fast and systematic development of the Lithuanian information society. The ISDC is an intermediate body responsible for the implementation of Measure 3.3 of SPD, i.e. Information technologies services and infrastructure development.

the Future" alliance, a private sector led initiative launched in May 2002. At that time the largest Lithuanian IT companies, came together and formed an alliance whose aim is to increase the number of Internet users in Lithuania and achieve the Internet penetration ratio of the European Union over the period of three years.

In the same vein, despite the fact that the public administration system is quite centralised in Finland, the vision for an inclusive IS has been jointly developed and shared (rather than imposed) between the Government (at all levels) and the private and voluntary sectors. Indeed, the Finnish IS policy development presents two distinctive characteristics. First, a rather strong national consensus has prevailed on the objectives, including those of eInclusion between the public and private sector actors. To this end, a wide range of public, private and third sector actors have been represented in most of the decisive preparatory task forces and working groups. Second, there has been a common understanding between the representatives of the central government and regional and local actors on the necessary measures to be taken. In sum, a consensus has been attained both in horizontal and vertical dimensions. In addition, the role of the municipalities at the local level is also quite prominent. The municipalities are relatively independent[28] from the state government and are responsible for most of the provision of welfare services, such as primary and secondary education, health and social services and local infrastructure. Therefore, the delivery of IS services in the areas of eHealth and eEducation are to a great extent dispersed into the local level of municipalities.

In light of the above discussion a good example is the national ITSE project carried out between 2001 and 2004 and steered by both the Ministry of Social Affairs and Health and the National Research and Development Centre for Welfare and Health. Its primary aim was to promote independent living among the elderly and disabled people through increasing the knowledge of social welfare and health care professionals on the opportunities of using ICTs as tools in their work and raising awareness of and familiarity with new technologies among the target user group. Although the project was national, it was implemented through 18 regional sub-projects and covered 288 counties. This meant that although local projects followed the overall aims of the ITSE-project, they were planned according to the local needs.

On the other hand, even in countries where there is a federated or devolved structure or which have a strong grass-roots tradition, there were national programmes aimed at addressing the digital divide. For example, in Italy a key programme is the National framework programme: "Digital reform to innovate Italy"[29], promoted by the Ministry for Innovation and Technologies[30]. The agenda focuses on four action domains: (i) digital literacy for all citizens; (ii) informatisation of the Public Administration; (iii) ICT for enterprises; and (iv) eGovernment. The programme has so far supported large investment in both equipment and infrastructure. For example, with regard to the former the aim is for every family to have a PC, while the latter aims at making fast Internet connections available throughout the country, promoting digital TV and UMTS and connecting all public administration agencies. The programme is implemented with the active involvement of all Regions which have subscribed a Framework Programme for the IS. Special measures have been planned for the Southern regions which lag behind in social and economic

[28] Municipalities in Finland have self governing status stated in the constitution
[29] First plan: 2001-2006. A new plan has been drafted for 2006-2011 (the outcomes of April 2006 elections will determine if the plan is confirmed or changed)
[30] http://www.mininnovazione.it

development. Similarly, Portugal launched in August 2003, the National Plan for the participation of citizens with special needs in the IS (Plano Nacional para a Participação dos Cidadãos com Necessidades Especiais na Sociedade da Informação[31]) operationalises the policy lines already defined in 1999 (in the INCNESI - National Initiative for the participation of citizens with special needs in the IS). The plan approached the issue of eInclusion of people with special needs in a comprehensive way, with employment being one of the areas addressed in terms of enhancing their employability by supporting them acquiring eSkills. To this end, specific education and training was offered to people with special needs, e.g. those who could not get an ICT diploma or attend an ICT training course.

On the other hand, even in Member States with a rather market-driven vision, e.g. UK, the central Government still takes a proactive view as regards eInclusion, rather than relying solely on the power of the market. For example, *Connecting the UK: The Digital Strategy*[32], published in March 2005 is a joint report by the Department of Trade and Industry (DTI) and the Prime Minister's Strategy Unit at the Cabinet Office. The report outlines a seven-point programme to tackle digital exclusion by: (i) transforming learning with ICTs, i.e. providing everyone with personal online learning space (electronic portfolio for lifelong learning), enabling online dialogue with schools, etc.; (ii) setting up a Digital Challenge for local authorities to achieve both excellence and equity in ICT in relation to establishing by 2008 universal access, advance public service delivery as well as providing a test-bed for best practice e-Government with a view to addressing inequality (as highlighted by the ODPM's Inclusion through Innovation report[33]); (iii) making UK the safest place to use the Internet, i.e. setting up a multi-agency national Internet safety centre and tackling identity management; (iv) creating right environment for innovative broadband content; (v) setting out a strategy for transformation of delivery of key public services, e.g. electronic patient record, use of ICTs in criminal justice system, etc.; (vi) developing appropriate regulatory strategy as set out by Ofcom, e.g. Ofcom must place special focus on home broadband uptake amongst the more disadvantaged and monitor relative progress; (vi) improving accessibility to IT for digitally excluded and ease of use for the disabled, i.e. building on the UK online Centres[34]. An 8th Action refers to the review of the digital divide planned for 2008.

In addition to the above it is worth mentioning the Hungarian approach to eInclusion. Here the Hungarian IS Strategy[35] (HISS) is a key strategy as regards the development of IS in that country. HISS is fully aligned with the National Development Plan, launched in 2003 its main goal is to establish Hungary's competitiveness upon its accession to the Union and to create a more effective knowledge economy. Moreover, the Plan seeks to address eInclusion issues by

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[31] http://www.acesso.umic.pcm.gov.pt/legis/pnpcnesi.pdf

[32] http://www.dti.gov.uk/industries/telecoms/pdf/digital_strategy.pdf

[33] *Inclusion through Innovation - Tackling Social Exclusion through New Technologies*, ODPM, November 2005 http://www.egovmonitor.com/reports/rep12356.pdf

[34] UK online centres aim to provide everyone in the UK with access to computers near to where they live, as well as help and advice on using them. UK online centres started out in 2001 when DfES identified the growing gap between those with a PC and those without. The DfES started UK online centres to provide computer access to people in the community & help them learn new skills. Centres were located in libraries, community centres & schools. Currently there are over 6000 UK online centres which are part of a wider network of learning venues run by the Ufi, which includes learndirect centres and Further Education colleges. This has created a single network for access to the Internet and e-Government services.

[35] http://accessible.ihm.gov.hu/strategy

targeting groups at risk of digital exclusion, e.g. the elderly and ethnic minorities (most notably the Roma population) and by including a mini-strategy called eChance whose main objective is to fight injustice and exclusion from the IS. Here the strategy recognises that an inclusive IS will require the reduction of the digital gap stemming from regional and social disparities and differences, e.g. ethnicity, age, gender and professional status. Although this is a national strategy, all the regions are entitled to have their own Regional IS Strategy (HISS) developed by the summer of 2005. This is due to the fact that disparities in economic development of the regions are reflected on the differences in Internet usage. For example, the proportion of Internet users is significantly higher in West and North Transdanubia and Central Hungary, which are economically better regions than in the Eastern and Southern part of the country. By encouraging regions to develop IS strategies geared to their specific needs HISS aims to help reduce the regional divide. In addition, in view of Hungary's significant urban-rural digital divide, HISS emphasises the inclusion of people from the rural areas. This example highlights the fact that there is also a trend towards regionalisation of eInclusion issues, not least due to the view that local/regional actors are in a better position to first identify groups at risk and/or aspects of digital exclusion that need to be addressed and then put together appropriate partnerships to take remedial action.

Overall, we have found that for infrastructure issues, e.g. broadband connections, as well as for digital literacy skills, the Member States are more likely to steer developments from the centre, in the form of having national policies. For example, all Member states have developed National Broadband Strategies (e.g. Greece, Austria, Portugal, etc.) and most have national digital literacy programmes, either as distinct programmes (e.g. Czech National Computer Literacy Programme) or as a key component of IS programmes (e.g. Spanish Plan Avanza, Italian Digital Reform Programme, eLatvia programme, etc.). Crucially, most Member States have policy measures addressing access and digital skills issues pertinent to groups at risk of exclusion, e.g. the unemployed, the disabled, the elderly, women, etc. (see Report on National Policies). It is in the area of quality of use that the four institutional visions described above come more into play and where greater differentiation of approaches can be observed.

3.1.7 Technology and technological change

The technological vision underpinning eInclusion efforts has evolved over the years from raising awareness of the importance of ICTs and providing access to equipment (either for individuals or groups) in the form of PCs towards promoting a multi-platform convergence and integration of IT tools. In general, in the new technological vision the convergence of mobile communications, Internet services, and broadcasting is seen an important step in the development of information infrastructure, services, and content. That said, activities promoting access to computers are still part of eInclusion measures in all Member States. Measures aimed at reducing the access divide include facilitating access of individuals to computers. Often, this takes the form of financial support (for instance in the form of cheap loans or tax credits) and tends to apply to particular target groups, for instance people who are on low incomes (for instance families under the Spanish ‘Plan Avanza’ or students under the Italian ‘C@appucino for a PC’ scheme). However, there are examples for other target groups as well. The Finnish broadband strategy aims at improving extending use of Broadband by the disabled. The French Loi

Handicap foresees specific measures to help users purchase adequate equipment and applications, as does the Polish 'Computer for Homes' Programme.

There are, however, also a few examples of countries that provide this kind of financial support for all citizens. Malta's 'affordable hardware initiative', announced in the National ICT Strategy, provides subsidies to everyone purchasing a computer. Until the end of the last financial year, individuals were able to purchase PCs through their employer who would deduct the cost from the monthly gross wages, thus reducing the cost of a PC by the rate of an employee's income tax. The UK's Home Computer Initiative worked in a similar way until the scheme was abandoned in April 2006. Moreover, in the Netherlands the PC Prive Initiative provided tax reduction for citizens on the purchase of PC/ICT infrastructure for private individuals/households. The initiative achieved very good results, but was also ended in 2004. A similar scheme is being investigated by the German Initiative D21.

Most current policies aimed at addressing the access divide in the Member States, however, are moving away from supporting individuals purchasing ICT equipment and are being directed towards expanding public Internet access points (PIAPs) in various locations. Indeed, as we have shown in our Report on National Policies PIAPs are the most popular technological choice at the moment, followed closely by computers/individual access points. With regard to the latter it is worth noting that there has been a qualitative shift in that there is a distinct emphasis on improving home access to ICT as a way of promoting inter-generational ICT-related learning, e.g. Connect and Learn scheme run by the eLearning Foundation in the UK; the Belgian National Plan to combat the digital divide (launched in April 2006) whose aim is, *inter alia*, to increase the number of households with a PC; the Italian scheme whereby families whose yearly gross income is lower than €15,000 are allowed a €200 bonus for purchasing a PC for home use; The Greek scheme which offers families tax allowances for the purchase of computers, educational software and Internet connection for their household; etc.

In terms of communal access points, in line with EU policy priorities, Member States have been equipping schools with computers since the late-1990s or since the early 2000s. These are normally 'top down' measures initiated and financed by the national (or regional) ministry responsible. For instance, Italy's ongoing 'Digital Literacy for All Programme' provides 600,000 PCs for schools. German Telecom, as part of the country's 'schools online' initiative, has made available 20,000 PCs for schools. Although the policies aimed at equipping schools with IT equipment and broadband connections can usually be found at national level, most commonly steered by the respective Ministries of Education, in our examination of relevant initiatives we have also come across a number of local, bottom-up approaches. An interesting example of how this issue is tackled in a 'bottom up' manner comes from the UK where the e-Learning Foundation is active at the local level to ensure schools are adequately equipped with PCs.

Many of the 'computer into schools programmes' developed by the Member States have either expired or are near their completion dates. It would indeed appear that national initiatives on PIAPs are now moving towards equipping other public spaces with terminals. This includes schools (e.g. Latvia, Italy, Austria, Slovenia, Slovakia); town halls (e.g. Latvia, Italy, Austria, Poland); job centres (e.g. Italy); public libraries (e.g. France, UK, Latvia, Lithuania, Slovenia); post offices (e.g. Lithuania); youth centres (e.g. Germany); old-people day centres (e.g. Spain); or museums (e.g. Slovenia).

The expansion of PIAPs is a major focus of Government effort across the EU in cities and can be the result of either national initiatives (e.g. French Multimedia Cultural Spaces, cyberbases, and digital "cyber-space-youth" spaces; the Belgian National Plan to combat the digital divide; eLuxembourg Action Plan; the Greek Operational Programme for the IS; Estonian IT Policy; ePoland), or initiatives launched by the various regional authorities. For example, in France since October 2003, a policy conducted in co-ordination with the regional authorities has aimed at grouping all of these initiatives together under the network NetPublic. Similarly, although Finland[36] has been one of the leading countries in providing public access points for citizen participation and access, one of the key objectives of the Finnish National Programme for IS is the gradual equipping of regional service points open to private citizens with customer terminals (such as schools, libraries, public service points, Government and municipal offices) where both Internet connections and advisory services should be provided. In general, the expansion of PIAPs is the priority action of the Plan, since they allow for easy and free access, the improved provision of support services and greater socialisation.

Another more recent development with regard to PIAPs is the increasing realisation that disadvantaged groups, or more generally, those who are not familiar with ICTs will need not only access to ICTs and network connections in terms of PIAPs, but also the availability of intermediaries, mediators, mentors, trainers at hand who will help them both access the services they may need and show them how to use the ICTs. These tutors offer support and guidance to people using the terminals, thus helping address issues of digital illiteracy, technophobia, etc. For example, in the Hungarian IS Strategy[37] (HISS) it is proposed to have IT-mentors at hand, who act as a support team for Roma, elderly people, people with disabilities, unemployed etc. Similarly, the Slovenian IS strategy[38] is promoting access among specific at-risk groups through public contact centres manned with qualified operators, information mediators, and mentors. Similar schemes can be found in other Member States, e.g. Italy, Spain, Portugal.

In addition to the above, in some countries, these programmes pay particular attention to population groups at risk of 'digital exclusion', allowing in particular older people and people with disabilities to use ICTs in a 'safe space'. The French Programme 'Recherche et diffusion des technologies au service du Handicap' and the Spanish 'digital cities' programme, for instance, promote the creation of such centres. Moreover, in Portugal many public Internet spaces have at least one work station equipped to meet the needs of the disabled. A third set of measures aimed at improving access frequently carried out by the Member States is the facilitation of access to broadband Internet connections. These measures tend to address the need both of expanding broadband coverage across their territory, often involving

[36] It is worth noting that, even though there is high amount of PIAPs in Finland, the overall percentage of people using PIAPs have remained quite low (Finland and UK still leading the development).

[37] http://accessible.ihm.gov.hu/strategy

[38] http://mid.gov.si/mid/mid.nsf/V/KACF73A1447CF53FEC1256DE50042087A/$file/Strategy%20_RSIS_final_20030213.pdf

regulatory measures, and of increasing take-up of ICTs by the population as a whole and, on occasion, by particular segments of population. This also includes connecting schools systematically to broadband and increasing the bandwidth they have got available. Ireland, for instance, currently runs a Schools Broadband Access Programme with these objectives as does the eSlovakia Programme. Yet, measures aimed at increasing broadband coverage are now increasingly focused on bringing broadband Internet to those geographically remote areas where broadband installation is less competitively viable for providers. Programmes to this effect exist in several Member States, including Ireland, Finland, Lithuania, France and Austria. Interestingly, the Irish Group Broadband Scheme takes a community-based approach to the extension of broadband into rural areas. Specifically, this scheme aims to facilitate smaller communities to pool broadband demands and secure high speed connectivity from a range of providers with grant support from the Irish Government. In France broadband Internet access, at an affordable rate and for all of France, is one of the main objectives of regional planning, particularly in rural areas. Indeed, the Government has promised broadband connexion for every of the 36,000 communities by the end of 2007. In a similar vein France Telecom promises that 96% of the population (corresponding to approximately 90% of the communities) will have broadband connectivity by 2007. This is indeed in close alignment to the Riga Target which stipulates that in an effort to reduce the geographical divide by 2010 at least 90% of the EU population should be able to access broadband[39].

Linked to this is the concerted effort exerted by Member states in encouraging take-up of broadband Internet, most countries' broadband strategies aim at incentivising people from all social and economic backgrounds to take up broadband Internet. As was the case with support measures for acquiring PCs, this can involve providing (financial) assistance for acquiring broadband connections such as low-rate or interest-free loans (e.g. Spain), tax relief (e.g. Sweden, Austria) or awareness campaigns (e.g. Malta, Greece). Occasionally, however, particular groups are especially targeted (e.g. the disabled in Finland and Greece).

In some Member States, broadband take-up strategies also include the exploration of alternative technologies to deliver broadband Internet. Such initiatives can primarily be found in the Netherlands, Denmark and Finland. In the Netherlands, for instance, a network of cities (Stedenlink) stimulates the construction of a broadband infrastructure based on optic fibre cables. The Danish 'Strategy for Fast, Cheap and Secure Internet' aims to place increasing focus on the possibility of using other infrastructure as a host for telecommunications transmission (e.g. Swere conduits). Furthermore, the Finnish Broadband strategy 2004-2007 foresees the technical modernisation of cable TV networks by 2004 to ensure that broadband provision is technically feasible in all the man cable TV networks. Increasingly, Member States are also expanding wireless networks locally. The Polish town of Rzeszow, for instance, using a variety of technologies, including mobile technologies has set up a wireless network in 91 locations, providing offering wireless Internet access for 60% of the city. In Austria, municipal buildings offer wireless access to eGovernment services.

In several Member States, however, the aim to encourage the take-up of broadband has started to go beyond simple infrastructure measures to include issues of service provision, content and trust. Part of the Maltese and Finnish Broadband strategies, for instance, is the development of relevant content and online public services. In Malta, for instance, this includes the provision of innovative eHealth services, one

[39] http://europa.eu.int/information_society/events/ict_riga_2006/doc/declaration_riga.pdf

aim of the Austrian broadband initiative is to enable citizens to complete all bureaucratic interactions with the state online by 2007. The Finnish Broadband strategy also contains trust-building measures such as more effective actions to protect children from harmful content, programmes to raise virus awareness and improved network security

Alternative platforms are also increasingly being used in an effort to address the digital divide. Most prominent among these are mobile technologies which are seen as a medium particularly suitable for reaching disadvantaged groups, not least because of their wide diffusion among the population as a whole. Specifically, the rationale behind this development seems to be that the telephone, especially the mobile phone is one of the main ways by which people, including those at risk of exclusion communicate and transact their business. More generally, mobile technologies are seen as representing the future developments which will allow for real ubiquitous access to all required services. For example, according to the Slovenian IS Strategy (RSIS) mobile and broadband are ICT areas that deserve special attention given their rapid development and considerable potential for eInclusion[40]. Similarly, with a view to widening access to the Internet, one future ICT priority of the Cyprus National Reform Programme is the delivery of e-services over public kiosks and mobile devices. Moreover, Malta's National ICT strategy also promotes mobile devices as an alternative channels for service delivery. On a slightly different but related track in Italy the National Digital Reform Programme[41] supports UMTS diffusion and the promotion of mobile digital content, e.g. content accessible through mobile phones which are widely used in Italy. Other Member States which are increasingly paying attention to mobile devices as a way of reaching groups at risk of digital exclusion are the UK, Spain, Austria, France, Poland, etc.

Another platform that is rapidly gaining ground, at least in terms of policy objectives, is the terrestrial digital TV. For example, in France considerable level of investment has been planned for the development of terrestrial DiTV, which is characterised by degrees of accessibility and 'familiarity' for many social groups at risk of exclusion, e.g. youngsters, the elderly, the disabled, etc. Moreover, the use of ICTs (included TV) represents a tool to support the accessibility of services, making e-Government and e-voting an accessible reality. Indeed, according to the French Government it has achieved increased access to digital TV[42]. The Italian National Digital Reform programme also promotes digital terrestrial TV (for which investment has already been made) as does the Belgian National Plan to combat the digital divide. Specifically, with a view to enhancing access, the Plan sees digital TV as a viable solution which is easy to access by all citizens. To this end, the Flemish Government (with the pilot projects: e-VRT and Vlaanderen Interactief) has already started interesting work in this area. The aim at federal level is to promote multi-channel provisions among which citizens can choose their best fitting option. Similarly, in Cyprus the Digital TV is seen as an effective way of introducing digital terrestrial

[40] Indeed, RSIS considers particularly encouraging the high level of mobile service penetration in Slovenia, which is over 75%. Users in Slovenia have shown themselves to be demanding customers, so the range of services offered by providers in Slovenia is among the widest in Europe. Due to its great potential, RSIS calls for close monitoring of the convergence of Internet, mobile telecommunications services and wireless local networks.

[41] First plan: 2001-2006. A new plan has been drafted for 2006-2011.

[42] According to INA's data: there have been 100,000 broadcasts, more than 10,000 hours of TV and radio online broadcasts; on average 5 millions visits per day

television broadcasting within the context of expanding broadband access and network.

Along the same lines, ePoland also considers digital TV alongside digital radio to have good eInclusion potential especially in view of the envisaged technological convergence between many broadcast channels[43]. Indeed this Action Plan calls for the further development of digital TV and radio, for which a separate set of legal and strategic documents is foreseen. Moreover, in Finland one of the eight main areas of activities of the National IS Programme[44] is making appropriate provisions for advanced telecommunication infrastructure and digital TV. Interestingly, as regards digital TV developments in Slovenia, DVB-S (digital satellite television) has been operating since 1997 via the Eutelsat Hot Bird 3 satellite. It is being used to provide extra coverage to "grey areas" in Slovenia and to broadcast Slovenia's national television channels. Indeed, the Slovenian IS strategy (RSIS) recognises that services enabling digital television need to be introduced, including Internet access and expanding the principle of system compatibility within the framework of voluntary industry standards. Finally, the recently launched Greek Digital Strategy[45] 2006-2013 foresees the development of broadband services and digital TVC for the disabled as well as the development of digital services to for citizens.

Less widely used are call centres. Still, in a number of Member States we came across such facilities, especially as regards the provision of eGovernment and eHealth services and services to the elderly and disabled. For example, in Hungary call centres are used for local Government services. In Spain tele-assistance call centres offering a wide range of tele-assistance services to the disabled have been set up in a number of localities, e.g. Teleasistencia Dirigida a Colectivos Especiales; Aragon, Teleasistencia, La Mancha, etc. Similarly, in Slovenia there are projects aimed at the disabled which include a speech-accessed portal with telephone services, a web portal, mobile portal, a call centre and personal contacts. In the UK the NHS Direct also involves a call centre in the field of health. In Greece the Citizen Service Centres[46] (KEPs) - one-stop-shops where citizens can access public service information and a number of standardised admin procedures are complemented by a 24-hour administrative information call centre and by a 'Telephone Application System' (1502) where citizens can request almost 60 different certificates. Moreover, in Ireland the Public Service Broker foreseen in the New Connections Strategy for eGovernment services will be delivered through multiple access channels, including telephone contact centres and one-stop-shops.

In the above discussion we presented the main technological choices we have come across in our overview of national and regional policies and initiatives. Crucially, no Member State is adopting just one form of technology in its fight against digital exclusion. On the contrary, what is quite clear is that Member States are using a wide range of platforms in order to reach out and engage the at-risk groups.

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[43] Here it is worth noting that several commercial digital TV platforms are already operational in Poland, and the sector is expected to grow significantly.

[44] www.tietoyhteiskuntaohjelma.fi

[45] http://www.infosociety.gr/NR/rdonlyres/A13F889F-DE92-4DCF-B64A-37351BFC69B9/660/GreekDigitalStrategy20062013.pdf

[46] The Citizen Service Centre Internet portal receives over 9 million visits each month

In summary, eInclusion related technology choice has mainly been Internet based to date but this is rapidly changing against a policy background in which eInclusion is seen within the bigger debate of convergence and integration of different platforms. This calls for a variety of technology choices which in turn include:

- Assistive technologies (also for independent living)
- Public information and support systems
- PIAPs both with and without mediated access
- Alternative technologies:
    - Mobile phones
    - Digital interactive TV
    - 'Internet through the socket'

The above should be seen as part of the overarching vision of ubiquitous computing and ambient intelligence environments which in turn can be conceptualised as a continuum ranging from assistive technologies through information systems for public engagement to ubiquitous computing

3.2 To what extent is this vision coherent?

Having surfaced the complexity of the vision underpinning EU and national eInclusion initiatives, this section explores how coherent this vision is across all levels of actors focusing on the EU and the Member States.

3.2.1 Coherence of vision at EU level

The exploration of the vision underpinning EU initiatives on eInclusion undertaken above has four key initiatives – eEurope 2002, eEurope 2005, i2010 and the Riga ministerial declaration – found a strong coherence. As Table 3 (Overview of Inclusion Vision and Models of Major EU Initiatives relating to eInclusion) below indicates, the economic vision underpinning eInclusion initiatives at EU level, which links eInclusion initiatives to the achievement of the Lisbon Agenda, permeates all of these key initiatives. In addition, it is interesting to note that two further programmes demonstrate this vision. The eLearning Programme, which is under the remit of DG EAC, states under the heading 'digital literacy': "This will encourage the acquisition of new skills and knowledge that we all need for personal and professional development and for active participation in an information-driven society." Furthermore, the guidelines on using Structural Funds for the Communications area state that: "Information Society has considerable potential for strengthening economic and social cohesion, i.e. bridging economic and social disparities in Europe. However, the success of regional development strategies will depend on the ability of regions to integrate the Information and Communication Technologies (ICT) made available."[47]

Whilst there is thus a high level of coherence with regard to the economic vision of eInclusion, we see a differentiation in some of the other approaches underpinning EU

[47] http://ec.europa.eu/regional_policy/sources/docoffic/working/doc/telecom_en.pdf

activities on eInclusion. This is most noteworthy in the case of the emancipatory vision which is found in i2010 and the Riga Declaration, but not elsewhere. A preventative approach to eInclusion, focusing on anticipating causes of digital exclusion, can be found in a cross-section of policies, including eEurope 2005, the eLearning Programme, the eAccessibility directive and the Socrates-Minerva programme. However, a preventative approach can also not be found in all initiatives but can mainly be found in policies with a significant learning and skills element. Curative approaches can be found in initiatives that include an infrastructural element.

Considering the multi-dimensional nature of eInclusion policies, such a differentiation of vision and approaches to tackling these issues cannot surprise. It seems likely, however, that the emancipatory vision will continue to expand and find its way into other eInclusion related policies.

Table 3: Overview of inclusion vision and models of some major EU initiatives relating to eInclusion

	Individualised	Economic	Pallliative / curative	Preventative	Emancipatory
eEurope 2002		✓	✓		
eEurope 2005		✓	✓	✓	
i2010		✓	✓		✓
Riga declaration		✓			✓
eLearning		✓		✓	
eContent		✓			
eAccessibility directive				✓	
Council resolution on social and human capital		✓			✓
Directive on universal service and users' rights relating to electronic communications networks		✓		✓	✓

	Individualised	Economic	Palliative / curative	Preventative	Emancipatory
and services					
eHealth Action Plan		✓	✓		✓
eGovernment Action Plan		✓		✓	✓
Socrates-Minerva				✓	
Structural funds		✓	✓	✓	

3.2.2 Member State alignment with EU policies

In our overview we found that the aims and objectives of eInclusion policies in Member States are aligned with those at EU level, albeit at varying degrees. A useful distinction can be made between (i) those countries that have traditionally been at the forefront of IS developments, e.g. Finland, Sweden, Denmark etc.; (ii) those who can be regarded as middle-of-the-road, e.g. Germany, France, etc.; (iii) the relative "laggards" of IS, e.g. Greece, Portugal, a number of new Member states, e.g. Slovakia, Hungary, Poland, etc. With the regard to the latter category one should further differentiate between Member States that are quite advanced in their IS such as Estonia and Malta and those who are still further behind.

For those at the forefront of IS national policies usually pre-exist of EU policies, although the main thrust of the policies in both cases is similar. This became clear since we reviewed policies and initiatives since 1998 to date. For example, by 1998 Finland was already implementing its first Information Society Programme (1995-1999) which, *inter alia*, focused on infrastructure issues. Similalry, in Sweden e-Democracy issues have been on the policy agenda since early 2000. In these more advanced countries, policy priorities, though not necessarily featuring as strong EU priorities, represent a prior identified pressing national need or interest. So in these countries the role of EU-defined eInclusion can be described as commonly agreed goals. To this end, such objectives are taken into account when preparing the national programmes. However, since a number of these countries have been in IS issues, the development needs do not fully correspond to the European priorities. For instance, the goals related to setting up IS infrastructure in the form of broadband connections for the government services are no longer a relevant issue given the present stage of development, where all public services are online and on broadband. Therefore, some of the European objectives are not considered contemporary challenges. On the other hand, advanced countries such as Finland and Sweden do still grapple with the issue of geographical digital divide as regards isolated and sparsely populated regions. As a result, the national and European eInclusion programmes overlap to a significant extent, but are far from identical.

Moreover, the vision of eInclusion as articulated at EU level encompasses a wide range of areas, e.g. geographical digital divide, digital literacy, eAccessibility, e-public services, etc. which themselves have been the subject of specific national policies. Crucially, in some instances, even advanced countries such as Denmark feel that here is still relevance for greater EU involvement in monitoring and quantification of eInclusion.

At the other end of the spectrum we have countries, both old and new Member States whose eInclusion policies are not only closely aligned but also funded to a large degree by the EU. For example, Lithuanian policies regarding IS in general and eInclusion in particular show a high degree of alignment with EU policies. For example, in accordance with the strategy and main objectives established in the eEurope initiative, the Conceptual Framework of the National Information Society Development of Lithuania provided the guidelines for the development of IS in Lithuania, defined objectives and tasks, identified priorities and listed the anticipated results. This strategy is to be implemented through the Lithuanian Information Society Development Programme for 2006-2008. Key objectives of the programme which is an inter-institutional document are to (i) improve the ICT competence of the Lithuanian population by reducing social and territorial exclusion when using ICT; (ii) involve disabled people and persons with special needs in IS processes; (iii) develop ICTs that will help public administration institutions to perform their functions; (iv) facilitate information exchange between public administration institutions; (v) encourage research and innovations in the field of ICT; and (vi) promote collection and dissemination of reliable and relevant information about Lithuania and its culture by digitising Lithuania's cultural heritage, preserving it, as well as ensuring its accessibility.

In view of the fact that Structural Funds and Cohesion Fund form the financial and organisational basis for the implementation of the eEurope Programme in Lithuania, their specific guidelines have a direct bearing on eInclusion policy developments in Lithuania, as are articulated in its Single Programming Document[48] 2004-2006. Here eInclusion issues are addressed, *inter alia*, in Human Resources Development Priority [under Measure 1 (Development of Employability), Measure 2 (Development of Labour Force Competencies and the Ability to Adapt to Changes) and Measure 3 (Prevention of Social Exclusion and Promotion of Social Integration)] and in the Development of the Production Sector Priority [Measure 3 (Development of Information Services)]. For example, Measure 1 seeks to improve the employability of the unemployed and their integration into the labour market by, *inter alia*, providing them with ICT skills. Measure 2 includes, *inter alia*, support activities aimed at increasing ICT literacy among the population if these activities do influence the increase of their competitiveness, improve access to information sources and provide broader training opportunities. According to the SPD, Lithuania significantly lags behind the European Union Member States in this regard. At the same time it stresses that while delivering digital literacy training, it is important to ensure that all regions receive sustainable support to prevent geographically-based digital exclusion.

The objectives of Measure 3 Development of Information Services include (i) the modernisation of the public sector using ICTs and the promotion of e-Democracy; (ii) the provision of ICT-related training opportunities to all citizens; (iii) the adaptation of software and content to meet the needs of domestic users by enabling them to

[48] http://www.east-gate.it/public/LT_SPD_04-06.pdf

receive extensive, reliable and up-to-date information in the Lithuanian language; (iv) the creation of conditions for all citizens, irrespectively of their social or geographical condition, to use ICTs and access information resources accessible through such technologies. Relevant measures foreseen are: (i) the development of an official online information system; (ii) the development of electronic public services; (iii) the creation of the Lithuanian information environment, e.g. localisation of software, creation of the Lithuanian Internet content, etc.; (iv) the implementation of safe Internet Content initiative; (v) the development of data transmission networks, including broadband; (vi) the further establishment of PIAPs; etc.

Moreover, in modernizing public administration an important role is assigned putting public services online. At the same time priority is given to the public services specified in EU programme documents (based on the list of 20 main public services of the eEurope initiative) and to the pan-European services. Here of relevance is the implementation of the eGovernment Action Plan, which has as its main objective the electronic provision of 90% of main public services by 2008.

Overall, the Lithuanian IS strategy follows the guidelines of general eEurope policies – in fact all the elements of the latter one are included into national priorities.

The same can be said for the **Czech Republic** where eInclusion topics are covered by a variety of programmes, not least the operational programmes linked to use of EU Structural Funds. Specifically, eInclusion and other related e-Government , IS and Knowledge Society measures are implemented in the following operational programmes for 2004-2006 in Czech Republic: (i) Operational Programme (national) Human Resources Development Priority 3: This is linked to lifelong learning and includes Measure 1 for schools and primary education and Measure 2 for adult training. The responsibility for this OP lies with the Ministry of Labour and Social Affairs[49] and the National Educational Fund[50]; (ii) Joint Regional Operational Programme (JROP) Objective 1, applicable in all regions of the Czech Rep. except Prague (Prague is in Objective 2). Here one should mention Priority 2.2 which refers to the development of ICT in regions. Many projects in this category currently in operation deal in particular with accessibility issues, development of infrastructure (e.g. broadband, Wifi) in less developed areas, as well as with specific target groups, e.g. the elderly the disabled etc.); (iii) Single Programming Document for Objective 2 applicable in approximately one third of the area of Prague. Here Measure 2.3 for the development of services supporting IS has a similar focus to JROP mentioned above. In addition, authorities of Municipal Districts (in supported area), the Prague City Hall, the Municipal Library and other actors have proposed several projects for developing e-Government services, increasing interoperability, setting up PIAPS, expanding a WiFi network etc. Some of these projects are already being implemented; and (iv) Single Programming Document for Objective 3 applicable in the whole of Prague. This is focused on human resources development, adaptability, reducing unemployment, lifelong training etc. Several projects focused on development knowledge and skills on use of ICT and eServices are currently in operation and involve, *inter alia*, schools and educational institutions.

In a similar vein, the **Latvian** Action Plan of the eLatvia programme was generally in line with the eEurope+ Action Plan. Moreover, it also corresponded to the Nordic

[49] www.mpsv.cz
[50] www.nfv.cz

eDimension Action Plan[51]. More recently, the Latvian e-Government Development Programme 2005-2009, is also closely linked with initiatives eEurope 2005 Action Plan and the new European level strategy "i2010 – A European Information Society for growth and employment", adopted by European Commission on 1 June, 2005.

In **Poland**, the funding base of the strategy is varied. However, significantly, the EU Structural Funds are included as a key funding source for its implementation, as foreseen by the National Development Plan 2004-2006. Other sources include the state budget and regional resources. Interestingly, the strategy also foresees a combination of funding resources, as and when this proves possible or necessary, e.g. sponsorship of school IT infrastructure by private sector combined with public expenditure.

Another key programme related to IS and eInclusion in Poland is the *Integrated Operational Programme of Regional Development*[52] (IOP) which is the operational programme for implementing regional policy in Poland at the territorial/regional level, with the use of EU Structural Funds in the period 2004-2006. The IOP is the first programme operationalising the implementation of EU Structural Funds in Poland in the first years of EU membership and allocates financial resources to priorities, objectives and projects. IOP is linked to a number of policies. For example, employment and education and training are themes of Priority Two. Action 5 in the priority 1 is devoted to the IS Infrastructures and as such has a strong infrastructural focus. However, the IOP is a single programme implemented in all (16) regions. As a result it is not regionally specific, and it does not outline any regionally specific development path. This makes the choice of projects, including in the field of ICTs and eInclusion, potentially uncoordinated and dispersed.

A similar picture emerges from **Greece** where the Structural Funds have historically provided the main funding for IS-related activities, including eInclusion. This is not surprising since the whole of Greece, with the exception of Athens and Thessaloniki qualifies for Objective 1 funding. For example, 1.7b€ of the 2.8b€ Operational Programme for the Information Society 2000-2006 budget is funded through the Structural Funds, with 75% coming from the ERDF and 25% from the ESF. The recently published Greek Digital Strategy 2007-2017 addresses the requirements of the 4th Programming Period (2007-2013) and is in line with the European policy for the IS, notably i2010 and the "Jobs & Growth" Action of the EU which was put forward in the first semester of 2005. In addition, the Digital Convergence programme (like OPIS funded to a large extent by Structural funds under the 4th CSF) will also be aligned with EU policies. For example, the Commission is currently (June 2006) in the process of approving structural funds to co-finance a €210 million project on "Broadband Access Development in Underserved Greek Territories". The project aims to boost access to broadband infrastructure and to stimulate demand. Greece lags far behind other EU Member States in broadband rollout and take-up, partly because of lack of competition.

Similarly, the Plan AVANZA is **Spain's** response to the European Commission's request from Member States to develop national action plans for the advancement of

[51] This was approved by the meeting of the IT ministers of the Baltic Sea countries in Riga, September 26-28, 2001

[52] http://www.funduszestrukturalne.gov.pl/English/The+Integrated+Regional+Operational+Programme/

the IS within the framework of the i2010 initiative. Indeed, the Plan is framed on the NRP designed by the Government in its pursuit to meet the revised Lisbon strategy objectives.

Meanwhile, in **Cyprus** a national eGovernment policy was developed during recent years on the basis of two eEurope Action Plans. Many of the objectives of eEurope 2002 (increase of Internet penetration, telecom framework, low Internet costs) have already been achieved, whereas the Cyprus Government adopted the eEurope 2005 objectives. A National Strategy for the e-Government was drafted and finalised before the end of 2004, within the framework of the National Information Society Strategy. The eGovernment strategy focuses on the key issues required to make the implementation of eGovernment successful.

Finally, for those Member States that are in the "middle", e.g. Germany, France, etc. the interplay between EU and national level policies is also apparent. For example, the main activities linked to eEurope in **France** relate to eHealth; eAdministration/eGovernment; the development of a broadband strategy based on competition resulting in attractive prices. Other areas include cyber-security and the promotion of smartcards. Overall, the five-year programme RE/SO 2007 has set the conditions to enable France overcome its lagging behind other IS advanced nations[53]. This delay caused the country to remain outside the mainstreaming ICT developments taking place worldwide (or at least among the most advanced countries). The effort made by the Government to 'go digital' is remarkable. Similarly, it is interesting to see how eInclusion issues (defined according to different target groups) have been taken into account and structured within the plan itself. Follow-up policy measures have shaped the actions which support, for instance, the eInclusion of people with disabilities at a national scale. To this end the Law (Loi Handicap) systematises and disciplines a domain which was previously governed by a 1975 law. The notion of inclusion is conceptualised in its broadest sense, covering a number of different areas in which people with disabilities live and work. eInclusion is understood as one of these areas and in this regard the possibility of providing equal

[53] However, it should be noted here that historically, France had positioned herself in the vanguard of the information society sectors: IT, telecommunications and audiovisual media. Her telephone system was one of the first to go fully digital. Early to recognise the importance of information infrastructure to economic growth, France encouraged the development of a fully-digitised, fibre-based network. A full-scale implementation of the electronic directory was started in 1983. The network was then used by France Telecom to launch the innovative Minitel, providing universally available information services. This strategy was a success, and in 1998 the Minitel counted 35 millions users. Among other things, Minitel was instrumental in making accustomed companies and households to the notion of interactivity and to electronic/online services. However, despite the above achievements (e.g. outstanding telecommunications networks, recognised international research centres such as INRIA or CNET, the experience of the Minitel online services, etc) by 1997 there were worrying indicators that the uptake of IT in France was slow and endangering both its economic/technological and employment/social cohesion prospects. For example, France was lagging behind in the use of information technologies, reflected by the low numbers of personal computers in homes and the limited number of French Internet users[53]. The lack of quality French-language services on the new networks; the insufficient amount of support available for SMEs, especially for the newest ("start-ups") and innovative businesses; the weakness of the computer culture in France; and the marginal position of ICTs in the French education system were all put forward as possible explanations. In addition, the French telecommunication firms, most notably France Telecom, did not want to invest in the Internet and abandon the Minitel, because the latter represented an excellent market.

access to public services and procedures, with the support of specifically trained public employees, represents indeed a great advancement. The attention paid to relevant content creation and the development of Internet standards which are compliant with internationally recognised ones is also significant. In general terms, the Programme Recherche et diffusion des technologies au service du Handicap has been instrumental in supporting the adaptation of existing ICT provision (e.g. in the form of the digital public centres) to the specific needs of people with disabilities. Furthermore, it has also provided specific funding schemes for research actions, aimed at the advancement of research for the disabled in the medical and engineering fields. To date there are no evaluation reports as to the effectiveness of this programme, so it is not possible to verify whether people with disabilities have taken up the challenge and benefited from opportunities provided. It is however interesting to see how much effort the national government is devoting for an inclusive and equal Knowledge Society, planning for specific and well-articulated actions for the disadvantaged.

3.3 Cluster Analysis: how is this vision converted into policy and practice?

As discussed in section 2, the main object of the cluster analysis exercise is to derive a 'typology' of eInclusion policies and practices. A second objective of the exercise is to assess the extent to which there is variability in the distribution of the typology across Member States. The analysis was based on the functional classification framework described in Section 2 and in Appendix 2 of Topic Report 2. The analysis was carried out on the database of policies and initiatives compiled from the study. All 162 cases in the database were included in the cluster analysis. The data were clustered using the following variables:

- Target group
- Scale of the policy/initiative
- Linkage to other EU policy- employment; health; education; regeneration; knowledge economy
- eInclusion policy focus – Access; accessibility; service development; capacity building; social capital; citizen participation
- Type of e-exclusion addressed- Social Exclusion Factors; Economic Factors; Technical Exclusion Factors; Cognitive Exclusion Factors
- Technology Choice to deliver eInclusion
- Tactics to combat e-exclusion - training and education, awareness raising, providing information, content, communication, eSkills, digital literacy, IT infrastructures, participation measures, eDemocracy, civil society, inclusive public services, regional divide
- Delivery Setting (national infrastructure; community-based etc.)
- Structured / Unstructured approach to eInclusion (top-down/bottom up)
- Implementation Method
- Duration of the policy or initiative

- Funding basis

The cases were clustered using a squared Euclidean distance method. On the basis of analysis of the agglomeration coefficients generated by the analysis, an optimum cluster solution of three clusters was decided on, representing 84 (52%), 41 (25%) and 37 (23%) of the cases respectively.

The key variables that characterize the distinction between the clusters – and which give each cluster its distinguishing profile - are shown in *Table 4*.

Table 4 : Critical variables identified by cluster analysis

Variable	Pearson chi square
Tactics to combat e-exclusion	252
eInclusion policy focus	115
Type of e-exclusion addressed	86
Technology Choice to deliver eInclusion	85

As Table 4 shows, eInclusion policies and practices in Europe are clustered primarily in terms of the tactics used to combat eInclusion; the key policy focus adopted (in relation to access, eAccessibility and Usability and so on); the type of eInclusion addressed (social factors, economic factors regional divide and so on) and the technologies adopted to deliver eInclusion (individual PC's; public Internet access points and so on). As an illustration, *Table 5: eInclusion policy focus* shows how the three clusters identified are distinguished in terms of their policy focus.

Table 5: eInclusion policy focus

eInclusion policy focus	Cluster 1 (%)	Cluster 2 (%)	Cluster 3 (%)
No policy focus	6	13	22
Access	6	3	14
eAccessibility & Usability	4	3	11
Service Development	8	38	17
Individual Capacity Building	7	5	6
Human & Social Capital	4	0	0
Citizen Participation	0	0	8
Multiple	65	40	22

As Table 5 above shows, although most eInclusion policies and initiatives across the EU are characterised by a 'multi-dimensional' policy focus, integrating a spectrum of elements from access through service development to e-participation, the 'integrative' approach is most highly developed in Cluster 1, representing the majority of examples identified by the mapping exercise (65% of the 85 cases). In cluster 2, a significant proportion of cases (38% of the 41 cases) involve ‘service development’ policies and initiatives based on public service agendas in e-Government and e-Health. In cluster 3 around 20% of the 37 cases identified have no clear policy focus,

and the remainder are focused on access, accessibility and service development agendas.

Drawing together the results of the data analysis to encompass the critical variables identified by the cluster analysis, Table 6 summarises the distinguishing features of the three clusters.

Table 6: Summary of the characteristics of the clusters

	Cluster 1	Cluster 2	Cluster 3
% cases (N=162)	52	25	23
Cluster label	Integrated	Segmented	Individual capacity building
Key EU policy themes	Multiple 'joined up' approach	Individual capacity building	Accessibility and individual capacity-building
Links to other EU policies	Integrated and joined up	Highly segmented – focus on eInclusion alone	Linked to education and training
Strategies and techniques used	Multi-dimensional, holistic	Public services (e-health; e-gov)	Training and e-skills
Technical and delivery approach	Multiple platform Public Internet access points	No specific approach	Personal PC's

As Table 6 above shows:

- Three types of eInclusion policies and initiatives can be distinguished across the EU
- The largest concentration (52% of the total) can be described as 'integrative'. It features a 'joined up' approach to eInclusion policy themes, integrating access, eAccessibility and Usability with capacity-building, service development and e-participation. eInclusion is approached in a 'transversal' way - linked to and integrated with other key EU policy agendas, in education, health, regional policy, mobility. The strategies adopted to address and promote eInclusion are similarly holistic, incorporating a spectrum of actions encompassing training and education, awareness raising, eSkills and digital literacy, IT infrastructures, participation measures, eDemocracy, civil society, inclusive public services, reduction of the regional divide. In keeping with this 'joined up' approach, technical strategies and choices deployed to deliver policies and initiatives are similarly multi-layered, integrating 'individualised'

infrastructure (involving expanding access to personal computers) with community-based infrastructure (for example public Internet access points).

- A second type - comprising 25% of the total - to some extent represents the corollary of the 'integrated' cluster. This type of policy and initiative might be described as 'segmented'. The dominant policy focus is on individual capacity-building - notably developing digital literacy and e-skills. eInclusion is addressed as a 'single-issue' agenda, and there is relatively little integration with other key EU policy themes like e-health and mobility.
- A third type - representing 23% of the total is characterised by 'individual capacity-building'. The policy focus here is on developing access and accessibility to ICT infrastructure. Policies and initiatives are linked primarily to education and training agendas, and the primary delivery mode used to implement eInclusion focuses on expanding individual access to personal computers.

The analysis also showed that the representation of the three types shows some variation across Member States. Figure 2 illustrates how the 25 Member States are positioned in relation to the cluster types. Figure 2 shows:

- In around a third of Member States, the 'integrative' type dominates (Cluster 1). Membership of this cluster includes a number of countries from Northern Europe (Belgium, Netherlands, France, Ireland) where ICT infrastructure and access is highly developed. However, Southern European and new Member States are also represented (including Poland, Romania and Slovenia).
- The broader picture is one where most Member States are developing and delivering eInclusion policies and initiatives across the range of types. In Austria, Estonia and Greece, policies and practices reflect the 'integrative' and 'segmented' types. In Hungary, Estonia and the UK, policies and practices mainly represent the 'integrated' and 'individual capacity-building' types, and in other states - particularly in Scandinavia, eInclusion policy and practice ranges across all three types.

The cluster analysis exercise supports in many ways the results and conclusions drawn from the reviews of policies and initiatives carried out in the study, and reported in Topic Reports 1 and 2. As discussed in these Reports, one of the objectives of this work was to assess the relevance and efficacy of the 'Molnar model' as an analytical framework for EU eInclusion policy and practice. Our mapping of the initiatives carried out at both trans-national and Member State level suggests that the three types of 'digital divide' portrayed by the Molnar model – access, usage and quality of use – can be identified. However, the Reviews suggested that the 'quality of use' dimension could arguably be sub-divided into three distinctive types. As Topic Report 2 concluded, 'access', 'eAccessibility and Usability' and 'individual capacity-building' (i.e. e-skills) initiatives account for a significant proportion of eInclusion work carried out by Member States, accounting for 20%, 19% and 17% each respectively of the total surveyed in our review. However, it was also pointed out that the biggest category – 25% of the total surveyed in the review – is covered by 'service development' initiatives, suggesting that on the whole Member States are moving forward from concentrating on infrastructure and digital literacy to empowerment and quality agendas.

But as our study has highlighted, and as the results of the cluster analysis confirm, the detailed picture is more complex. As Molnar himself suggested, the three digital divide 'stages' in reality show considerable overlap. Indeed our own mapping

exercise showed that just over half of the 160 initiatives included in the mapping exercise could be classified as 'multiple' eInclusion initiatives, typically spanning the spectrum of the six types used in the classification model, i.e.: Access; eAccessibility and Usability; service development; capacity building; social capital; citizen participation.

The 'multi-dimensionality' of eInclusion approaches is therefore more of a norm than an exception, and this undermines the commonly held view that Member States can easily be positioned on a continuum – from 'infrastructure' through 'usage' to 'quality'.

As noted in Topic Report 2, and as highlighted by the cluster analysis reported above, no linear 'digital divide policy progression' can be identified. There is considerable integration of focus, strategy, tactics and technical approach in terms of the initiatives implemented by Member States. In turn, there is no clear evidence that southern countries or new Member States are 'lagging behind' in terms of developing and implementing approaches to eInclusion. On the one hand, countries like Denmark, Sweden and Finland show significantly low levels of involvement in 'access', 'eAccessibility and Usability' and digital literacy initiatives, not least because they have already addressed similar issues earlier in their development of IS.

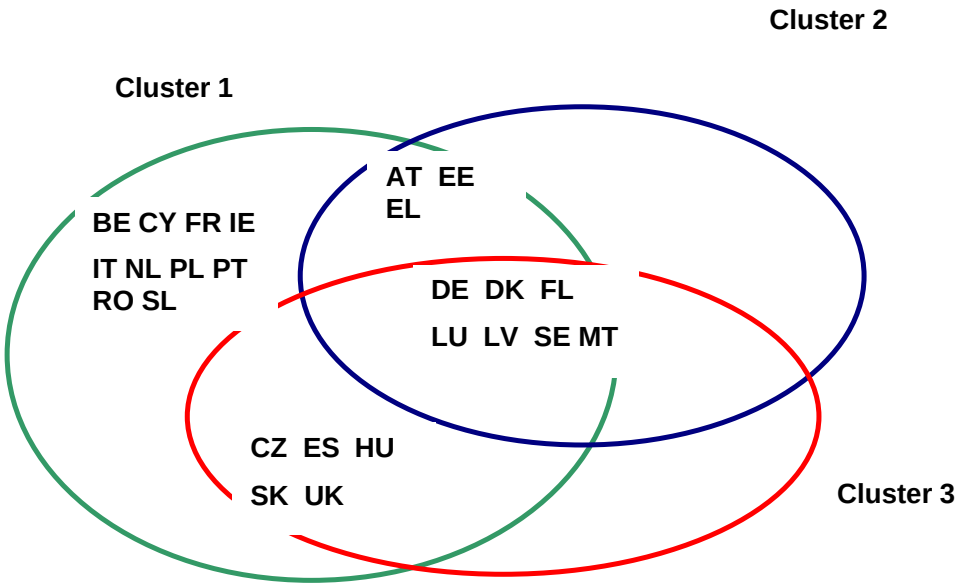
In turn, new Member States like Hungary, Poland and Malta show above average concentration of effort in these kinds of initiatives. However, new Member States like Poland are also developing and implementing 'integrative' policies and initiatives, as reflected in 'Cluster 1'.

Overall, the evidence appears to support Molnar's conclusion:

"the digital divide is a constantly transforming issue that does not show the picture of a static divide at all. Therefore, it requires multifaceted analysis and cannot be reduced to a bipolar eAccessibility and Usability dimension, or a user/nonuser issue.

Both the divide, and the questions and explanations are in movement, which makes understandable the different digital divide discourses in individual countries. However, it is far more important to highlight that the problem of the digital divide will not even be eliminated in the social saturation stage of the ICT tools, therefore it will not provide a comfortable, relaxing, wait-and-see stand for social policy".

Figure 2 : Position of Member States in policy and initiative clusters



3.4 Capacity for learning

Our analysis of national eInclusion related policies and measures based on Molnar's three-pronged model of access divide, usage divide and quality of use allows us to cluster Member States into three broad clusters:[54]

- Member states addressing to some extent issues around IT infrastructures, including the need for wide broadband coverage and to bridge the regional divide. This cluster includes Greece, Italy, Portugal and the new Member States Poland, Slovakia, Slovenia and the Czech Republic.
- A second cluster consists of countries still dealing with usage related issues but that have started to address quality of use as well. This cluster includes the UK, Germany, France, Austria, Luxembourg, Belgium, Spain, Ireland. Of the new Member States, this cluster includes Hungary and to some extent Latvia and Lithuania.
- The final and third cluster consists of countries at the forefront of ICT adoption and use and have entered the 'quality of use' phase in Molnar's model. This includes countries such as Finland, Sweden, Denmark, the Netherlands as well as Estonia and Malta.

Whilst we have demonstrated above and earlier in this project that it is not possible (or even desirable) to neatly divide national eInclusion activities in these three categories (in fact, national approaches are multi-dimensional, almost everywhere

[54] It should be noted, however, that our data are so varied in scope, coverage, function, level etc that any attempted clustering should be treated with caution.

addressing issues in all three phases), there does seem to be a certain directionality along Molnar's model which enables learning, both from past successes and failures within a country and from elsewhere. This directionality comes from the fact that logically it is necessary to have comprehensive ICT infrastructures and ICT literate population in place before issues of 'quality of use' can be addressed in a meaningful way.[55] This, together with the fact that our analysis has shown that Member States do in fact address several of these dimensions simultaneously in their eInclusion policies offers an opportunity for learning and exchange of experience where countries, regions or localities that have developed innovative approaches to dealing with issues in any of Molnar's 'phases' can be used as a resource for their peers. The fact that the visions underlying much of the policy efforts overlap to a large extent between the Member States and the EU is likely to support this process.

There are already, at EU level, some structures in place which allow exchange of knowledge and mutual learning. These include, for instance:

- A number of 'good practice' databases provide thematic information about what initiatives have worked in areas relating to eInclusion (e.g. in online service provision) across the EU Member States. Most notably these include the eUser website (www.euser-eu.org) and the eInclusion@EU project (http://www.eInclusion-eu.org/). The prototype databases of national, regional and local eInclusion projects in the EU25 developed as part of this project (http://bentham.fim.uni-erlangen.de:8080/eInclusion) provides contextualised information about national initiatives linking them to key EU policies and the six eInclusion dimensions (access, eAccessibility and Usability, individual capacity building, human and social capital, service development and participation).
- Regular EU-level conferences can further encourage the sharing of knowledge between the Member States. For instance, the 2006 first ministerial conference on ICT for an Inclusive Society Conference provided an opportunity for Member States to exchange views and practices on eInclusion. A number of other annual conferences sponsored by DG Information Society (such as the IST conferences or the eChallenges events). Various activities run as part of i2010 provide further opportunities for exchange of experiences.
- Expert groups inputting into key EU information society initiatives such as the eEurope Advisory Group and the i2010 high level group, as well as the various i2010 subgroups, e.g. i2010 Subgroup on eHealth, i2010 eGovernment subgroup, etc.
- The Open Method of Coordination (OMC) in the area of social inclusion monitors Member States' performance in the achievement of four indicators:
    - Access to employment and resources, rights, goods, services
    - Prevention of risks of exclusion
    - Help for the most vulnerable
    - Mobilisation of all relevant actors

[55] As we have pointed out elsewhere in this report, however, it is important to stress that this must not be understood not as a one-dimensional, sequential, directionality.

This offers an opportunity for eInclusion issues to be considered, in particular as most Member States include activities in this area in their National Action Plans.

Interestingly, we came across few examples of systematic knowledge-sharing on eInclusion between all actors at national level, e.g. in the form of national good practice websites. As it is as important for national policy-makers to learn from stakeholders locally and regionally as it is for Member States to learn from each other, one way of beginning to address this 'imbalance' would be to set up an eInclusion observatory according to the 'Oxfam model'. Such an observatory would consist of national nodes which would collect information about activities and necessary actions from the bottom up, starting with community-based 'focus group' type activities.

4 EINCLUSION GOOD PRACTICE

This section gives selected illustrative examples of eInclusion initiatives taken in the Member States, mostly at the sub-national level, which can – loosely – be characterised as 'good practice', understood here as 'what works for whom and under what conditions. Categorised into the six major eInclusion dimensions[56] – access, eAccessibility and Usability, service development, individual capacity building, human and social capital and participation – we 'showcase' selected projects and initiatives from the EU25 and explain why they have worked. Following on from this, this section also explores examples of eInclusion initiatives that have perhaps not worked as well as they might have and explain the reasons for it.

4.1 Good practice examples ('what has worked well'?)

In the section below we illustrate some examples of eInclusion 'good practice' implemented in the EU Member States in the six major eInclusion dimensions. What all these examples have in common is that they have chosen an approach which combines the 'primary task' of addressing the particular needs of the eInclusion dimension (e.g. providing access to ICTs by making available PCs or high-speed Internet access) with measures that embed these activities within the wider socio-economic context of the target groups that are being addressed. This ensures that some of the inherent barriers to the take-up of ICTs are being addressed and at best overcome. Looking back at the possible strategies for tackling social exclusion, this means that what the selected examples presented below have in common is an underlying preventative approach / vision for tackling issues of digital exclusion.

4.1.1 Providing access

The vast majority of eInclusion measures targeting the issue of access to ICTs focus on extending the amount of PCs in public spaces and using structural policy approaches to extending high-speed Internet infrastructures to remote and rural areas. Whilst these measures clearly increase the density of public computer networks and infrastructures, it is equally clear that they are not able to address the root causes of limited access to, and take up of, ICTs. The two examples included below are addressing this issue by looking into removing these barriers.

The EverybodyOnline Project in the UK, for instance, undertakes this by linking the provision of PIAPs in the most deprived areas of the country with outreach work in the local community in order to allow people in these communities to make use of the services offered. The key was that each of the EverybodyOnline projects has a project officer who is able to identify barriers and partner up with other initiatives run in the locality to remove them. That this approach is successful is highlighted in the 2004/2005 annual report which highlights the following results of the project(s):

[56] Jalava, J. (2006) Status of EInclusion measurement, analysis and approaches for improvement. Review of policy at EU supranational level. Topic Report 2, p. 6 (unpublished)

- Increases in Internet usage by up to four times the national average in project areas.
- Taster sessions attended by over 3000 people.
- Helped over 500 people significantly increase their key employability skills.

EverybodyOnline - working at grassroots to bridge the Digital Divide, UK

The EverybodyOnline Project is designed to help communities and individuals in disadvantaged areas across the UK engage with digital technology. The project targets disadvantaged areas in the UK with low levels of Internet connectivity. In these areas, a locally based project officer is employed to work full time in that area to promote digital inclusion. The project officer's role is to foster a network of community based, public Internet access points and develop learning programmes with partner organisations and volunteers.

EverybodyOnline is unique in its approach. Rather than simply bringing in technology and walking away, the project officer works with the community to remove the issues that prevent access. For example, setting up partnerships to provide childcare at computer taster sessions so parents don't miss out, or ensuring that current community equipment is made available at the times that suit the residents as opposed to the venue. EverybodyOnline is about giving the community what they need.

This approach helps overcome the barriers to engagement with technology and, in the long term, ensures that the development, support and spirit of EverybodyOnline continues after the end of the formal project.

The EverybodyOnline project is an initiative run by the national charity Citizens Online and is supported by BT.

www.citizensonline.org.uk/everybodyonline

Another example for an 'embedded' approach to tackling access issues is the Irish Group Broadband Scheme. This takes a community-based approach to the extension of broadband into rural areas.

Group Broadband Scheme, Ireland

The objective of the County and Group Broadband Schemes (CGBS) is to promote the rollout of broadband access through the establishment of sustainable broadband services in towns, villages, rural hinterlands and underserved areas of larger towns on the basis of local/regional authority coordination and community driven initiatives.

The scheme is open to all smaller and rural communities of less than 1,500 people. It enables local communities to work with a broadband service provider of their own choice, or to draw up and implement their own broadband plan, with the aim of launching a broadband service for residents and small & medium sized businesses in their area.

The Group Broadband Scheme is co-funded by the Ecommerce and Communications Measures of the Border, Midlands and Western and Southern and Eastern Regional Operational Programmes of the National Development Plan 2000-2006.

http://www.dcmnr.gov.ie/Communications/Communications+Development/Group+Broadband+Scheme/

A further set of good practice examples in the area of access can be found in several countries' programmes that offer incentives in the form of tax relief of subsidies to purchase ICT equipment and broadband Internet connections. These include, for

instance, the Polish 'Computer for Homes' initiative, the Italian Programme "A c@ppuccino for a PC" and the Spanish "Plan Avanza". Encouraging the purchase of ICT equipment for individuals can be classified as good practice because it has been shown that having computers and Internet access at home promotes informal learning and offers opportunities for inter-generational learning.

4.1.2 Ensuring eAccessibility and Usability

In addition to widening access, increasing the eAccessibility and Usability of Internet services has been on the agenda of EU and national policy makers ever since the eEurope 2002 Action Plan. Often, this involves making public websites WAI compliant. Several Member States, however, also use quality labels to highlight the accessibility of websites to people with disabilities. Normally, these national labels require websites to comply with WAI guidelines, but may supplement these with additional criteria, and require regular inspections. One example is the French Accessiweb label which rates the accessibility of websites at three levels (bronze, silver and gold) that indicate different levels of compliance with W3C / WAI guidelines as well as a set of additional criteria developed from the evaluation of 300 websites. The label remains valid for 1 year after which the website needs to be reviewed by designated accessibility experts. Quality labels are also being used in Belgium, Italy, the Netherlands and the UK. In addition to signalling to national audiences the accessibility of websites, they can also contribute to increasing trust in them among the national population.

Examples of national quality labels on eAccessiblity

In the Netherlands, website accessibility checks can be undertaken by an independent organisation which can issue a quality mark agreed upon by all Dutch stakeholders thus making it widely accepted as well as independent.

Design for All Evaluation, The Netherlands

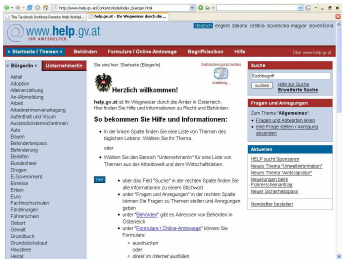
A good practice example for how quality labels work in practice is the 'Design for All' Evaluation in the Netherlands. This gives a periodical, accurate and independent check of the accessibility of websites for people with disabilities and the elderly. It was based on the project Drempelsweg and is now based on the Quality Mark drempelvrij.nl. This Quality Mark was a project of all Dutch stakeholders. The scheme ensures better quality and control over the logo and the inspections. The Design4all evaluation includes a personal account; online reports page; online helpdesk; online support; possibility for extra checks; complaints procedure etc. Websites that comply with the WCAG 1.0 Priority 1 Guidelines qualify for a quality mark and receive an official Certificate of Accessibility. (http://www.accessibility.nl/toetsing).

4.1.3 Developing services

The development of inclusive online (government) services is one of the key priorities of EU eInclusion policies. However, the proliferation of eGovernment websites has not always created systems that are transparent or useful. Indeed, citizens often find it difficult to find the sites they need, to access the services they need online. Information is not always available in different languages. One website which addresses some of these issues is the help.gv.at site which is the portal for eGovernment services in Austria. It structures information according to the 'lifeworld' principle, thus allowing people to immediately access information relevant to their situation. Information is also available in the main foreign languages spoken in Austria.

Help.gv.at

This portal pools all relevant information about eGovernment services in Austria. It is organised according to the 'lifeworld' and business situation principle. "This allows citizens to find all relevant information quickly and easily." The website is highly accessible: not only can it be accessed through mobile hotspots in public spaces in Austria, but some information is also available in Austrian sign language. Consideration is also paid to foreign and EU nationals: the portal offers those living and working in Austria information relating to the most important state institutions, bureaucratic requirements and 'life situations'. This information is provided in English, Slovakian, Slovenian, Czech and Hungarian.



The site obtained the eEurope Award 2003 from the European Commission as leading eGvoernment application in Europe, category "better quality of life".

http://www.help.gv.at/

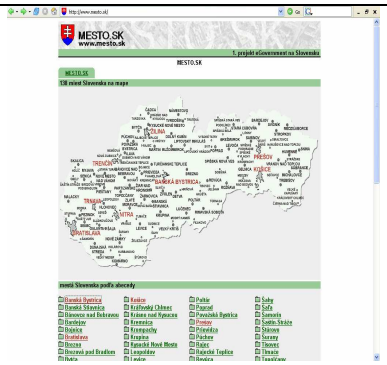
Another example of integrating otherwise dispersed pieces of information in one easy-to-use portal is the Slovakian portal mesto.sk . This portal brings together in a systematic manner information about all 138 towns in Slovakia.

Mesto.sk, Slovak Republic

MESTO.SK is the 1st Regional eGovernment portal in Slovakia. It is the local government administration portal for Slovak citizens and visitors, and covers the whole territory of the Slovak Republic. It is the integrating portal of websites of all 138 Slovak cities and towns. The objectives of the portal are to contribute to the building of regional eGovernment in Slovakia and to provide state and local administrations with an effective tool for the communication with citizens and for the mutual communication between the administrations themselves.

The "mesto.sk" portal plays the role of portal integrator that unifies different applications and content. It represents the complex information medium for the town and its region. It offers the following types of virtual information services: job search services by labour offices (eJob in cooperation with www.profesia.sk); social security contributions (e.g. unemployment benefits, family allowances, medical costs, student grants, etc.); personal documents (passport and driver's licence); public libraries; other education and training related services; services related to the policy development and decision-making process; Websites catalogue, news (press agency,

governments, citizens), wheretoGo (events, attractions), sport, EU news, corporations, accommodation, chat, free email, maps and postcards. The set of new services is in the process of preparation such as: how to arrange it, eProcurement (public procurement), eating and drinking, eForms (electronic registry), transport (timetables), eLearning, web services (domains registration), Infovek registration points (to access another eGovernment "Infovek" project), multimedia presentations of Slovak cities and towns, blind friendly web services and the VAP version of the portal.



Each town website is virtually separated and has the same structure, functionalities and design. The web pages are utilizing the multimedia possibilities of the Internet that allow publishing not only text information but also graphical information such as pictures, videos and maps. During 1998 to 2000, the pilot version of the site was operated. In 2000, the project was awarded by "Blue Globus", the award for the best multimedia presentation in the area of tourism. During the years 2000-2001, the fully operational web site www.mesto.sk, integrating the information about all 138 Slovak cities and towns, was developed. The project won SlovakPrix 2002 Multimedia, the prix in the category: "Citizens – Democracy – eGovernment".

http://www.mesto.sk

One core features of 'good practice' approaches to service development is ensuring multi-channel delivery as this ensures that people unable to use ICTs will not be excluded from public services. Here, the UK Digital Strategy, published jointly by the DTI and the Prime Minister's Strategy Unit, sets a good example by committing itself to a multi-channel access to public services, including the mobile phone and face-to-face contact with service providers.

4.1.4 Building capacity of individuals

The economic vision underpinning both EU and national eInclusion policies tends to manifest itself in the emphasis on ICT skills of many eInclusion initiatives. ICT literacy measures, either for all of the population of targeting specifically those groups seen as most affected by digital exclusion are plentiful across the Member States. However, these are not always successful. Unless they are grounded in the social and economic realities of the locality in which they are being run, improving individuals' skills is more a 'fiddling with symptoms' of digital exclusion (and economic inactivity) rather than addressing its root causes. One project in the UK, however, aims at addressing exactly these issues. The Computer Clubs for Girls, run now at 3,500 schools in the UK with a participation of 52,000 pupils aim not only at improving girls' ICT skills but also to interest them in careers in ICT. The initiative involves ICT employers - "An important component part of CC4G is creating lasting connections between employers and schools through CC4G Clubs, to ensure that the skills needs of industry are met and that girls understand the career opportunities open to them." – thus creating conditions for improved employment perspectives among participating girls.

Computer Clubs for Girls, UK

Computer Clubs for Girls (CC4G) are run by eSkills UK and were launched nationally in June 2005. They aim to get girls interested in careers in technology, and equip them with ICT skills relevant for jobs in all sectors, in ways that are relevant to them - through music, fashion and design. The clubs are run voluntarily by schools outside school hours. Girls aged between 10 and 14 enjoy a range of tailored e-learning activities which are written specifically to interest and motivate them. Traditionally this is the age group where girls become "switched off" to technology and IT-related careers. A number of companies, including large multinationals, have committed themselves to working with the clubs by volunteering to go into Clubs, or by hosting events, or sponsoring schools.

www.cc4g.net

The Computer Clubs for Girls initiative is also a good example for an effective us of PPPs where each partner contributes according to their own expertise, in a relevant and appropriate projects thereby creating synergies and benefits that would not have come about without this partnership approach. The understanding of where PPPs are most appropriately used seems to differ from country to country. In France, for instance, they are predominantly used for promotion campaigns, whereas in Finland PPPs are used for the delivery of eInclusion measures.

A slightly different approach (in terms of linking eInclusion initiatives to the local context) is taken by the Digital Playgrounds project in the Netherlands. In community-based Internet and computer centres, ethnic minorities are being trained in ICT skills in different groups differentiated by age, gender and ICT skills. Crucially, the project does not stop at simply enhancing immigrant's ICT skills but in addition have a socialisation function. Due to their integration into the community, the centres encourage integration into society and mutual learning.

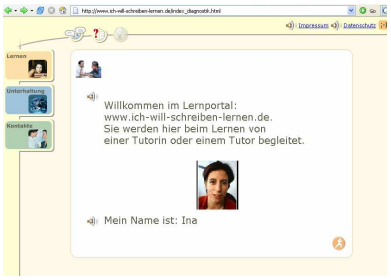
Digital Playgrounds, the Netherlands

The Digital playgrounds (Digitale Trapvelden) available in many large cities address the needs of ethnic minority groups. For example, Cybersoek is a centre in Amsterdam that offers programmes, courses and coaching to improve digital skills. They specifically target different ethnic minority groups and differentiate their offer: women, elderly, children, people with no digital skills - more advanced digital skills. They also provide courses/coaching for unemployed. Digital Playgrounds often address specific target groups, including women and/or women of ethnic minorities. In general, the digital playgrounds consist of Internet and computer centres implemented in the neighbourhoods. Their main objectives are to foster general ICT skills in order to fight digital divide and to improve the position of residents on the labour market. Moreover, they address socialisation issues since these centres integrated in the neighbourhood, where people gather to connect with and learn from each other. Digital playgrounds with local information points/centres that provide computers and access to Internet/information windows also serve as PIAPs.

Interestingly (and perhaps paradoxically) ICTs are also occasionally used to teach illiterate people to read and write. One good practice example comes from Germany and is described below.

Ich-will-schreiben-lernen.de , Germany

This is an eLearning portal for adults with difficulties in reading and writing, their relatives and persons of trust, and literacy trainers. The project has developed a learning platform which offers additional learning opportunities for illiterate people attending literacy courses. It also addresses illiterate people that want to develop their reading and writing skills through private study.



Upon logging in, the visitor is allocated a tutor (whose name and picture is shown) who guides through the website. Before starting the study programme, the visitor needs to identify their level of literacy so that a tailored study package can be assembled. The levels offered range form being able to write some letters, being able to write short words to being able to write but making many mistakes. Upon selection of the level, exercises are being put together automatically which the learner can complete online. These exercises work with audio: the learner hears letters, words or sentences that they need to type into the appropriate boxes. The site also contains an entertainment section with longer texts and audio books and news as well as a diary function and a forum to meet other learners. Throughout, the portal works with logos and audio to guide people through the site and the study material.

The portal also ahs a In a protected area where trainers can exchange teaching materials and use other services, e.g., a discussion forum. The portal also provides scientific and general information, e.g., an extensive literature database on literacy. It also features results of other literacy projects. The project is being described as unique in the world by euder-eu.org.

http://www.ich-will-schreiben-lernen.de

This example also shows the importance of tailoring the content of eInclusion initiatives to the needs of the target groups. In this case, the use of symbols, audio and online tutors (represented with a photograph) helps users of this website navigate and use it as a learning tool.

4.1.5 Building human and social capital

In the same vein as initiatives focused on building ICT skills for individuals need to be embedded in the social and economic realities of the target groups to achieve their objectives, measures aimed at raising ICTs skills among the working population ('human capital') need to ideally address barriers to employment. Some EQUAL projects have been conceptualised to address these issues:

- The EQUAL development partnership "Women and ICT" run by a group of organisations in the Austrian region of Burgenland aimed to improve the opportunities of Burgenland women in the labour market by employing a series of inter-related measures. The project provides gender-sensitive ICT training to women with little or no knowledge of ICT in different locations across the Burgenland. Access by women to new technologies and update of ICTs is to be encouraged through information centres. The project also aimed at training ICT trainers, and develops eLearning modules to this effect. The EQUAL partnership combines these training measures with a closer cooperation with regional businesses to create telework in disadvantaged areas of the Burgenland. Overall, it consists of 11 partners from the public, private and voluntary sector.

- In Spain, the EQUAL project “e-Andalusians in the Network Society” aims to promote gender issues within the local and regional Knowledge Society agendas and, in doing so, use the knowledge society as an opportunity to deploy women’s potential beyond the traditional gender-related prejudices and limitations. To achieve these objectives, the project combines training measures for women in both urban and rural areas with activities aimed at promoting women’s employment and awareness raising measures relating to the invisible barriers which hamper women’s professional opportunities.

Ultimately, these initiatives also link up eInclusion initiatives with social inclusion measures therefore ending an artificial divide frequently made in other eInclusion initiatives.

Another example for how ICTs can be used to enable social capital building comes from Sweden. The SeniorNet not only creates an online community of older people interested in ICTs. Through their local centres they also encourage them to meet up in real life.

SeniorNet Sweden - a Network Community of Seniors 55+ in Sweden

SeniorNet Sweden is a non-profit, non-political organisation, which started in 1997 with government funding as an early response to confront problems of "digital divide", the generation gap in adoption of ICT-tools. The objectives were to introduce and promote ICT-use among seniors by:

- building a virtual community of Swedish senior citizens interested in ICT as a communication and service tool meeting at the website SeniorNet Sweden
- starting and supporting local SeniorNet clubs which act as social learning centres focussing on ICT-competence. "More ICT-experienced seniors train less ICT-experienced seniors" is the motto.
- arranging ICT-activities and projects involving senior citizens, e g SeniorSurf each October in collaboration with 400 - 500 Swedish libraries and sponsors. Some 50,000 seniors have accepted the invitation to learn about computers and Internet.
- promoting development of ICT-tools in the service of user friendliness especially as related to needs of seniors in society. SeniorNet can offer research groups and private companies testbeds where SeniorNet members can function as competent focus groups for ICT-development purposes.

SeniorNet Sweden was inspired by the SeniorNet Organisation in the US and has a national organisation with a board and a small office as well as 53 regional clubs (as of January 2003) spread over the country, in total about 6000 members.

SeniorNet Sweden website

The website is the virtual meeting point for all members with news from SeniorNet central as well as from all the local clubs about their programs and activities. Articles cover ICT-news of interest to the members, new social legislation, national SeniorNet projects and members have access to the central membership database. Ample chances for interaction are provided in about 30 discussion groups in various subject areas as well as online chat. One of the discussion groups - ComputerSavvy - is well frequented by members with pressing computer problems and they get instant help from more competent members. There are also areas online covering ICT-training material developed for members with different skill levels, medical and social articles, economic articles and buying suggestions as well as links grouped in some 40 subject areas. Members also publish their creative pieces - short stories, artwork, homepages and an impressive historical jazz series in 36 sections.

Social economy and life-long learning in local SeniorNet clubs

Increased attention now is directed at the social economy in modern society with emphasis on

social responsibility, participation of citizens, social capital and local control. In the social networks of SeniorNet clubs, seniors meet regularly to improve their skills in ICT-use. Some local clubs use the public libraries and their computers, other clubs cooperate with local training enterprises. Special educational materials for seniors are being developed by enthusiastic SeniorNet members, and impressive programs with guest speakers and study visits are carried out each year.

In 2001 during the European Conference *The Social Capital of the Future* SeniorNet Sweden was given a prestigious award for the most innovative use of ICT within the social economy by the Swedish IT-commission and the Institute for Social Economy.

http://www.seniornet.se/browse.jsp?id=01_03&cikkid=424

4.1.6 Citizen participation

As we have indicated in the section above, the underlying vision for EU eInclusion initiatives is increasingly considering the role of technology as an enabler for participation by all population groups in social life. This is an area that is not (yet) widely considered in Member States' eInclusion policies, and is perhaps most prominent in the Scandinavian countries. A Finnish project carries out such work in the health area. The project 'personal safety net for people suffering dementia' (EEVA), run in a small town in Western Finland between 2004 and 2006, combined tele-care with a social support network. The project adapts and implements different technologies to assist dementia patients in their everyday life. Innovatively, however, these assistive technologies are complemented with close involvement in the care of the patient by family carers, professional health carers and – innovatively perhaps – the town community. The idea is that the combination of the technology with a tight health and social support system will allow the patients to stay at home safely for longer and thus help them to lead an independent life.

A further dimension citizen participation are the opportunities offered by ICTs for a more direct relationship between the state and the citizens. In the EU, the possibilities (and implications) for this are still embryonic, only just starting to be explored, in particular at the local level. Most Member States are currently at an exploratory stage with regard to eDemocracy. This means that they are running programmes, pilots or studies to explore options, feasibility and other issues to do with eDemocracy. Some countries, however, are already using eDemocracy tools as part of the local or even regional democratic process. These are most notably the Scandinavian countries of Sweden, Finland and Denmark. Here, eDemocracy appears to be common practice at in particular the local and sometimes the regional level. Several local councils use tools such as discussion forums that bring together citizens, politicians and businesses in various combinations. In Sweden at least, facilities to submit civic initiatives for consideration by the Council through its website. One project that was awarded a special price by the Danish Ministry for Technology is the Nordpol project (www.nordpol.dk) which aims to establish a dialogue between citizens and politicians at a regional level in Northern Jutland. In Finland there are a number of eDemocracy projects – with a national, regional and local scope - specifically aimed at young people, their parents and teachers.[57] These websites

[57] Heikkinen indicates that this is to provide a counter-balance to commercial websites (Heikkinen, K et al (2003) Youth and virtual forums of citizen activity, Europrix conference, Tampere, 13th and 14th November 2003

tend to deliver basic information about the local community and have a place for interactive discussions. Some sites also allow young people to contribute content.

Participation can also be encouraged by allowing target groups to generate the content of websites themselves. The Dutch Digidak project – a website for homeless people – does this to some extent by providing a discussion forum. The youth portal jukebox (www.jukebox.de), run by the city of Cologne, allows young people to contribute to the content of the website by becoming 'web reporters'.

4.2 What eInclusion practices are less effective?

Whilst the approaches outlined above 'work' in terms of reaching people at risk from 'digital exclusion', in the course of this study we have come across approaches that were less effective in dealing with the issue of eInclusion. In the following paragraphs we highlight some of the factors that make eInclusion initiatives less effective than they might be and the reasons why this might be.

At national programme level, some of the measures and initiatives we have come across as part of this study focus merely on technical issues, e.g. considering online government services from a purely technological perspective (rather then asking what services the user may want to access online. In the context of eInclusion this is not as effective as other (more holistic) approaches as digital exclusion is to a large extent a social and psychological issue, influenced by factors such as motivation, literacy and others. Focusing on the technology alone does not address these issues. For the same reasons, focusing merely on the supply side, that is ICT equipment, broadband availability and the quantity and density of PIAPs can also not be expected to yield the best results. Where the provision of supply prioritises conurbations over remote and rural areas, moreover, existing infrastructural trends are further reinforced. Overall, it is therefore important to choose the right indicators to measure the impact of eInclusion activities. Quantitative indicators focusing on access and skills provide meaningful information only to a limited extent.

Our research has further indicated the possibility of some eInclusion measures bringing about second order divides. In other words, although eInclusion measures address access (e.g. equipment, network connection) and usage (e.g. digital literacy skills) issues, they are less likely to tackle quality of use issues. For example, if an unemployed person is using the Internet for gambling purposes, this is hardly likely to enhance his employment opportunities, while the danger is that it will lead him to further debt and exclusion.

At project level we have found that eInclusion projects that do not consider the socio-economic context of the locality in which they are being implemented are less effective than those who do. This is because in order to work, the people targeted by the eInclusion measures need to be in a position to use the knowledge and experienced gained within an eInclusion project outside for it to be sustainable. This can only happen if the activities are not removed from the local context of use. This also suggests that eInclusion initiatives which do not link up with other projects run in an area lose an opportunity for synergy - - and possibly reducing opportunities for the target groups to get involved.

The provision of services online has, at local level in particular, the tendency to be used as a cost-savings measures. Prioritising cost savings over citizen needs, however, does not ensure that services are being used, let alone that citizens benefit

from them. Equally, unless any material – be this eLearning or eGovernment website – is usable by diverse groups, the effects of a measure will be reduced.

The conclusion is thus that eInclusion measures need to reflect in their design the multi-dimensional nature of the issue if stakeholders are to get the most out of them.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

In this section we draw on and integrate the key findings from each aspect of the study to produce policy recommendations intended to support a number of eInclusion initiatives, particularly the 'Riga Ministerial Declaration'; the eInclusion 2008 initiative and i2010. These focus on the following elements:

- ways of improving synergies of eInclusion work already undertaken;
- areas where further actions should be implemented;
- ways to improve the dissemination and impact of EU activities in this field.

Our recommendations are derived from:

- Analysis of the conceptual, theoretical and practice models and approaches and their 'goodness of fit' with over-arching eInclusion objectives, such as the revised Lisbon agenda; the 'Riga Declaration'; the 2008 eInclusion initiative and i2010
- The characteristics of current policies, initiatives and measurement approaches and any 'gaps' in provision that can be identified
- Analysis of 'what works' and 'what does not work' and what can be learned from this analysis in terms of how to develop and implement effective eInclusion policies and how to design effective actions.

5.2 Concepts, theories and models

In section 2 above, we argued that a mapping and analysis of eInclusion policies and initiatives needs to go beyond the 'functional' – i.e. the systematic mapping and classification of the attributes of policies and initiatives – to look at the ***intentionalities*** and discourses that underlie policy and practice. It needs to consider the models and concepts that shape policy and practice, as well the 'visions' of technology and society that these policies and practices are intended to achieve. In different Member States, policies and practices on social inclusion and in recent years on eInclusion have been shaped in different ways by history, ideology, politics, legal systems and prevailing scientific and intellectual ideas. Moreover, such policies reflect the prevalence of particular theories, concepts and models – for example theories and models of citizenship and empowerment. Different policies, programmes – and individual eInclusion scenarios – will have views on exclusion and inclusion that are shaped in part by sometimes radically conflicting theories - for example a perspectives based on psychology and developmental theory , and other perspectives around sociological and political economy theory.

Using discourse and content analysis, our assessment of the 'cultural logic' underlying eInclusion policies and initiatives suggests four broad categories of concepts and models about eInclusion that shape policy and practice:

- Technological change and diffusion
- Social dynamics and social exclusion
- Engagement and empowerment
- Implementation

5.2.1 Technological change and diffusion

This category refers to understandings about the evolution and spread of ICTs. The study suggests that most eInclusion policy at trans-national and national levels implicitly or explicitly incorporates a particular innovation diffusion model or set of models. This is largely based on the 'Molnar model' outlined above, which suggests a linear progression of technology diffusion, and a corresponding set of eInclusion phases focusing on access, accessibility and quality of use. However, the study shows that:

- Member States can and frequently do deliver policies and initiatives across all the three phases of the Molnar model;
- the Molnar model takes a 'functionalist' position in which the complex cultural diversity of European society is not fully taken into account;
- the model is focused on an 'individuated' view of users. Policies and practices tend to be targeted at individual users – there is little 'societal' dimension to the model;
- there is no real 'theory of eInclusion' underpinning the model, and relatively little bridging between eInclusion and the broader arena of social inclusion.
- There is not enough 'granularity' in the variables and the unit of analysis used to depict and assess the various 'digital divides'. Measurement and benchmarking approaches deploy 'broad brush' variables – ethnicity, income, gender and so on – to interpret digital divides. These variables cannot capture how eInclusion dynamics work at the local level, and how policies and practices become adapted to 'localisation' factors.

Essentially the Molnar model is based on a highly mechanistic theory of technology innovation and diffusion. In the Molnar model, ICTs are represented to a large extent as a uniform homogenous 'given' technological development and diffusion process. However, the study has shown that the development process of ICTs is complex. They evolve through different trajectory paths not only according to broad, global supply and demand dynamics, but through local contextualisation and adaptation. Although the model incorporates notions of 'technical change' – for example in terms of the transition between 'access' technologies and 'service' technologies, there is no real scope in the model for 'societal change' – either in relation to how technology diffusion shapes new forms of social structure and interaction, or in relation to how technologies are themselves adapted through 'social shaping'. The functionalist basis of the model reflects understandings of how different social actors engage with technologies in different ways – for example it explicitly references 'early adaptors' but it essentially implies a uniformity of culture. It assumes that all the actors involved share common value systems and make rational choices. There is a considerable body of evidence, borne out by the results of our own study, that the utilisation of ICTs, and in turn the 'causes' and 'effects' of eInclusion reflect 'cultural patrimonies' and localisation factors. In different Member States, policies and practices on social

inclusion and in recent years on eInclusion have been shaped in different ways by history, ideology, politics, legal systems and prevailing scientific and intellectual ideas. For example, our study shows that policies on disability, and initiatives aimed at developing policies on disability and promoting the use of assistive technologies vary considerably across different Member States. Moreover, such policies reflect the prevalence of particular theories, concepts and models – for example theories and models of citizenship and empowerment. Different policies, programmes – and individual eInclusion scenarios – will have views on exclusion and inclusion that are shaped in part by sometimes radically conflicting theories. The mapping exercise looked at the 'inclusion strategies' associated with initiatives currently being implemented. The spread of these different strategies reflects a considerable range of conceptual and practice positions. A notable example is the contrast between 'individualistic' and 'socially contextualised' approaches to supporting eInclusion. In turn, these approaches appear to reflect particular theoretical and epistemological perspectives – for example a perspective based on psychology and developmental theory , and other perspectives around sociological and political economy theory.

In turn, the factors that shape patterns of eInclusion and exclusion are subject to strong localisation dynamics. The mapping exercise showed the importance of social context, local setting and the role of communities both in shaping eInclusion processes, and in promoting eInclusion practices and initiatives. These settings vary considerably, from large scale, multi-action national Programmes – such as Italy's 'Digital Reform' programme, providing 600,000 computers in schools - to specific single projects, like the 'Employment Café' providing eSkills opportunities for young black people in Brixton, London. These initiatives have a distinctive local dimension which reflects the cultural and social environment in which the initiative is situated; the operational environment and processes that determine how the initiative works in practice; the organisational setting in which the initiative's activities are carried out (for example the physical location and environment).

Associated with this 'linear' model of technology diffusion, a second set of conceptual positions and models can be identified underpinning eInclusion policies and initiatives. This represents what might be called a technological determinist perspective, based on a 'Utopian' vision of technology as a predominant 'force for good', with the capacity to enable opportunities for the disadvantaged. However, there is a significant 'counter-literature' which, at one extreme paints a 'dystopian' view of the relationship between technology and society, in which technology reinforces structural inequalities (Feenberg, 1996). In our study, we did find evidence that the design and implementation of policies and initiatives for eInclusion typically fail to adequately reflect the 'voice' of the target groups whose problems they aim to address. Moreover, a number of examples were identified through the review where 'unintended effects' associated with the implementation of an initiative actually increased social isolation. An example is the promotion of digital literacy and e-skills for disadvantaged groups in locations where local labour markets were unable to support these newly acquired skills.

5.2.2 Social dynamics and social exclusion

All eInclusion policies and initiatives reflect some position or perspective on the causes of inequalities and, more importantly, on how these inequalities can be addressed through the application of technologies. In our study, we found that the dominant model for social change is the 'human capital' model. In essence, human capital theory suggests that technology is an enabler for 'bootstrapping' human

development to enable individuals to break out of 'cycles of inequality'. The dominance of digital literacy and e-skills agendas in eInclusion policy and practice is an illustration of this type of perspective. In turn, eInclusion policy and initiatives aimed at specific target groups – for example the disabled – emphasises 'independent living' and 'self help'. A related and growing strand of thinking focuses on the relationship between eInclusion and regional development. In this perspective, ICTs are seen as the 'new motorways' enabling greater access to information, knowledge and services and supporting the development of human capital within spatially defined boundaries.

Much less developed are notions of 'social capital', based on embedding technologies within the social fabric and 'communicative practices' of social milieu. However, the study did detect the emergence of an eInclusion policy and practice perspective based on supporting communities to enhance their 'social cohesion'. This explores a long-standing perspective within social science on the linkages between social cohesion and social pathologies, tracing interactivities between social disintegration, crime, poverty, deviance and 'anomie' (Durkheim, 1951; Merton, 1968; Giddens, 1973). A recurrent theme in this strand of social science, which is beginning to be developed in eInclusion, is that cultures, communities and groups that develop strong and adaptive mechanisms to promote cohesion and solidarity are somehow more resistant to the forces of social dislocation and social exclusion, and hence more resilient in the face of social and economic pathologies like poverty. Conversely, it is suggested that sustained and repetitive exposure to social and economic ills – poverty; ill-health; upheaval; unemployment – itself undermines social cohesion, saps the collective spirit. This ultimately increases the vulnerability of those exposed to social and economic pathologies, as a result for example of poverty-induced' ailments, "generated by despairing circumstances, insurmountable tasks, or lack of social support" (Elstad, 1998; Kreiger, 2004; Berkman et al, 2000). Conversely, some studies argue that environments characterised by highly developed levels of 'social capital' and 'social cohesion' can improve population health by influencing norms and strengthening the bonds of "civil society" (Kawachi et al, 2000; Wilkinson, 1996; Lynch et al, 2000; Kunitz, 2001).

5.2.3 Engagement and empowerment

A recurrent theme in eInclusion policy and practices is the notion that technologies can intervene in the 'inequality cycle' by empowering the disempowered. As discussed above, this notion is frequently linked to positions on re-skilling individuals, and promoting independent living. However, the study suggests that the dominant model that underpins work in the eInclusion field is based on the 'professional' approach. The *professional model* of empowerment is narrowly concerned with personal empowerment: people taking increased responsibility for managing their lives, relationships and circumstances within conformity to prevailing societal arrangements and in accordance with professionally set goals and norms. Jack (1995) argues that this professional model is better termed *enablement* since it is essentially about the development of another's capabilities and entails promoting participation and involvement[58]. In a professional context, empowerment may be more accurately interpreted as creating opportunities, which enable and encourage power to be taken. Less well-developed in eInclusion policy and practice is the

[58]The process of enablement is circumscribed by the power of the enabler (professional, expert) and does not involve giving power over that process to the enabled.

exchange model of empowerment, which recognises that both service users and the professional possess expertise, though in different areas. This model is based on negotiation about who should do what for whom. It avoids the myopia of 'therapeutic good intention' by not assuming that people only exist as clients or patients who bring nothing to a situation other than their needs. It recognises the expertise and skills they have, thus enabled their development in the interests of achieving goals they have themselves defined. The study did identify instances where eInclusion initiatives adopt a genuinely 'collaborative' model of empowerment where excluded groups actively participate in the re-shaping of their everyday lives.

A major gap in theory and practice around 'empowerment' is a robust theory and model of motivation. As discussed above, the review showed that eInclusion measures tend to be targeted at discrete categories of the excluded, notably elderly people, the young and the disabled. In contrast, the needs of the 42% of European citizens who do not use the Internet at all are largely under-represented. Moreover, eInclusion theory and practice is being developed and implemented against a lack of understanding about how those at the extreme margins of the knowledge society behave– the 'refusniks' who completely 'opt out' of the knowledge society, and the 'obsessives' at the other end of the spectrum whose immersion in technology appears to render them more socially isolated.

5.2.4 Implementation

The fourth broad category of concepts and models identified in the study focuses on positions and perspectives that reflect understandings about how eInclusion should be delivered. This set of perspectives encompasses the 'grand visions' of eInclusion – the technology metaphors and technical choices used to promote a more equitable society as well as the institutional and organisational structures through which policy and practice is implemented. From the results of the study, it could be argued that eInclusion policy lacks a theory and model of implementation. There are 'grand visions' of inclusion based on broad-brush metaphors like 'ubiquitous knowledge based services' and 'ambient intelligent environments'. These in turn are linked to technical choices. The dominant technology platform in eInclusion policies and initiatives remains the personal computer – a position reflected by the significant investment at the national level in increasing access to PCs and to broadband. Set against this trend, the study did find evidence of an increasing emphasis on community-based and socially contextualised delivery systems and models – involving the use of Public Access Internet Points, and a growing interest in the potential of 'wireless networks'. An example is the regional network being developed in Extremadura by the regional authority, which uses open source technology to link existing social spaces, such as community centres, to eInclusion initiatives. In this context, a significant trend identified by the review is the emergence of an interest in the important role that could be played by 'intermediaries' in eInclusion. This focuses on the role played by 'social gatekeepers' for example community leaders, in identifying the needs of the excluded and in making a bridge between 'technology' and 'society'. Another important implementation that remains poorly developed focuses on how partnerships do and should operate. The study found that most initiatives involve complex forms of public-private partnerships which reflect different forms of engagement. A related gap in the knowledge base is how these kinds of partnerships reflect different types of 'supply chain' and 'value chain' structures and systems. We know very little about the 'economics of eInclusion' and how, for example, eInclusion initiatives generate substitution and displacement effects.

5.3 Provision and gaps

As discussed in more detail in Topic Report 2, the overall eInclusion picture shows that considerable effort has been made to promote eInclusion. Supported by the Commission, eInclusion issues are increasingly being recognised and addressed at national level as well. However, in the successive National Action Plans for Inclusion (2001-2003; 2003-2005) which themselves are part of the Social Inclusion Process and the relevant Open Method of Co-ordination (OMC), it is clear that, although eInclusion issues are generally recognised by Member States, a strategic approach is not fully developed.

The National Action Plans for Employment seem to go further in terms of addressing ICT-related issues, for example by promoting digital literacy. The most recently published National Reform Programmes also list digital literacy, e-Government and broadband access and availability as key areas for action. The presence of a range of actors at the European level in the field, and the diverse range of linkages between these and national and local actors has supported extensive practical effort in the field. Significant programmes include the Information Society Technology (IST) Programme; the 'Citizens and Governance' Programme; the eLearning Programme and the eTen Programme. It should be noted that the relative funding bases of these programmes, and hence the resources spend on individual projects within them, varies considerably, with IST by far the largest programme. There are currently around 200 important trans-national research and RTD projects and similar initiatives dealing specifically with eInclusion, mostly funded under Framework Programmes. These projects are highly segmented and differentiated, with a clear targeting strategy focusing on particular groups: mainly the disabled; unemployed and low skilled people; older people. Different programmes reflect different priorities and targeting strategies. e-Learning focuses on digital literacy and e-skills. IST has concentrated mainly on assistive technologies; mobile technologies; coverage and design for all, and eTEN has emphasised user-friendly services.

Whilst the IST and 'Citizens and Governance' actions have focused mainly on specific 'special needs' targets, mainly disabled and elderly people, whose active empowerment has been strengthened by several tools (home care monitoring systems, different alarm-systems, software products etc.), more recent phases of the IST programme in Framework 6 have shifted towards more strategic objectives. These concentrate firstly on strengthening the scientific and technological bases of industry, and, secondly encouraging its international competitiveness while promoting research activities in support of other EU policies.

At the **national** level, national and regional policies to some extent mirror those at the EU level, and can broadly be divided into three groups, each of which can be seen as a 'phase' in eInclusion progression, although in practice, such phases are overlapping [59]. The access divide approach (or "early digital divide") concentrates on bridging the gap between those with and those without access

- The usage divide approach ("primary digital divide") concentrates on engaging those people who have access but are non-users

[59] Molnar, S (2003) The explanation frame of the digital divide", BME-UNESCO Information Society Research Institute

- The quality of use approach ("secondary digital divide"): focuses on differentials in participation rates of those people who have access and are users

At the **local** level there are a wide range of initiatives across Member States that are not part of formal national or trans-national programmes. Some of these initiatives have developed as 'social movements' in response to a perceived lack of, or insufficient level of, support from official sources. An example is the SeniorNet Sweden initiative, which, as the Riga Conference recognises, taps into the needs of an increasingly neglected, but increasingly more powerful and vocal, social group, older people. SeniorNet is a non-profit, non-political organisation, which started in 1997 with government funding as an early response to confront problems of 'digital divide' and the generation gap in the adoption of ICTs.

Overall, the eInclusion activities that are currently ongoing nationally and locally are largely consistent with those agendas that are being developed to promote eInclusion at the European level, and reflect a number of the themes highlighted by the Riga Conference. **However, the study suggests that there are still significant differences between the EU and the Member States in terms of eInclusion priorities – and significant gaps in approach, practices and provision. Broadly, policy and activities at the trans-national level are turning more and more towards the 'participation' aspects of inclusion, and linkages with social capital, active citizenship and e-democracy. Member States continue to 'sectoralise' eInclusion, in terms of policy areas – like education and employment ; or 'special needs' target groups**.

Against this background, the review of policies and initiatives reflects the increasing evidence, and recognition, that eInclusion is a multi-dimensional, complex dynamic, and that eInclusion cannot be achieved simply through providing more computers for more people. However, the diversity of different approaches and practices at a national and regional level is not without its problems, since it promotes fragmentation, and there is a need to create a 'common language' of eInclusion to promote cohesiveness at the European level. Moreover, there is evidence that eInclusion policy and practice is diverging away from its roots in the broader domain of social inclusion more generally. eInclusion is sometimes defined in policy and in the literature as a special case or a 'technical dimension' of inclusion. eInclusion policies and measures therefore need to reflect and learn from broader understandings, policies and measures that address social inclusion itself. More importantly, although there has been some movement towards a 'holistic' vision of eInclusion, particularly recently at the trans-national level, much of the effort channelled into eInclusion has concentrated on specific target groups, for example disabled people and others with special needs. Whilst this 'sectoral' approach remains important, there are some excluded sectors that have received less attention than others - offenders, homeless people and people with health issues (for example those in long-term acute care).

More broadly, the numbers of people targeted by 'sectoral' eInclusion policies are relatively small, certainly compared with the far bigger population of European citizens who have no interest in getting actively engaged with the 'Knowledge Society'.

In terms of assessment and benchmarking approaches, the major gap identified by the study relates to the lack of 'granularity' endemic in the models and tools used to measure e-exclusion and eInclusion 'performance'. Indicators used by large scale surveys tend to focus on a small number of 'broad brush' variables that fail to capture

how eInclusion measures are adopted, adapted and utilised at the local level, and how they engage with the 'everyday lives' of citizens. In turn, there is an evident lack of common definitions about what is being measured – for example there is no common frame of reference for 'disability' in the EU – and this is reflected in a lack of standardisation within the domain.

5.4 What works

Although the study was not intended to identify outcomes and impacts and to measure 'success', the review of policies and initiatives did gather evidence on what seems to work and what is less successful . This analysis can help point to 'gaps' in current policy and practice. *Table 7: eInclusion good practice: what works and what is less effective* summarises this evidence base in the form of a set of 'do's' and 'don'ts' in relation to good practices for policy development and implementation, and good practices in the design and implementation of initiatives.

Table 7: eInclusion good practice: what works and what is less effective?

	Do's	Don't's
Policies **(national or regional level)**	**Access** • Promote **home access** to ICTs through tax relief and subsidisation programmes for PCs and broadband (e.g. the Polish Computer for Homes programme). • Create **affordable broadband packages** (e.g. the Maltese IT strategy) • Promote the use **intermediaries** as appropriate (e.g. mentors in the Slovenian Information Society Strategy) **eAccessibility and Usability** • Appropriate and accessible multi-language **content** for online public services (e.g. the Austrian egovernment portal www.help.gv.at) • Promote the use of recognised **quality marks** to promote accessibility and trust (e.g. the French eVermeil) **Service development** • Ensure **multi-channel delivery** of services to excluded groups (UK digital strategy) • Ensure **multi-platform delivery** of services (e.g. Finland's national programme for the Information Society) **Individual capacity building, human and social capital** • **Integrate** social inclusion and eInclusion policies **General** • Promote **bottom up approaches** (e.g. the Irish White Paper on the Community and Voluntary Sector).	• Focus on the technical issues • Focus only on the supply side (e.g. ICT equipment or PIAPs without mediators) • Encourage second order divides • Focus only on Internet-based connections. • Don't only focus on urban conurbations but prioritise remote underserved areas • Don't limit measurement of eInclusion to access and skills

	Do's	Don't's
	• When using **PPPs** identify the best configuration and area of activity (e.g. use of PPPs in France (awareness raising) versus Finland (involvement in eInclusion delivery). • Use appropriate **evaluation and impact assessment frameworks** (e.g. the evaluation of PIAPs in Scotland)	
Initiatives	**Access, individual capacity building** • Investigate the **demand side** for ICTs by excluded people (e.g. the Irish Group Broadband Scheme) **Individual capacity building** • Develop **tailor-made content** for excluded groups (e.g. the German project http://www.ich-will-schreiben-lernen.de) **Human and social capital** • **Integrate eInclusion and social exclusion** measures (e.g. gender issues in the EQUAL projects europ@acte2 or e-Andalusians in the Networked Society) • Understand and address **local needs** and link up with other relevant initiatives (e.g. in the UK Everybody Online Project www.citizensonline.org.uk/everybodyonline) • Integrate **virtual communities with real-life communities** (e.g. the Swedish SeniorNet project). **Citizen participation** • Enable excluded individuals to **generate content** (e.g. the Jukebox project of the City of Cologne)	• Don't design projects that are removed from user needs and context of use • Don't design eInclusion measures locally in isolation from other initiatives and excluded groups. • Don't prioritise cost savings (e.g. in the provision of local public services) over citizen needs • Don't ignore the importance of usability

	Do's	Don't's
	General • Use **partnerships** and include a mix of the right organisations in them (see for instance the UK Computer Clubs for Girls www.cc4g.net)	

5.5 Recommendations

On the basis of the evidence presented in the preceding sections, this final Section provides recommendations in three areas:

- How to synergise existing work in the field
- Recommendations for future work in eInclusion
- Recommendations to support dissemination.

5.5.1 Promoting synergies

In promoting synergies the following recommendations can be made:

(1) There is a need for meta-analysis of existing policies, initiatives and available research and evaluation data to date. At present although there is a plethora of policies, initiatives and projects as well as research activities in the area of eInclusion, any ensuing reports tend to stay at the descriptive level. In contrast, what is needed is for someone to unpick why certain interventions work, while other do not. This can be done analysing and synthesising the wealth of existing material, with a view to identifying the factors most likely to lead to successful outcomes as regards eInclusion. We started this exercise in section 5.4 (What Works) where we compiled a table with the characteristics of the most successful interventions we came across. For example, human mediators ("technology stewards" or technology mentors) are increasingly being used to help the disadvantaged engage with ICTs. This has proved very successful in a number of cases across the EU, i.e. across different cultural, economic and institutional contexts.

(2) Meta-analysis encompasses results of studies that are already conducted (Kulik and Kulik, 1988). They typically use quantitative data – in this case summaries of statistical results. In the eInclusion case, this kind of quantitative analysis might entail comparing the results of large scale surveys on access. However, meta-analysis also includes more broadly studies of qualitative results. For example, reviewing the outcomes of a particular "term" of eInclusion. The eInclusion Repository (see Handbook) could provide a platform for meta-analysis to be done.

(3) There is also a need for commonly understood definitions and used standards. Again it is suggested that the eInclusion Repository could kick start a movement towards eInclusion standardisation through its eInclusion wiki.

(4) Action research is a good methodological way of deepening understandings and exploring unforeseen effects and unintended consequences of eInclusion related policy actions. Proposals for action research are set out in the Handbook (section 4.4).

(5) Greater cross-agency[60] and cross-national collaboration is required, not least due to the multi-faceted and complex nature of digital exclusion. For this a thorough re-examination of existing organisational norms and protocols is required. For example, one should establish protocols among agencies for sharing sometimes sensitive information concerning the users' multiple needs. This, however, is contrary to the current way of operating in quite vertical "silos" rather than horizontal, inter-departmental lines. In addition, current legal requirements and accountability militate against data sharing. These however can be addressed through proper information sharing protocols. These, in turn, can be strategic, middle tier and/or service protocols. Moreover, the IT systems themselves of these agencies are not interoperable in many cases. This again calls for greater co-ordination and standardisation of IT systems.

(6) One should promote of wide range of partnership arrangements (not only PPPs) at local level, characterised by a mix of public and private sector actors and increasingly the voluntary and community (third) sector which is seen as having both long experience in dealing with at-risk groups and as such being in a better position to do outreach activities and engage disadvantaged groups. PPPs and the role of the corporate sector are reviewed in detail in the Handbook.

(7) This, in turn, requires attention to ICT capacity building and funding arrangements for this sector. To this end, a consideration of "light touch" procedures for small communities and grass-roots organisations applying for funding is desirable

(8) There is a distinctive need for inter-disciplinary critical review of underlying concepts, theories, models and 'visions' as regards eInclusion.

5.5.2 Recommendations for future work in eInclusion

These cover four elements:

- Conceptual
- Methodological
- Action lines (policy and initiatives)
- Operational

Conceptual

Here we propose the following recommendations:

(1) There is a definite need for the development of grand theory of eInclusion

[60] Work is already being carried out in this sphere. For example, in the UK the FAME (Framework for multi-agency environments; www.fameuk.org) National Project is developing a framework for multi-agency information sharing.

(2) Linked to this is the need to understand technology diffusion as applies to at-risk groups in view of their particular characteristics

(3) The 'social shaping' and contextualisation of technology needs to be further explored, not least through action research

(4) The great range of partnership models currently in operation needs to be examined in depth with a view to identifying most appropriate configurations, e.g. involvement of community and voluntary sector

(5) There is a need to develop an adaptive theory of how ICTs can be adapted to the needs, user requirements and life styles of at-risk groups

(6) The concepts of participation, citizenship and e-democracy need to be further examined, especially in terms of meaningfully engaging at-risk groups

(7) There is a need to develop appropriate understandings and theories as regards user motivation, disengagement, technophobia, especially for those who are not digitally engaged

(8) More research should be carried out on the various implementation models that apply to eInclusion at both the macro/policy and delivery levels

(9) Research is also required into incentivation of at-risk groups as regards the use of ICTs and relevant value chains. The digitally disengaged people possibly represent a new "market" for the IT industry. Unfortunately, ICT developers have historically perceived no market in products aimed at excluded clients that would involve low cost hardware and low cost broadband services. That said, in recent years a growing number of leading IT companies, e.g. Hewlett Packard, Microsoft, have started to get involved in digital inclusion initiatives. More research should be directed at studying this trend and in exploring how regulatory mechanisms can further encourage such involvement.

Methodological

Here we have identified the following:

(1) There is a need for proper assessment and benchmarking indicators. At present, most of the existing indicators are still centred on rather broad measurements such as access to ICTs and Internet connection, availability and level of digital literacy skills and ICT usage rates. Although such indicators on e-Access, e-Skills and e-Usage are useful for national benchmarks and trans-national comparisons, they fail to present an integrated view of the real "life worlds" of citizens. One might even argue that the current focus on "market penetration" is largely driven by commercial market forces. However, it has become increasingly evident that such indicators are less able to shed light on the necessary contingency approach to social and digital inclusion, i.e. "what works for whom under which conditions".

(2) Greater elaboration and refinement of variables used in assessing eInclusion factors. First, as regards structural variables one should include more systematically income levels and data on ethnic backgrounds/country of origin/migration status. Moreover, there is a need for higher data granularity on general health conditions and special needs. One should also measure key competences such as language skills since their lack can hinder user

engagement. Crucially, there is a need for strengthening the compound indexing on multiple deprivation since social and digital inclusion are mutli-dimensional and multi-faceted. Finally, there is a need for higher standardisation in the assessment of structural variables across all methodologies and data collection tools;

(3) As regards technological variables one needs to take a closer look to the convergence of access technologies and related costs as well as to expand and systematise the measurement of e-Accessibility, e-Usability and e-Security aspects. The potential of mobile technologies for eInclusion should be further examined;

(4) Moreover, attention should be paid to individual and social variables in an attempt to go beyond digital literacy aspects. This, in turn, means including such aspects as user needs, motivations/intentions and perceptions under a contextual approach;

(5) Linked to the above is the need to focus on eParticipation/Usage of e-Services and e-Content variables. This will result in an enhanced methodological approach which would incorporate a dedicated demand side centred and subjective user perspective and which would allow for a more meaningful analysis of the appropriation of ICTs in the 'life worlds' of European citizens. Attention should also be paid on the periodicity and nature of data collection. Specifically, there is a need for greater periodicity of data collections in order to allow longitudinal analysis of change over time and for different user segmentations and environments; consistent combination of quantitative baseline data with qualitative assessment of user perceptions (e.g. reasons for non-usage, future intentions, perceived impact of ICTs); case studies to be collected under a standardised case study analysis framework for future data collections and under a meta-analysis framework to valorise the richness of qualitative information already collected in order to validly combine and interpret outcomes of different projects and studies

(6) Proper cost-effectiveness of policy interventions should also be explored. Here one should evaluate the relative cost-effectiveness of various policies, e.g. does the fact that human mediation results in greater user engagement among the disadvantaged mean that for eInclusion purposes such a policy is more cost-effective although it is very labour and resource intensive? Alternatively, what is the opportunity cost of the 40% of EU citizens not engaged with ICTs?

In the light of the above discussion it is clear that proper eInclusion evaluation frameworks, including impact assessment should be developed. Such frameworks would need to include three additional perspectives to the quantitative and qualitative measurement and subsequent analysis of the eInclusion domain:

- A motivational or intentional perspective: addressing the motivations and needs of European citizens according to their social configurations and concrete 'life worlds';

- A societal learning perspective: observing more closely 'social spheres' of learning and adopting new technologies (i.e. transformative learning, collaborative dialogue, sense-making, communities of values;

- A developmental and coping perspective: focusing on 'Critical Life Events' of citizens necessitating coping or change strategies and their available internal and external resources.

The enhanced eInclusion Measurement Framework is therefore aiming at uniting the different dimensions of social inclusion at large and eInclusion in particular. In parallel the enhanced eInclusion Framework aims at complementing the horizontal and cyclic digital divide model (incl. access, usage and quality of use divides) as suggested by Molnár and further analysed in Topic Report 2 with a vertical perspective of eInclusion dimensions to allow simultaneous observations and measurements of dynamic and transitory eInclusion realities within each adoption stage and digital divide compartment. The newly suggested framework relates at the same time to six recent, current and future European policy functions (ranging from access provision to active citizenship) as identified in Topic Report 1.

Action Lines

The following recommendations can be made as regards areas of activities:

(1) There is a need for in-depth ethnographic/anthropological research into the demotivated and ICT 'refusniks'

(2) There is need to study under-represented excluded and 'at risk' groups (offending; migrants; long term ill) who do not feature as prominently as other groups, e.g. the elderly, the disabled, in the eInclusion policy agenda

(3) There is a need for more diversified bottom-up projects. For example, the Group Broadband scheme in Ireland brings together local communities with ISPs to create localised, tailor-made solutions to broadband access. Moreover, since social and digital exclusion is primarily local, it is usually local actors working on the ground that can reach out and engage disadvantaged groups.

(4) In view of their importance there is a need to understand the role(s) of mediators and intermediaries as regards ICT access of at-risk groups

(5) There is need to further explore the concepts of e-democracy and e-citizenship within the context of social capital

(6) The potential for eInclusion of new infrastructure and platforms such as wireless networks; DiTV; mobiles should be further tested on the ground. In general, further research into and application of thin-computing models[61] should be undertaken, since such thin hardware has proved quite successful in engaging those on low income. A review of likely developments in ICT innovation and their implications for eInclusion policy and initiatives is provided in the Handbook (section 4.4.).

(7) Linked to this is the need to explore the supply side dynamics as regards excluded groups. For example, what would encourage more IT companies to get engaged in addressing eInclusion issues.

(8) There is a distinctive need for prospective research, both longitudinal and foresight to identify future trends, as set out in section 4.4. of the Handbook.

[61] Such models aim at leveraging central management of applications, content and hardware, in combination with reliable, robust and inexpensive edge devices - is optimal in these environments

(9) More research is required into the quality of use of ICTs by at-risk group

(10) The existence of integrated systems and services should also be further examined.

5.5.3 Research is required into the effectiveness of the existing regulatory mechanisms

For example, despite the Commission's deregulation and telecom liberalisation efforts, in some Member States a quasi-monopolistic situation persists, the result being that the cost of Internet connections varies widely across the EU, with some of the highest costs existing in countries with the relatively lowest disposable income.By far the biggest financial contributor to eInclusion policies and initiatives derives from Structural Funds. However, the main problems we have identified focus on (i) the over-representation of funding in access initiatives, e.g. provision of broadband infrastructure; (ii) institutional fragmentation in the funding process, e.g. the lack of integration between trans-European, national, regional and local actors; and (iii) the lack of integration between different funding priorities and agendas. Against this background, although the Commission's funding mechanisms, e.g. Structural Funds, have been increasingly aligned to the needs of IS (e.g. as manifested in the new Guidelines), further alignment of all instruments is required. For example, Structural Funds directed towards eInclusion measures should be explicitly targeted to the position of the Member States or region in its stage of development of IS. A further far less significant source of funding is derived from the EU RTD and other programmes. The evidence suggests that both the level of funding is insufficient and its deployment is fragmentary. Future programmatic finance should therefore be expanded to a level commensurate with the ambitious aims of i2010 and there needs to be more mainstreaming of eInclusion across the different programme sectors. Finally, the study highlighted the low level of funding contributed by the private sector. The issues around involving this sector more fully are covered in the Handbook, but at a minimum both the Commission and Member States should focus on providing tax breaks and other incentives for the commercial sector.

5.5.4 Recommendations to support dissemination

In supporting dissemination the following recommendations can be made:

(1) There is a need to promote a culture of trans-versalism, integration and collaboration among policy actors and practitioners since eInclusion is a cross-cutting, transversal theme

(2) This applies to the European Commission itself where the relevant DGs, e.g. INFSO, Employment and Social Affairs, REGIO, EAC, Enterprise, tend to operate in parallel lines

(3) Similarly, there is a need to rationalise and valorise parallel lines in RTD programmes

(4) Locally-based eInclusion observatories (e.g. Member State Level) might be a good data gathering, validation and dissemination mechanism

(5) There is a need for large scale action research experiments

(6) There is also a need for multi-disciplinary stakeholder groups e.g. 'Oxfam model'

(7) Finally reflexive reviews of Riga, 2008, i2010 should take place in an open and unconstrained way.

5.5.5 International Recommendations

The study also looked at what is happening in Latin America as a comparator for eInclusion in Europe. Over the past 10 years, in Latin America the first wave of eInclusion policies was deeply focussed on connectivity. These are normally policies that involve the public and the private sector (mainly Telecom operators) and focus on access to ICT, especially for disadvantaged areas or target population groups, leaving very limited space for eInclusion services development. In most recent years, most of the LA countries (Brazil, Argentina and Mexico, i.e. the major players in the region) are adding to the aim of improving access of all citizens to technological tools and services the need to invest in eInclusion services and skills (i.e. being able to use tools and services effectively). The broad picture is therefore that every country is carrying on a more or less advanced Information Society Plan (sometimes still in the shape of a Connectivity Agenda) that explicitly includes some funding and prioritisation for the use of ICT against social exclusion. In parallel, from the top a number of major ICT for Development Programmes managed by international Donors (the @LIS and IST Programmes by the European Commission, the Frida Programme by the Institute for the Connectivity of the Americas just to mention some) and from the bottom a number of civil society driven projects aiming at digitally including more and more LA citizens.

Our overview of eInclusion related activities in Latin American has highlighted the importance of the historically high commitment of civil society networks in the region, which in turn have acted as nodes in reaching out to and engaging disadvantaged groups as well as in setting up grass-roots, bottom-up projects. This bottom-up approach is complemented by national programmes which, in turn, create a framework conducive to broadening access, not least by ensuring that the appropriate infrastructures are in place. The close involvement of key industrial actors should also be mentioned as a driver for eInclusion.

ANNEX 1: CONTENT ANALYSIS PROCEDURES AND CHECKLIST

Procedures

Content analysis typically takes the form of scanning or inspection of qualitative data derived from a range of sources: reports; responses to structured or semi-structured interviews; verbatim responses of focus groups to the question prompts, in terms of either an ante-post (pre-determined) or ex-post (retrospectively applied) structure. In the *ante-post* (pre-determined) case, the analyst will be looking for things like the frequency of occurrence of an item of content, and the ways in which the item reflects the key research questions being addressed by the eInclusion study. In the *ex-post* (retrospective) case, the data are scanned without a pre-determined structure in order to build up a meaningful 'clustering' of the frequency and type of elements discussed. A key aim of the exercise is then to build a 'map' of interconnections between the different content elements. A picture of the frequency and type of elements occurring can be built up manually (by inspection), or by computerised means (for example a commonly used method is to search text using a wordprocessor package like Word) or through using content analysis software (NVivo).

Coding of content is carried out on the basis of two constructs: the manifest content – the physical or 'objective' material in a report or multimedia item – and the latent content – the underlying or hidden meaning of the material. Interpretative methods are a generic method of carrying out content analysis (indeed some theorists argue that content analysis is a branch of interpretative methods) except that they frequently adopt some form of conceptual or epistemological stance (for example hermeneutic analysis). This may incorporate a theory-driven approach (see Chen, 1990), where interpretation of the content of focus group interviews is shaped and guided by an underlying theoretical position, for example a particular view of pedagogics.

For both ex ante and ex post approaches the standard method – for both the initial design of classification frameworks and for analysis of the data themselves - is to use item analysis. Item analysis works by getting together a criterion group (which in this case, for practical purposes is likely to be the project team). They then work together to produce a structure (identifying key items or dimensions they think are important criteria in analysing the data) and, using this structure, individually assess the data by rating relevant items of text according to the dimensions agreed. Those items achieving consensus are retained and used to draw conclusions, and those items generating a wide degree of divergence are discarded. [62]

[62] For further details on analysis methods, see: 'Miles and Huberman' 'Qualitative Methods' (1998); ARTICULATE Guidelines on evaluating learning applications (Tavistock Institute, 1996). Ackroyd, Stephen and Hughes 'Data Collection in Context' (1981)