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Revisiting eInclusion: from Vision to Action

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Preface

This paper was prepared by IPTS,[1] on the request of Directorate-General Information Society and Media, Directorate H (ICT for Citizens and Business), in support of eInclusion policy development. It served to launch an EC internal debate on this subject at a workshop which took place on 31 January, 2006. Feedback from the workshop has been included in this final version of the paper, which has been completed with some qualitative and quantitative impact assessment and reviewed for publication. IPTS would like to thank DG INFSO, Dir. H, for its valuable contribution.

[1] IPTS (Institute for Prospective Technological Studies) is one of seven research institutes that make up the European Commission's Joint Research Centre.

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Executive Summary

This report proposes a new policy strategy for eInclusion in support of European policy-making.

First, based on recent research (Kaplan), it proposes a broad working definition for eInclusion and uses Armatya Sen's capability approach in order to identify priority areas for policy action. Secondly, it explores the role of IST take-up in inclusion, based on research into the socio-economic dimensions of ICT take-up so far. Thirdly, it explores the potential of IST-based applications in each of the priority areas in support of eInclusion. Finally, it draws up an agenda for specific policy recommendations and stakeholder action in these priority areas and offers some implementation guidelines derived from experience with previous eInclusion initiatives.

Towards a new approach to eInclusion

A definition for eInclusion had been proposed by the eEurope Advisory Group, co-ordinated by Kaplan.[2]

> *1. e-Inclusion refers to the effective participation of individuals and communities in all dimensions of the knowledge-based society and economy through their access to ICT, made possible by the removal of access and accessibility barriers, and effectively enabled by the willingness and ability to reap social benefits from such access.*
> *2. Further, e-Inclusion refers to the degree to which ICT contribute to equalising and promoting participation in society at all levels (i.e. social relationships, work, culture, political participation, etc.).*
> *(…)*

In order to stress the potential roles of different stakeholders on the one hand, and the opportunity to exploit the potential of ISTs to promote social inclusion and individual empowerment on the other, the following citizen-centric and opportunity-driven working definition for eInclusion is proposed:

> *"all efforts by the public and private sector, civil society and the technology community devoted to developing and using ISTs* ***to address issues of societal exclusion*** *in any dimension;* ***creating new opportunities*** *for inclusive empowerment and development through ISTs, and* ***preventing*** *new IST-induced gaps from emerging.*

In order to identify the **priorities** and to guide the development of an eInclusion implementation roadmap, Armatya Sen's capability approach has been used. This is perhaps the most widely accepted and referenced elaboration of human rights for practical policy-making. Sen argues that social inclusion cannot be viewed as a charitable afterthought, born of empathy for human marginalization. Inclusion should instead be considered as a normative imperative, consisting of a set of individual entitlements to

[2] e-Inclusion: New Challenges and Policy Recommendations (2005)

fundamental human freedoms, autonomy, dignity and equitable participation in society. Each citizen should be able to claim these entitlements on the basis of the universally agreed canon of human rights. Consequently, **health, education, employment and equitable participation in collective governance** are seen as key priority areas to be considered in a policy approach to social inclusion in general, and eInclusion in particular.

Furthermore, policy initiatives that support inclusion could also bring sizeable economic benefits, since the costs of social exclusion are high. High high-school drop out rates, for example, constitute a waste of educational resources and characterize an education system that is ill-attuned to the demands of a modern knowledge economy. Low labour participation rates leave valuable human resources idle and put stress on social support systems, while a sense of exclusion from communal and political life erodes support for growth-oriented policies and, eventually, the democratic contract that underpins our societies.

Finally, intermediary organisations, such as community groups or charity organisations, assume an important bridging function for inclusion initiatives. This means that the specific needs and potential of such bottom-up support networks, as pivotal intermediaries to leverage eInclusion policies, need to be considered in a policy approach to eInclusion.

The role of IST take-up in social inclusion

As a first step in exploiting the potential of ISTs for social inclusion, a strategy for eInclusion would need to incorporate the knowledge built up by research on the diffusion and appropriation of a new wave of ISTs, in particular the Internet. This research points at the following key relationships **between IST and social inclusion**:

1. **Some digital divides are persistent**, in certain income, education and age groups. **Access, affordability, accessibility and skills** are indicated as important factors influencing IST take-up and *use*. Moreover, rapid innovation makes digital inclusion a moving target which requires that attention be paid to the evolution of these factors and the emergence of new ones. Therefore, cross-cutting policies designed to minimise these barriers are crucial in an eInclusion strategy which aims to prevent IST-induced gaps and create opportunities for inclusive empowerment and development, through ISTs.
2. A number of **New Member States** face particular challenges and opportunities as regards IST take-up, and thus the **specific contextual factors influencing the deployment and use** of ISTs need to be taken into account in the drafting of policies.
3. Further more, the extent of IST *use* depends on its **relevance for the concrete needs and activities of everyday life**. Thus those applications and eInclusion initiatives that provide demonstrable and relevant benefits to the target groups should be given priority.

4. As eInclusion exploits the potential of ISTs for social inclusion and protection**, integrated policy approaches** are therefore required, that align IST eInclusion policy initiatives with social and economic inclusion policies.

Key policy recommendations that aim directly to promote the uptake of IST include:

- **consolidate and expand** the success of **eAccessibility** initiatives;
- establish new mechanisms to facilitate **user consultation** in the technology design process to ensure IST design for all;
- step up systematic qualitative research to **capture eInclusion in all its dimensions** for better benchmarking and as a complement to conventional ICT statistics.

The potential of IST-based applications for social inclusion

Considering the key priority areas of health, education, employment and equitable participation in collective governance, the analysis of the potential of IST for inclusion points at the following themes as relevant for a potential eInclusion policy agenda:

1. IST to support individuals´ **access to the labour market**;
2. IST to support equitable **participation** in public and political life;
3. IST to support **life-long learning**; and,
4. IST to **minimize individual impairments** caused by ageing, disability and disease.

The potential of IST in each of the four areas is further developed below.

1. IST to support individuals´ access to the labour market

Addressing barriers to the employment of at-risk groups is an essential component of social inclusion. Unemployment carries a social stigma, puts households at risk of poverty and can, if experienced over a prolonged period of time, erode employability and future prospects for economic participation. Unemployed people are also disproportionately affected by the digital divide. In 2004 in the EU25, it was estimated that only 15% of the unemployed use the Internet regularly, compared to 47% of employed people and 73% of students.

The **at-risk groups** which face particularly high barriers for entering the labour market, include: the long-term unemployed, home carers, groups with special time commitments (i.e. young mothers) and the disabled.

ISTs offer a variety of opportunities to prevent, mitigate and roll-back exclusion of these specific groups from the labour market in at least four different ways:

- *on the supply side*: by enhancing peoples'employability by improving their skills and productivity;

- *on the demand side*: by making possible more flexible job profiles and work arrangements (such as teleworking) that suit employees with special needs (i.e. disabled, part time) and by creating new employment and local entrepreneurial opportunities for at-risk groups;
- *structural*: by facilitating the matching of people to job openings, and, more specifically, the job search by people with special skill-profiles, such as special needs or time requirements; and,
- *contextual:* by providing networking platforms and information services to address socio-economic side-effects of labour market exclusion and promote solidarity, collective voice and effective access to entitlements for at-risk groups.

Key policy recommendations include:

- Deliver eLearning and training through unemployment offices and embed them into the system of active labour market measures;
- Promote the design of IST with high standards of accessibility and the deployment of secure, robust communication tools that support teleworking and mobile working arrangements;
- Review, amend and step up the provision of additional incentives, such as tax deductions or direct subsidies, in order to create teleworking opportunities on the employer and employee side;
- Establish initiatives that raise awareness about the range of options and innovative solutions that teleworking and mobile eWorking can offer employers (including SMEs) and potential employee groups (including associations of home carers, and disabled people);
- Encourage collaboration with industry to ensure that online job markets comply with eAccessiblity criteria and that their job profiling and search functions can accommodate the special needs of disabled people and the flexibility requirements of home carers; and,
- Provide information on local IST training opportunities and self-help networks that address the side-effects of unemployment with the help of accessible technologies and smart (disabled-person-friendly) location and design of public Internet access points.

2. IST to support equitable participation in public and political life

The vision for Government in the EU for the next decade, as reflected in the Manchester Declaration of November 2005, conceptualizes eGovernment as the use of ICTs for better and more inclusive government in its broadest sense.

IST-enabled **government, participation and democracy** can contribute to objectives of inclusion in a variety of ways:

- by providing new IST-enabled channels for delivering government services and making these services more accessible for people with special needs (eServices, eAccessibility);
- by making the democratic process and government decision-making more transparent, consultative and participatory through online information provision in all relevant languages and formats, deliberative initiatives and empowerment of advocacy groups that serve at-risk groups (eEngagement), and,
- by harnessing the same tools in a targeted fashion to make inclusion policies and initiatives themselves more transparent, participatory and accountable and by stepping up the provision of content relevant to groups at risk of exclusion.

Key policy recommendations include:

- Provide subsidised equipment and training in online lobbying and advocacy techniques to interest organisations that cater for excluded groups (self-help groups for the unemployed, patient associations, old people's associations, ethnic minority and youth groups, etc.);
- Enhance the accountability of the policy-making process by providing detailed information on policy drafts and background information online and by convening public online consultations as input to policy development;
- Make inclusion policies more transparent and accountable by providing online budget information that helps to track expenditure on inclusion measures (social budget analysis);
- Provide support, online translation and services that help disadvantaged groups, such as ethnic minorities, deal with public authorities and service providers, e.g. web interface for people with hearing problems;
- Improve compliance with web accessibility standards for all eGovernment applications; further develop these standards and promote their use in the wider Internet community;
- Provide plain and foreign language versions for major e-government services and relevant public information to facilitate communication with literacy-challenged people and resident ethnic minorities; and,
- Promote the use of open source software tools in eGovernment activities, in order to encode public information in non-proprietary data formats for use on the broadest range of technology platforms, so as to facilitate the development of accessibility solutions.

3. IST to support life-long learning

Education and training (E&T) are key determinants of employability, social inclusion, self-fulfilment and participation in society. There is still, however, a long way to go to make E&T inclusive. The educational attainment of children is still closely linked to the socioeconomic status of their parents. In Germany, for example, children from white-collar families are four times more likely to go on to higher education than those with

parents from blue-collar or low-skilled occupations, while high school drop out rates reach more than 30% in several European countries. All this makes IST for inclusive learning an urgent matter.

IST-enabled Lifelong Learning embraces two perspectives: IST for learning and learning to use IST. This definition goes far beyond the use of computers and Internet in schools - traditionally regarded as eLearning - and includes:

- both formal and informal learning;
- traditional education (nurseries, schools and higher education);
- learning at the workplace;
- the use of IST for learning and training to find work (e.g. re-skilling, up-skilling); and,
- the use of IST for learning in everyday life (digital literacy/digital competences and informal learning).

IST-enabled inclusive learning should be targeted at disenfranchised people and those at risk of being excluded from educational and training opportunities such as jobseekers, the elderly, immigrants and others.

Key policy recommendations aim to motivate learning through IST, promote widespread digital competences, encourage a focus on the emancipatory and empowering aspects of IST-enabled learning and monitor progress in this area:

- Develop IST-enabled learning **pilot projects** in cooperation with local organisations and local communities close to the target groups;
- Set a **target** for digital competence diplomas for specific target groups, for instance, 50% of jobseekers by 2010;
- Make operational the notion of digital competence as defined by the EU proposal on key competences for lifelong learning in order to propose a new **European accreditation system** that is broader than the European Computer Driving License;
- Set-up an **EU observatory** on emerging digital competences;
- Support companies, especially SMEs that provide IST-enabled learning of digital competences to IST illiterate staff; and,
- Support **research** (prospective and analytical) into new skills, competences, jobs and employment in the knowledge society.

4. IST to minimize individual impairments caused by ageing, disability and disease

Fostering independence and promoting active ageing policies are interlinked goals for the EU towards social cohesion and inclusiveness of the elderly, the disabled and people with chronic diseases. Furthermore, these policies provide opportunities to address some of the challenges that health care systems are facing, derived from the financial pressure of ageing populations together with the persistent cost increases of health care systems.

IST-based independent living services for these three social groups can contribute significantly to their quality of life by supporting independence and the continuation of autonomous, socially-integrated lives, especially when:

- the design of such services is oriented towards user needs, taking a life course approach;
- a wide policy approach is taken, inter-linking to related economic, social, education, labour, etc, policies; and,
- related policies are not limited to particular age groups, but address particular barriers for independence (physical and/or mental impairments, housing conditions, lack of transportation facilities, lack of community communication facilities, low income levels, etc) and thus different needs, rather than aiming at standardized packages of support.

Bearing in mind that many problems in older age groups are related to the impairment of cognitive capabilities, one of the most promising areas for future applications is expected to emerge at the cross-roads of IST and the cognitive sciences.

The main policy guidelines deriving from key challenges identified include:

- the required *upscaling* of promising (small scale) initiatives in the health care domain is made difficult by organisational complexity. These organisational barriers need to be taken into account for successful IST-enabled independent living initiatives;
- limited application of independent living services, particularly in the health-care sector, leads to insufficient awareness of the usefulness of ILS in other domains such as working life, informal family networks/informal care, community life. This requires an ongoing emphasis on experimentation and innovative pilot projects;
- traditional views of old age care which pay limited attention to issues of independence must be addressed through education in IST-enabled active ageing for professional carers;
- as the take up of ISTs by older people is still lagging behind, actions to support the specific take up of ISTs by older people are needed to realize the potential of ISTs for empowerment and independence.

Key policy recommendations include:

- Create an 'ageing platform' to look for innovative views on how to promote active ageing across all policy domains;
- Establish links with e-participation through the use of applications that facilitate participation in public life, e.g. e-voting facilities for older people with mobility impairments; tele-consultations for health care, social e-meetings, e-leisure;
- Establish programmes that focus on formal and informal carers and promote their familiarity with and adoption of IST-based independent living services;
- Identify and showcase the most promising converging applications in Europe; and,
- Step-up measures to make the R&D process in this area responsive to older people's needs through market studies, scenario-building exercises, stakeholder dialogues etc.

Moving from vision to action

In order to help translate policy recommendations into successful inclusion initiatives, the report also reviews a number of best practice examples of existing eInclusion initiatives and extracts the following ten implementation guidelines that can help to make eInclusion activities more effective:

1. Secure high-level political support and co-ordination;
2. Promote community efforts and private sector initiatives;
3. Address the multiple dimensions of exclusion in an integrated manner: access, affordability, different levels of skills, etc.
4. Target resources at specific at risk groups;
5. Link eInclusion initiatives closely with the practical day-to-day needs of targeted beneficiaries and consider a broad range of ISTs that could be used by these groups;
6. Engage through creativity;
7. Design a phased roll-out, provide capacity for scaling up from pilot to mainstream;
8. Harness a wide range of ISTs for integrated, multi-modal delivery of eInclusion initiatives; and,
9. Cluster services not along departmental lines but according to an integrated citizen-centric perspective.

Finally, different country contexts require that different weights be assigned to individual recommendations, which should be put together in a policy mix that is attuned to their respective local levels of social inclusion and ICT deployment. This is of particular importance for the New Member States and the Candidate Countries and the specific challenges they face with regard to eInclusion as outlined earlier.

1 Towards a new approach in eInclusion

Roughly two decades ago a wave of new information- and communication society technologies (ISTs), such as mobile telephony, personal computing and, most importantly, the public Internet, began to reach the wider public, laying the foundations for the networked, digital information revolution as it is currently unfolding. How to harness these new technologies, in order to prevent, mitigate and actively reverse social and economic exclusion have been principal concerns for policy-makers ever since.

These concerns have come to be subsumed under the policy theme of ***eInclusion***, which is therefore defined as:

> all efforts by the public and private sector, civil society and the technology community aimed at:
> - harnessing ISTs for addressing issues of societal exclusion in any dimension and the costs associated with it;
> - creating new opportunities for inclusive empowerment and development through ISTs; and,
> - preventing new IST from causing new forms and dynamics of societal exclusion.

The overall aim of eInclusion - i.e. to make the new IST paradigm work for equitable human development and social cohesion - has changed little over the last few years. However, the thinking on what is feasible and how to get there has evolved significantly.

The early hopes that the new ISTs, by their very nature, would promote individual empowerment and spread their benefits within and across societies, were quickly frustrated by the emergence of multiple, persistent digital divides and by the bursting of the first Dot-com investment bubble in the late 1990s. It became clear that ISTs per se, without appropriate enabling policies, neither stimulate equitable economic growth nor alleviate societal disparities and the various economic and social costs that these disparities are associated with. Furthermore, it transpired that the emerging digital divide, if left unattended, could aggravate existing disparities and also create new ones.

These insights spurred a great number of infrastructure- and affordability-related initiatives aimed at putting in place the prerequisites for equitable access to ISTs. At the same time, the sobriety of those post-bubble years made it easy to view eInclusion somewhat narrowly as a defensive, 'end-of-pipe' project: eInclusion was considered important for narrowing and patching-up the multiple digital divides so as not to aggravate existing socio-economic disparities. eInclusion was not seen as an active, forward-looking means of leveraging ISTs for tackling and rolling-back existing socio-economic disparities, social marginalization and the societal costs that come with it.

The experience of the last few years has proven this 'defensive' perspective on eInclusion to be equally premature. It was borne out of impatience with the societal impact of a new

technology paradigm that has only now begun to fully unfold and affect everyday life in a visible manner.

New ISTs have continued to develop in leaps and bounds. Digital information transmission and processing capabilities have continued to become ever more powerful, affordable, flexible and embedded in an even greater variety of devices, bringing ubiquitous computing and ambient intelligence closer to reality. A new breed of software tools and online initiatives for organizing, searching and collaboratively producing information, such as *blogging* or the *wikipedia* participatory encyclopaedia project, has come on-stream. Often subsumed under the label of *social computing*, these collaborative tools have opened new, bottom-up built spaces for public expression, deliberation and information sourcing and have been enthusiastically embraced by millions of users around the world. Likewise, a first generation of Internet business players have accomplished significant market presence and robust profitability, as investment in ISTs finally bears fruit, increasing productivity in many economic sectors. In short, the first wave of new ISTs is being socially appropriated and integrated into our daily lives, while technological innovation continues unabated. As technology analyst Carlota Perez argues, we are entering the maturing segment of the IST innovation cycle, where technological promise translates into pervasive societal benefits - provided it is assisted by strong policy.[3]

This mainstreaming of the IST revolution currently underway also makes revisiting and updating the agenda for eInclusion urgent. It provides the opportunity to review the experience with eInclusion initiatives gained over the last decade. In the light of the continuing innovation in the IST production and application space, it is high time we explore new possibilities to make IST work more actively and proactively for an inclusive, cohesive society.

This vision paper seeks to briefly summarize the key lessons learnt about eInclusion more than fifteen years into the information revolution (Chapter 2). Based on these findings it will offer a reinvigorated, citizen-centric and forward-looking vision for eInclusion (Chapter 3). This normative vision, grounded in the capability approach of Armatya Sen, will then help to identify priority areas for policy attention and map out a set of concrete actions to be undertaken in each area (Chapter 4). Moving further towards putting recommendation into practice, Chapter 5 will present some implementation guidelines for designing successful eInclusion strategies.

[3] See Perez, C. (2002). 'Technological Revolutions and Financial Capital'. Cheltenham: Edward Elgar. Chapter 4.

2 What do we know? The role of IST take-up in social inclusion

2.1 Some digital divides are narrowing, but there is no reason for complacency

New technologies are not adopted by everyone at the same time. The diffusion of new technologies is usually spearheaded by a small number of innovators and early adopters as first users, followed by the large majority of early and late users and, finally, a smaller group of laggards. This means that at any given point in time, differences in technology endowment and use are to be expected, although such differences might only be temporary. Indeed, a catching-up process can be observed with regard to certain dimensions of the digital divide. Aggregate penetration rates for Internet and mobile phones, for example, have risen steeply over the last decade across all European countries. Likewise, the gender divide also shows signs of narrowing. Current growth rates for IST uptake by women are typically higher than for men across Europe. In the U.S., it has already been reported that more women than men are online in certain age brackets.[4] However, there is no reason for complacency for several reasons.

First, absolute penetration of ISTs shows signs of flattening growth, suggesting that a sizeable share of the population will not adopt ISTs for the foreseeable future.

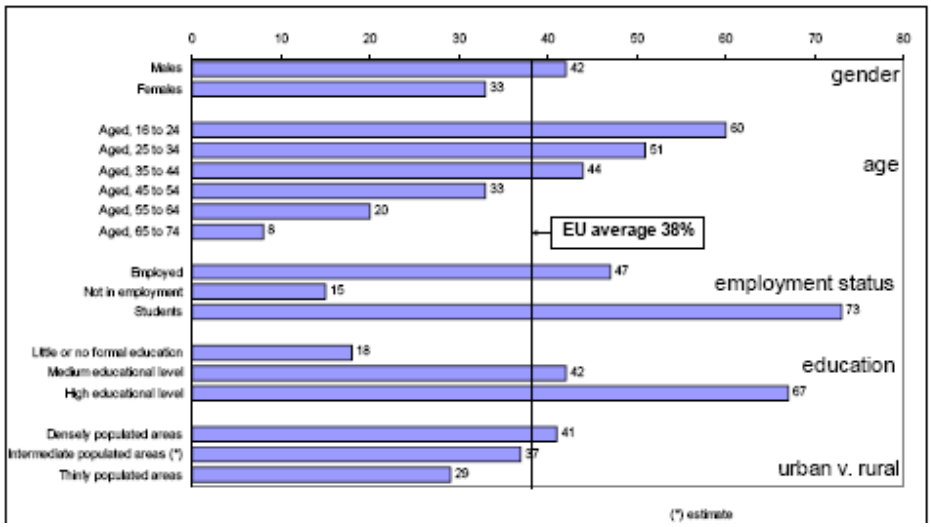
What's more, mere penetration rates do not say much about effective Internet use. The latter depends on a combination of IST skills, available time and relevant applications, all of which are not captured by basic access statistics and are also likely to be less evenly distributed than IST access rates.

Second, despite rising overall levels of Internet use, large disparities with regard to Internet access by age group, education, employment status and income remain significant. In 2004, for example, 75% of individuals aged between 16-24 are reported to have used computers, the Internet and e-commerce, as opposed to only 11% aged between 65-74 in the 25 EU countries. Likewise, usage among higher educated people reached a 75% penetration level, compared to only 25% among lower educated population groups.[5]

Figure 1 gives a more complete overview of these disparities and **Figure 2** shows that these disparities have not narrowed much over the last few years.

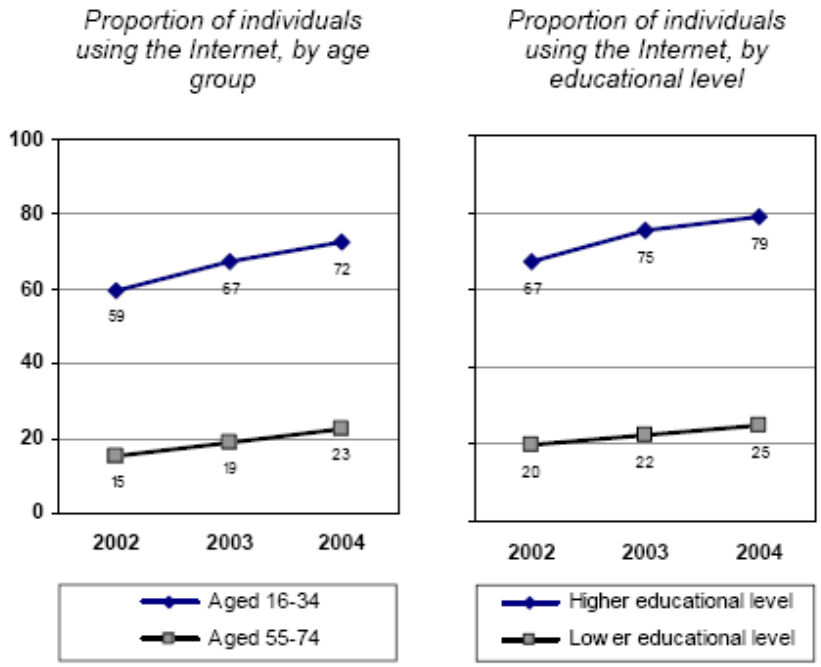
[4] Pew Internet Project (2005). 'How Women and Men Use the Internet'. December 2005 Report.
[5] Eurostat (2005). 'The Digital Divide in Europe'. Statistics in Focus, 38/2005.

Figure 1 : Regular Internet use (at least once per week): % of population in EU25 in 2004



Source: European Commission: Information Society Benchmarking Report 2005

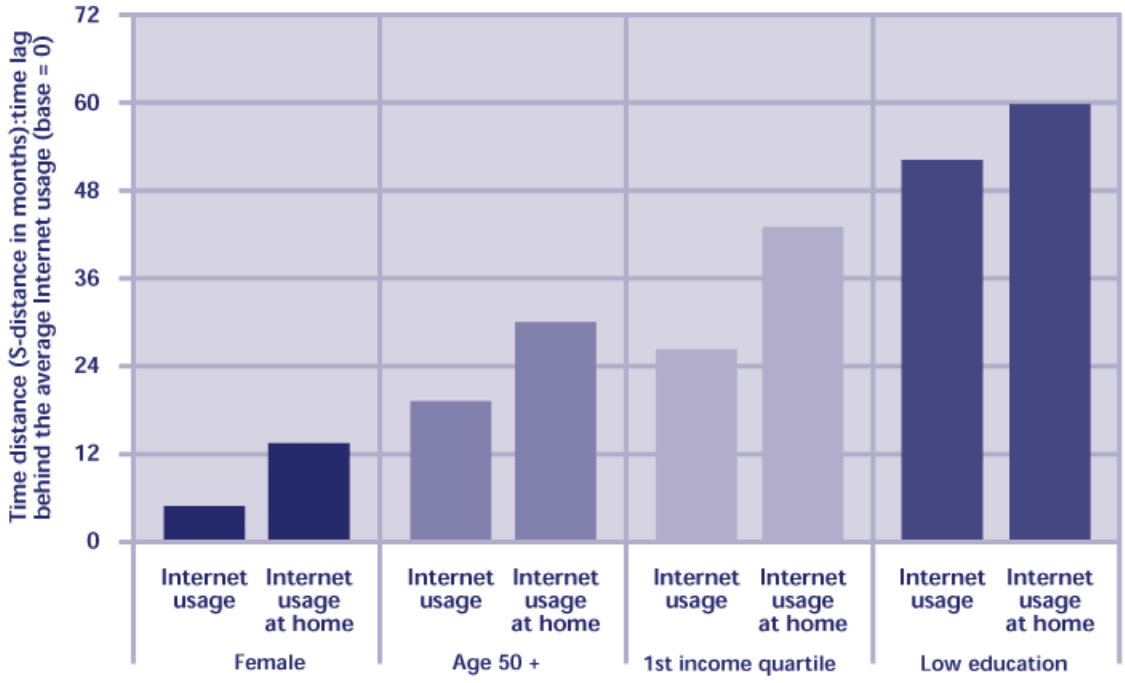
Figure 2: Persistent Digital Divides by Age and Education



Source: Eurostat (2005). 'The Digital Divide in Europe'. Statistics in Focus, 38/2005

Third, with continuous innovation effective IST use becomes a moving target. Ever more IST applications require high-speed connectivity, more computing power, and more advanced usage skills. Such a moving target turns a temporary lagging-behind into a persistent structural gap. Late adopters will be in danger of always being marginalized and never being able to avail themselves effectively of the common IST toolset and skills required to participate, on equitable terms, in the information society. What's more, technology design tends to be attuned to the preferences of early, high-income adopters and the bulk of average users, and sidelines the needs and desired functionalities of marginalized segments of the population. As **Figure 3** indicates, these challenges for catching-up are particularly dramatic for senior citizens and users with low incomes and low education. Internet take-up within these last two groups is between two and five years behind the societal average.

Figure 3: Digital divide in EU-15 in time (s-distance): How many months earlier was the level of selected categories in April 2002 attained by average Internet usage



Source: SIBIS (2003). 'Measuring the Information Society in the EU, the EU Accession Countries, Switzerland and the US'. Pocketbook 2002/03

Fourth, where processes of catching-up are observed, they are not automatic. Rising penetration rates and the narrowing of some gaps, including the narrowing gender divide, can be viewed as at least partly attributable to successful eInclusion policies, rather than

as results of a quasi-automatic late adoption that would have occurred without any policy intervention.[6]

Finally, some dimensions of the digital divide are less visible and under researched although they are highly significant and persistent. Some groups at risk of extreme marginalization are ill-captured by conventional IST statistics. For example, IST access and use by ethnic minorities, migrants, disabled users, homeless people or young adults with criminal track-records are rarely surveyed, while there is reason to believe that the disparities here are particularly pronounced.

All this suggests that the narrowing of some digital divides cannot justify any complacency. However, it does underscore the continuing importance of carefully targeted eInclusion strategies to tackle persistent digital disparities.

The findings also call for a better understanding of the reasons behind use and non-use of the technologies. The lack of analysis of cultural and social conditions in technology diffusion could be one of the reasons why some online services do not seem to attract the users they are intended for. An example can help to illuminate this point: Statistics suggest that European citizens who make use of eGovernment offerings generally tend to be satisfied with what they find. According to the BISER research (2003),[7] 90% of citizens and 80% of business users are willing to use online public services again. Nonetheless, a large number of *potential* users still prefer traditional public services, with 80.9% of citizens opting for face-to-face communication with government agencies, as opposed to 17.1% who use Internet and email.[8] A closer look at the reasons behind this hesitant attitude helps to explain this seemingly paradoxical situation. Lack of trust and confidence in IST are identified as some of the major barriers to IST adoption, and more than 50% of EU citizens are concerned about the safety of online services.[9] This shows that eInclusion research needs to be sufficiently user-focused to uncover these and other deeper reasons for non-use, if it is to provide guidance for designing effective IST take-up strategies.

2.2 eInclusion is inseparable from social inclusion and protection, and must work across policy domains in an integrated manner

Statistics show that digital exclusion is very closely correlated with income, education and, to a lesser extent, age, all central categories of social exclusion and marginalization. This indicates that eInclusion activities cannot work as stand-alone projects, but need to be closely aligned and integrated with general social, health and economic policy interventions. What does this mean?

First, this insight offers the opportunity to harness a large body of knowledge on 'conventional' social exclusion for fine-tuning eInclusion measures. We know, for

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6 For an example of such an eInclusion initiative see section 5.4.

7 BISER (2003). 'Government and Public Administration' (http://www.biser-eu.com).

8 eUser (2005). 'Public Administration and eGovernment' (http://www.euser-eu.org/eUSER_PopulationSurveyStatistics.asp?KeyWordsID=1&MenuID=78).

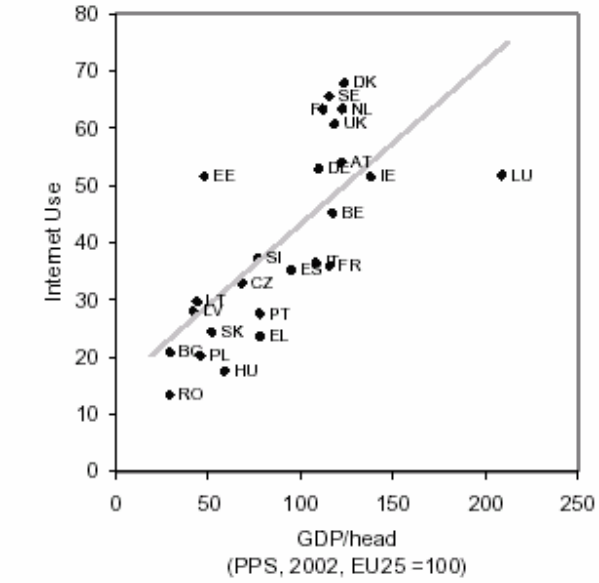
9 SIBIS (2002). 'Disadvantages of Public Online Services'. http://www.sibis-eu.org/statistics/data/5-50.htm).

example, that many drivers and risks of social exclusion do not occur randomly but are tied to specific life situations such as unemployment, onset of illness, divorce or the death of a relative. Specially targeted eInclusion activities, which facilitate the production of relevant content, applications and networking infrastructures, could provide support in these crucial situations and thus the major dynamics of social exclusion could be addressed.

Second, the multidimensional nature of social exclusion directs attention to the role that ISTs as information sharing and networking tools can play in joining up social inclusion initiatives within or across several participating policy domains. Networking education, health and social service providers, for example, can help to build an early warning system to detect young people at risk of being left behind and to develop integrated strategies to address their needs. *RYOGENS*, a web-based system established in the UK, for example, links local authorities working on child support, juvenile criminal justice and other related areas, in order to enable them to record and share information on potentially at risk individuals. Similarly, ISTs and eInclusion initiatives can facilitate the information exchange between different health service providers to provide seamless care arrangements or they can promote the collaboration of employment and education institutions for tailored, life-long learning.

Finally it should be noted that a close relation between IST use and income or unemployment is not inevitable and that income or labour market policies cannot substitute eInclusion measures to enhance IST use. As **Figure 4** shows, a number of European countries achieve IST diffusion rates that are considerably higher than their income level would lead us to expect. Likewise, unemployment need not inevitably go hand in hand with low Internet use, as the case of Estonia impressively shows. Here, more than 40% of unemployed people use the Internet. The right eInclusion policies can make a difference and help disadvantaged groups and lower income countries attain a greater stake in the knowledge society. In short, eInclusion matters.

Figure 4: Internet Use by GDP/capita, EU 25 countries



Source: Huesing, T. (2004). 'The Impact of ICT on Social Cohesion: Looking Beyond the Digital Divide'. IPTS Technical Report EUR 21474.

2.3 Inclusion and eInclusion are socially mediated, turning bottom-up support networks into pivotal intermediaries

Inclusion is not an isolated, individualistic phenomenon. People take part in civic, political and economic life as members of various communities of practice and social networks. In fact, the experience of inclusion or exclusion is, by definition, a social one and refers to an individual's relation and participation in a specific reference group. This rather commonsensical observation has important consequences for eInclusion initiatives. Most importantly, it requires that we recognize the importance of bottom-up strategies for eInclusion. Typically, many marginalized, excluded groups are rather difficult to reach through official channels of communication or service provision. Their very exclusion or withdrawal from many segments of mainstream public life is part of their problem. In order to reach these groups, eInclusion strategies need to work closely with them and explore options to support the various informal or semi-formal support networks and institutions that have sprung up in civil society to cater for them. eInclusion does not need to re-invent the wheel and build institutions for inclusion from scratch. It can draw on and leverage the existing extensive support networks of organizations that already work on social equity and inclusion issues. In Germany, for example, the *JUMEK* initiative is reaching out to marginalized youth groups by offering IST training through existing youth centres that are well-established conduits for reaching and supporting this target group. Similarly, Finland targets its *Kansaallinen ITSE-hanke* initiative, which supports IST-supported independent living in old age, not only at the envisaged group of beneficiaries, but also extends it to the various related support networks of social service staff and carers.

With regard to promoting IST access and skill-building, such a focus on existing support networks and bottom-up initiatives also means we must consider the various community informatics and grass-roots access initiatives that seek to build low-cost community infrastructures or run IST neighbourhood training initiatives. Systematically supporting such bottom-up strategies for social and digital inclusion promises to amplify the benefits of eInclusion activities and complement more top-down oriented approaches that work through official social policy providers.[10]

What's more, the new generation of social software tools for collaborative information production and sharing mentioned earlier could support social inclusion efforts that work with and through these type of intermediaries. These tools offer new opportunities for supporting social networking and collaboration and should therefore feature prominently in IST skills curricula that aim to promote media competence and social inclusion.

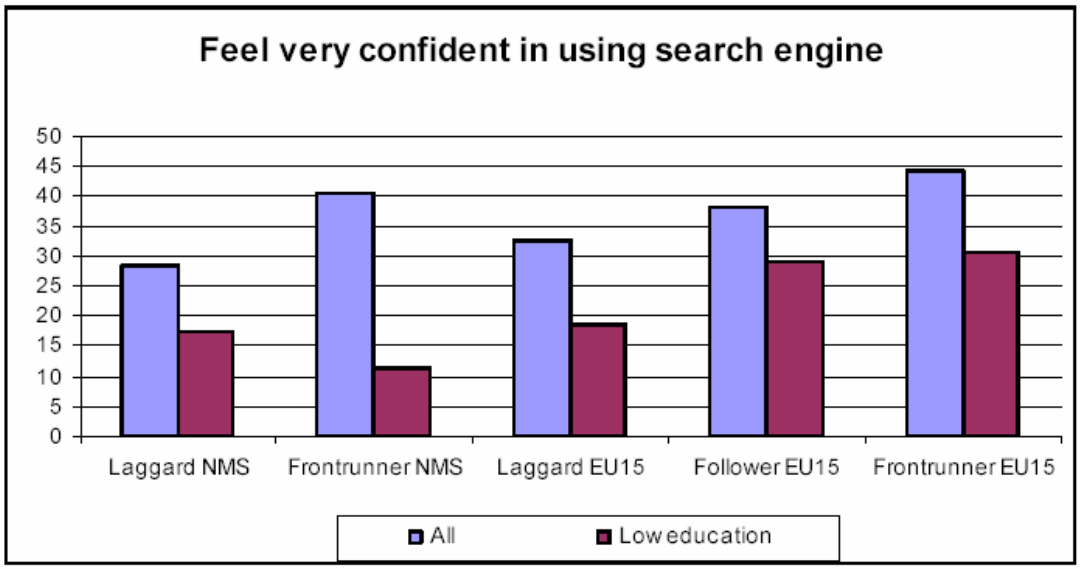
2.4 IST use depends on its relevance for concrete needs and activities of everyday life

The high rates of non-IST users, growing drop-out numbers and the large numbers of low-frequency users cannot be explained by access or affordability problems alone. These figures also point to the fact that new ISTs are only firmly embraced for practical purposes, if they provide useful, relevant applications for the user's everyday needs. There are three main implications for eInclusion strategies.

First, building IST skills and media competence, the ability to use relevant IST applications, and to locate and evaluate relevant information online, move into the focus of eInclusion initiatives. Available data indicates that groups already in a disadvantaged position, such as people with low educational attainment, face particular challenges in this regard.

[10] For an international network of such organisations see for example http://www.ciresearch.net/.

Figure 5: Internet Search Skills in EU 25

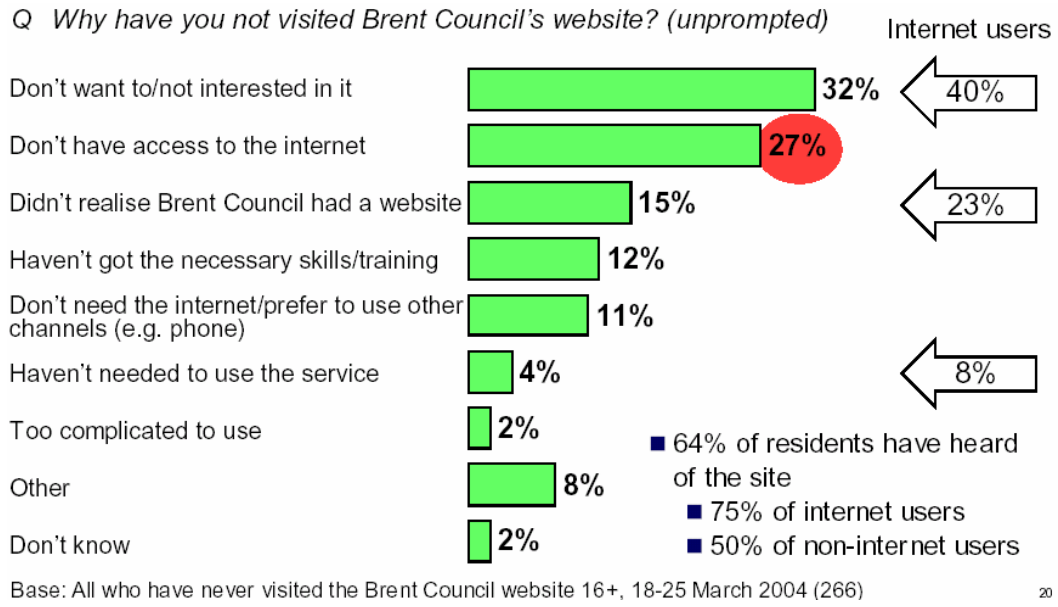


Source: Cullen, K. (2005). 'Study on eInclusion as a Means of Combating Social Exclusion'. Presentation at Expert Worksop, Brussels, October 4, 2005

Second, a citizen-centric perspective is important for the design of IST-based services and applications, in order to ensure relevance to target groups for eInclusion. One central cross-cutting issue in this regard is trust and confidence in online applications - more than 50% of EU citizens have expressed concern about the safety of online services.[11] A critical mass of useful applications also matters. In eGovernment, for example, it is not one single useful public service online that will convince reluctant users to use the Net, but a robust bundle of relevant information and services that add real convenience to the conduct of everyday affairs. Assessments of local eGovernment initiatives in the UK, for example, show that a sizeable proportion of both Internet users and non-users still do not feel they have any incentive to visit the webpages of their local government.

[11] SIBIS (2002). 'Disadvantages of Public Online Services' (http://www.sibis-eu.org/statistics/data/5-50.htm).

Figure 6: Reasons for not using eGovernment websites in a UK municipality



Source: MORI (2004). 'Crossing the Digital Divide: Does it Really Matter?'. Presentation at 3rd Annual e-Government Congress, London, June 15, 2004

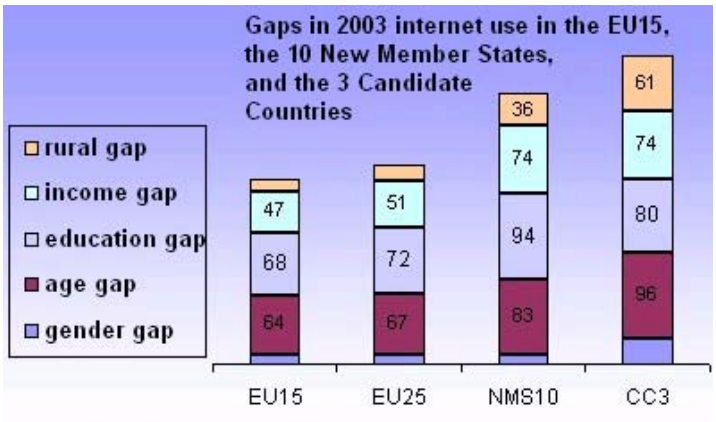
Third, eInclusion strategies need to respect the diversity of IST options and the different technology preferences and choices that different stakeholders might wish to express. Some user groups are more familiar with mobile phones and might find it more convenient to use them. Others are more inclined to use the Internet and some might opt to do without new ISTs altogether and use conventional tools to interact with public authorities or take part in civic life instead. Respect for different IST choices needs to be built into eInclusion programmes as far as possible.

2.5 New EU Member States face particular challenges

eInclusion is a particularly timely and challenging task for many of the New Member States (NMS) and Candidate Countries (CC) of the European Union. For a start, many of these countries face bigger challenges with regard to conventional risks for social exclusion - for example, income poverty and unemployment. In addition, statistics on digital divide and eInclusion issues are less readily available than for the EU-15 countries. However, the available data indicates that relatively high growth and penetration rates in NMS/CC for some ISTs, such as mobile phones and basic Internet access[12] masks the fact that disparities in IST access tend to be more polarized than in other EU countries.

[12] Relatively high Internet penetration approaching EU-15 levels is observed in Slovenia, Cyprus, Malta, Czech Republic and Estonia.

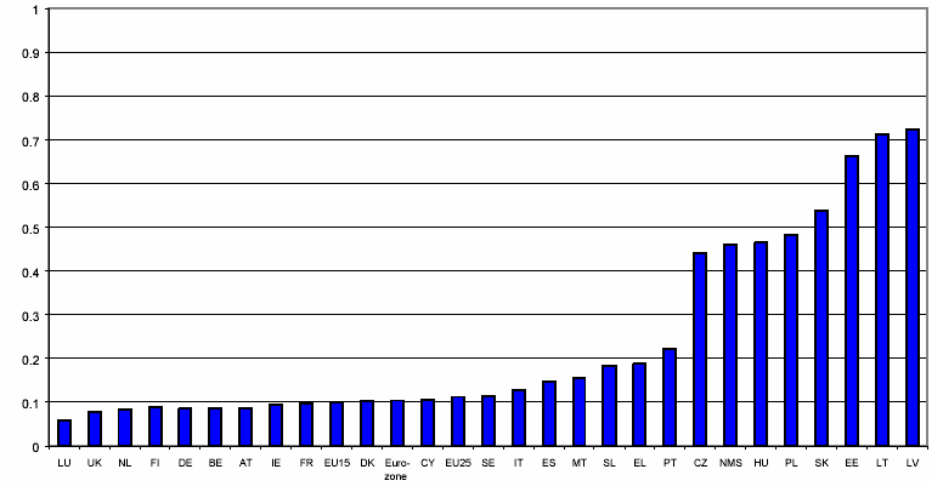
Figure 7: Internet usage gaps in the EU



Source, http://europa.eu.int/information_society/soccul/eincl/index_en.htm, adopted from EuroBaromter June/July 2003. (Gaps are calculated as variation from national average)

Closely related, citizens in the NMS also have to pay higher prices for IST equipment in relation to income. In some NMS, the price of a PC exceeds half the annual incomes of many members of the population, putting individual PC ownership well out of reach for significantly more people than in the EU15 countries.

Figure 8: Cost of a computer as a ratio of poverty threshold (60% of median) in 2001, PPS



Source: Cullen, K. (2005):"Study on eInclusion as a Means of Combating Social Exclusion", presentation at Expert Workshop, Brussels, October 4, 2005

Unsurprisingly these cost issues translate into wide differentials in access to advanced ISTs. While in 2002 the share of broadband access reached 13% in EU-15 countries, the NMS (with the exception of Estonia) reported shares of broadband in Internet access below 2%.[13]

[13] See Bogdanowicz, M., Centeno, C. et al. (2004). 'IS Strategies for the Enlarged European Union' in: Communications & Strategies. Nov 2004; Bogdanowicz, M., Burgelman, J. C., Centeno, C. (2003). 'Factors of Regional/National Success in Information Society Developments: What Information Society Strategies for Candidate Countries. Sevilla: IPTS, DG JRC, European Commission.

3 The outline for a common vision for eInclusion

Building on the characteristics of inclusion and eInclusion described above, we can now sketch the elements of a broad vision for eInclusion in Europe.

We derive our vision from and firmly anchor it in Nobel Prize winner Amartya Sen's *capabilities framework*, perhaps the most-respected elaboration and concretization of the canon of universal human rights. Sen's thinking (he is an economist and political philosopher) can substantially enrich the debate on IST for growth and cohesion. In a nutshell, he shows that mere aggregate numbers about availability of resources, such as Internet connections, do not say much about effective empowerment of the individual and thus the productive use of the technology at societal level. Sen's normative framework therefore prompts us to switch from a technology-centred to a people-centred take on inclusion.

Our goals embrace Sen's central conclusion that it is not abstract rights or basic material endowments that are relevant benchmarks for what constitutes a dignified life or makes a cohesive society, but rather **the range and depth of effective capabilities** that individuals can develop and use on the basis of these endowments in a concrete social, economic and political setting.[14] Building on this fundamental proposition, Sen himself and many other political philosophers and policy practitioners after him have identified and systematically elaborated a set of key conditions and effective capabilities that are essential for promoting human freedom, dignity and development. Although specific elaborations vary somewhat in detail, the central conditions identified usually include **freedom from hunger, disease, premature death and entitlements to personal development and equitable participation in public life**. These categories are reaffirmed and articulated in a wide number of international policy frameworks, most recently the UN Millennium Declaration of 2002. They have also given rise to leading policy benchmarking heuristics such as the UNDP Human Development Index.[15]

Building on Sen's work, we propose that our vision for eInclusion takes a **citizen-centric, opportunity-oriented approach to eInclusion**. At its centre we place the aspiration to build an information society that fully and systematically harnesses the potential of existing and future generations of ISTs for individual autonomy and empowerment, for the prevention of socio-economic marginalization and for the promotion of social cohesion and development.

3.1 Key components

More specifically, and in line with Sen's central conditions for equitable human development, we envisage an information society, in which:

[14] See Sen, A. (1993). 'Capability and Well-Being'. in: Nussbaum, M. and Sen, A. (eds.). *The Quality of Life*, Oxford: Clarendon Press. pp. 30 -53

[15] See hdr.undp.org.

every individual in Europe, irrespective of age, gender, socio-economic status, ethnic background is able to make informed choices about IST options and avail him/herself of the IST skills, tools, applications and IST-enabled support services to:

- lead a long, healthy, dignified life, free from poverty, marginalization and preventable illness;
- further and develop his/her individual autonomy, talents and capabilities;
- actively and equitably participate in economic, social and civic life
- actively engage with and participate in arrangements for collective governance

Realization of these aspirations for eInclusion requires an **enabling environment** and a supporting institutional infrastructure jointly provided by governments, communities, private sector stakeholders and civil society. With regard to IST, we envisage that these supporting entities will:

- be fully aware of the IST opportunities available; and,
- systematically harness them to make their provision of support services more inclusive, targeted and customized, integrated and seamless, as well as cost-efficient, transparent and accountable to the citizen.

Finally, with regard to **IST innovation and development,** such a vision also entails:

- institutional mechanisms built into the R&D process to consult stakeholders with special needs early on in the innovation cycle, in order to avoid technology-induced discrimination and steer innovation towards the development of tools for social inclusion; and,
- an experimental space safeguarded by enabling regulatory provisions as well as financial support for community-driven IST innovation, skill-building and service provision.

These objectives are closely aligned with Sen's central normative aspiration. In order to establish a practical agenda for eInclusion, they focus attention and policy action on the following areas:

- IST in support of equitable participation in the economic sphere (eLabour);
- IST to support life-long learning (eLearning);
- IST in support of equitable participation in public and political life (eEngagement, eDemocracy, eGovernment); and,
- IST to minimize individual impairments caused by ageing, disability and disease (eHealth, and IST for independent living and active ageing).

IST access, affordability and accessibility are key cross-cutting dimensions that underpin these priority areas. Embracing all these elements, such a citizen-centric, opportunity-driven vision of eInclusion is fully aligned with the information society policy objectives that European governments and the EC have committed themselves to in the 2000 Lisbon Agenda. These objectives, among others, have been reaffirmed in the eEurope Action

Plan, and, more recently, in the i2010 framework, which recognizes inclusion as one of the three key pillars of its information society strategy.

3.2 Creating equitable opportunities, not prescriptions

eInclusion for all is tasked to create opportunities for all and to further individual autonomy and capability. This does not mean that specific technology choices should be imposed or 'high-tech' ways of going about one's affairs prescribed. The main objective is to remove obstacles in the widest sense for equitable participation in society. For some groups, these obstacles are higher than for others. Specific attention should be focused on those who are most disadvantaged and at risk of exclusion. Against this backdrop, giving priority to the most disadvantaged and vulnerable groups and addressing the hurdles they face for equitable participation in public life, is not a contradiction of the equality principle, but is, in fact, a precondition for its realization.

3.3 The costs of inaction

As all these considerations show, *inclusion for all* is a moral imperative, a human right, a central aim of human progress, technology development and public policy making. As such, it is an end, a very important one indeed, in itself and it needs no additional justification. Moreover, inclusion comes with important economic, social and political benefits that further underscore its importance as a policy objective. Put simply, societal exclusion is very expensive, economically counterproductive and lays a heavy social and political burden on society, particularly where our suggested priority areas for eInclusion are concerned. Here are some examples:

The costs of exclusion from the labour market are formidable. Unemployment leaves valuable human resources idle and thereby constitutes a waste of productive economic capacity. It also comes with a heavy direct price tag. In 2003, for example, the EU countries spend 126 billion EURO on out of work maintenance and support - more than triple the amount spent on active labour market measures in the same year. Since many European countries effectively finance these unemployment benefits through contributions from the active the work force, unemployment also raises the price of labour, thereby threatening a vicious circle by generating even more unemployment.Furthermore, at an individual level, unemployment is closely associated with damage to self-image and various health risks that can require costly medical interventions. Finally, exclusion breeds exclusion and can have costly follow-on effects. Unemployment can lead households into persistent income poverty, thereby causing further distress for entire families and endangering the educational opportunities and life chances of children in unemployed households. These problems persist all across Europe on a significant scale. In 2004, the long term unemployment rate among EU 25 was estimated to be 4.1% with 9.6% of children aged 0-17 living in unemployed households. Also in 2004, 8% of European citizens in EU 25 were considered at risk of social exclusion through poverty, even after receiving social transfers. Most disturbingly, no significant improvements for the latter situation have been registered over the last ten years.[16]

[16] Eurostat Homepage. Data Section. accessed March 23, 2006.

An insufficiently inclusive and ineffective education system also comes with direct economic costs. Across the EU 25, 15% of students abandoned their education in 2005 and were classified as early school leavers. These numbers reach a startling 30% in Spain, 38% in Portugal and even 44% in Malta. This indicates a large quantity of resources ill spent in the education system and an insufficiently inclusive educational sector that is not able to equip students with relevant skills to succeed in an increasingly knowledge-based, global economy.[17]

As a last example, societal fragmentation and exclusion also come with high political costs. It erodes the very sense of social cohesion, of trust in getting a fair deal. It therefore diminishes the political willingness to agree to economic reform policies or dynamic labour market regulations that might require painful sacrifice in the short-term for the sake of more sustainable and productive gains in the future. The successful Nordic *flexicurity* model points the way for how effective inclusion can be in this regard: A strong welfare state and committed life-long learning approaches make temporary unemployment shorter and less of a risk for poverty and de-skilling. This in turn makes less rigid rules for employment and job protection more acceptable and thereby allows economic structures to adapt more flexibly to new opportunities by shifting human resources more quickly from sunset- to emerging, high-growth industries.[18]

In the long run, social fragmentation and exclusion, the feeling of not having an equal stake in economic and public life can even undermine the societal cohesion and consensus that constitutes the very basis for a tolerant, thriving democratic polity. Early warning signs are hard to ignore. Voter turnout in national parliamentary elections has fallen from an average of 76% in 1993 to 69.8% in 2004; while at European level only around half of the European citizens "tend to trust" the European institutions.[19] Disenfranchisement breeds disengagement and distrust and erodes the social capital upon which functioning communities and efficient economies depend. As all these considerations clearly show, inclusion is a moral imperative, and the economic, political and business case for inclusion is equally convincing.

[17] Eurostat Homepage. Data Section, accessed March 23, 2006.

[18] See for example Algan, Y. and Cahuc, P. (2006). 'Civic Attitudes and the Design of Labour Market Institutions: Which Countries Can Implement the Danish Flexicurity Model?'. IZA Discussion Paper No. 1928. Bonn: IZA.

[19] Eurostat Homepage. Data Section, accessed March 23, 2006.

4 The potential of IST-based applications for social inclusion

4.1 IST to support individual access to the labour market

4.1.1 Conceptual framework: unemployment, exclusion and ISTs

Employment is an essential component of social inclusion. Indeed, long unemployment spells are an important source of social exclusion, because they are usually accompanied by low income and the risk of falling into the poverty trap. In addition to creating economic hardship, exclusion from the labour market also comes with psychologically damaging stigma effects that further erode employability.[20]

Employment policies therefore have a pre-eminent role to play in preventing and fighting social exclusion. At the same time, the new information society technologies (ISTs) offer opportunities that must be seized to ensure that greater economic performance goes along with greater social cohesion. Indeed, the emergence of ISTs triggers the risk of an ever-widening gap between those who have access to new knowledge and information tools and those who do not. As data presented in section 2.1 shows, it was estimated that only 15% of unemployed people in 2004 in EU 25 used the Internet regularly, compared to 47% of employed and 73% of students.[21]

These disparities require urgent policy attention, since new ISTs offer a variety of opportunities to prevent, mitigate and roll-back exclusion from the economic sphere in at least four different ways:

- *on the supply side*: by enhancing the employability and productivity of individuals at risk of exclusion from the economic sphere;
- *on the demand side*: by making possible more flexible job profiles and work arrangements that are responsive to employees with special needs and by creating new employment and local entrepreneurial opportunities for at-risk groups. We suggest encouraging the inclusion of the immobile labour force through teleworking, in occupational layers for which this might be appropriate;
- *structural*: by facilitating the matching of people to job openings, particularly for people with special skill profiles; and,
- *contextual:* by providing networking platforms and information services to address the side-effects of labour market exclusion. This could give a collective voice to at-risk groups, promote solidarity and enable them to access their entitlements effectively.

To sum up, ISTs could develop new ways of participating in economic activity, particularly by reducing information obstacles, facilitating job-search and improving skill matching. IST could therefore offer a valuable means of fostering the inclusion of the long-term unemployed from the labour market. While these benefits are not specific to

[20] See Rosholm, M. (2001). 'An Analysis of the Processes of Labour Market Exclusion and (Re-) Inclusion'. IZA Discussion Paper 332. Bonn: IZA.

[21] See Figure 1.

the long-term unemployed and other groups of population at risk of exclusion from the labour-market, such as the elderly or the disabled, or even unemployed people in rural areas, they can be of particular relevance for them, as these groups usually face barriers when looking for jobs and suffer from an increasing disconnection from labour market needs and requirements.

Before possible activities and target groups are elaborated in the next sections, it is worth noting that a number of EU policy initiatives have been taken over the past few years which have underlined the potential role played by ISTs in fostering employment and fighting social and labour market exclusion.

The latest guidelines of the European Employment Strategy (EES) for the period 2005-2008, which are also included in the Integrated Guidelines for Growth and Employment, identify clear priorities such as "attracting and retaining more people in employment, increasing labour supply and modernising social protection systems; improving adaptability of workers and enterprises; and increasing investment in human capital through better education and skills."[22] Furthermore, the EU Information Society Policy through the eEurope 2005 Action Plan, the National Action Plans against poverty and social exclusion and the Human Resource Community initiative and the work undertaken by the High Level Group "Employment and Social Dimensions of the Information Society" (ESDIS) have set general objectives in favour of greater social inclusion in the knowledge-based society. The latter in particular, coordinated by Directorate General for Employment has produced reports on e-Inclusion and using the information society to enhance quality in employment. Furthermore, the 2003 IST Study Report "Building the Information Society in Europe" provides case-study examples of measures taken, together with an identification of the main barriers to employment and possible policy-actions using ISTs as tool for promoting greater labour and social inclusion.

4.1.2 eInclusion strategies for labour market inclusion

4.1.2.1 Promoting employability in the information economy

People excluded or at risk of exclusion from the labour market are usually characterized by low and, often, deteriorating employability.[23] Initially developed by the OECD (1994), employability formed one of the four original pillars of the European Employment Strategy (EES) and is also included in the EES revised in 2003 through the promotion of policies fighting long-term unemployment and favouring investment in human capital and life-long learning.[24] It is important to note that employability in this regard cannot be considered as a fixed characteristic of the citizen, but is rather the sum of individual capabilities and previous educational attainments. Employability can decrease when people are out of the labour market for too long, their skills get 'rusty' and they are not

[22] See Council Decision of 12/07/2005 (2005/600/EC).

[23] "Employability" means the development of skills and adaptable workforces in which all those capable of work are encouraged to develop the skills, knowledge, technology and adaptability and to enable them to enter and remain in employment throughout their working life"; see McQuaid, R.W. and Lindsay, C. (2005). 'The Concept of Employability'. in: *Urban Studies* 42: 197-219.

[24] See European Commission (1999). 'The European Employment Strategy: Investing in People; Investing in More and Better Jobs'. Luxembourg: EC; European Commission (2003). 'The Future of the European Employment Strategy: A Strategy for Full Employment and Better Jobs for All'. Luxembourg: EC.

able to keep abreast of new developments in their professional area. The criteria for employability are constantly changing against the backdrop of rapid technological progress and globalization which transforms job descriptions, required skill profiles and the relative demand for particular skills.

IST skills themselves have become essential in a vast number of job profiles and have evolved into key determinants of employability in the information society. This underscores the importance of giving IST skills a central place in education at all levels as a qualification essential for the future. In other words, employers increasing see the ability to use IST as a key transferable skill and this adds to the employability dimension of IST skills. This means that technological change due to ISTs may worsen employability of unskilled job-seekers compared to skilled workers.[25] What's more, existing studies show that those segments of the population which are most economically disadvantaged and exhibit poor employability profiles are also less likely to invest in computers and access to the Internet at home.[26] In order to break this vicious circle of low employability and low IST use, active labour market policies need to include IST access schemes for the unemployed, as well as training in a broad range of IST related-skills as central components.

4.1.2.2 Improving job-matching for people excluded or at risk of exclusion from the labour market

Across the economy, life-long employment relationships are increasingly the exception rather than the rule. More frequent job changes are characteristic of a flexibly adjusting economy. In this context, the effective matching of jobs to skills, of labour supply to labour demand, is not only an imperative for reintegrating the unemployed into the workforce, but also a more and more important mechanism for shortening temporary unemployment, the risk of poverty and the loss of employability that goes with it. With the impressive success of distributed online marketplaces such as *eBay*, the Internet has impressively demonstrated that it can provide an efficient large scale matching mechanism between geographically dispersed and highly differentiated buyers and sellers. Online market places for high-tech skills have already attained enormous popularity and are rapidly spreading to other segments of the labour market. The evidence clearly suggests that people with access to ISTs who are looking for a job use the Internet as a job-search tool.[27] With labour markets going online, it is important to bring all segments of the labour force on board. Moreover, the long-term unemployed who often suffer from some degree of social exclusion and for whom social networks do not work as a means of finding a job, may instead choose Internet-based search tools in order to circumvent potential barriers to finding jobs that match their skills.[28] It is worth

[25] Saint-Paul, G. (1996). 'Are the Unemployed Unemployable?'. in: *European Economic Review* 40: 1501-1519.
[26] See Autor, D. (2001). 'Wiring the Labour Market' in: *Journal of Economic Perspectives* 15: 35-40.
[27] See Freeman, R. (2002). 'The Labour Market in the New Information Economy' in: Oxford Review of Economic Policy. 18(3): 288-305.
[28] See Khun, P and Skuterud, M. (2002). 'Internet Job Search and Unemployment Durations'. IZA Discussion Paper 613. Bonn: IZA.

noting, however, that the Internet cannot fully remedy these problems. Online job search may offer useful support, but does not supplant face-to-face communication.[29]

In other words, the policy challenge here is to ensure that the benefits that these new online job markets offer, such as very flexible and differentiated search tools, automatic alerting services, job and skill presentation tools etc. are also extended to groups at risk of exclusion from the workforce.

How can this be achieved? On the client side, it can be facilitated through training and awareness-raising efforts on how to find and use online job markets. With regard to existing online job markets, policymakers should be encouraged to work with industry to ensure that these sites and their job profiling and search functions accommodate the classification systems, and accessibility standards that make them useful for these marginalized segments of the job market. Direct support could also be given to the establishment of job marketplaces that cater specifically for these groups. Various efforts are under way in this area: *Handiplace.org*, for example, is a French initiative that not only provides detailed information on disability and employment for both employers and employees, but also an online job market for these user groups. Similar initiatives not only promise more inclusive labour matching at national level, but also pave the way for innovative small-scale employment opportunities at local level. Online community bulletin boards and directories of classifieds such as *Craigslist* are being rapidly embraced as platforms for the exchange and trading of goods and services at local level, with extremely low overhead costs for advertising and search. These functions can also be used to advertise and fill openings for volunteer activities and small services in the community, such as repair and maintenance work, childcare etc. These can offer temporary, bridging employment opportunities for the unemployed or under-employed and thus contribute to fighting the social isolation, stigma and depression often associated with long-term unemployment which can even undermine the chances for future formal employment. This suggests that eInclusion policy initiatives at the local level should keep these community marketplaces in mind and consider measures that systematically enhance their usefulness.

4.1.2.3 Harnessing IST-enabled remote working and teleworking to make work arrangements more accessible to people with special needs and time commitments

ISTs deployed to support remote and teleworking can offer more flexible work arrangements. They can allow employees to fit their workload into their own schedule. This not only provides new opportunities for people with reduced physical mobility to fully participate in the labour force, but it is also of tremendous benefit to child-carers, and informal carers for elderly or disabled people, IST-supported remote working arrangements can help to sustain an employment relationship at reduced level for growing numbers of home carers, who might otherwise be forced to withdraw from the labour market altogether. The financial benefits of a continuing income stream aside, this is also an effective insurance against future unemployment risks. Even a temporary drop-out from the labour market comes with a real danger of de-skilling and loss of

[29] See Niles, S. and Hanson, S. (2003). 'The Geographies of On-Line Job Search: Preliminary Findings from Worcester, MA'. in: *Environment and Planning* 35: 1223-1243.

employability and thus significant difficulty in re-entering the labour market later on. To fully exploit the benefits of teleworking for groups at risk of exclusion, it is essential that IST systems are designed to be accessible and offer secure, robust communication tools that underpin teleworking arrangements. It is also imperative that initiatives are put in place which raise awareness among employers (including SMEs) and potential employee groups (including associations of homecarers, disabled people) alike about the range of options and innovative solutions in teleworking. It is also important to review, amend and step up the provision of additional incentives, such as tax deductions or direct subsidies, for the creation of teleworking opportunities on the employers side, and to fit target employee groups' home environments with teleworking equipment.

4.1.2.4 Strengthening networks to mitigate the effects of unemployment

Unemployment is prone to social stigma and threatens to uproot socializing and comity, a large part of which revolves around interaction with colleagues at the workplace. Being able to use the Internet to link-up and compare notes with individuals in the same situation can be an effective way to tackle feelings of personal failure and social isolation. In addition, online self-help groups and communities of like-minded people can be an important vehicle for the unemployed and job seekers to share information on social services and support options. As a consequence, eInclusion activities in this area should include support for self-help groups or interest associations in this area to establish and expand their online presence. eGovernment activities should consolidate information and services for people at risk of persistent unemployment in integrated and easily accessible form.

4.1.3 Target groups and actions for IST-led inclusion in the economic sphere

To sum up, IST can play an important role all along the employment chain, helping people to acquire the skills needed to take part in the labour force now and in the future, to find and switch jobs, to reconcile job demands with specific life course events and to mitigate the impact of unemployment should it occur. The main target groups for this type of inclusion policy are those who encounter particularly high hurdles for entering the labour market – i.e. the **long term-unemployed, the disabled, informal carers and other groups with special time commitments.**

The main barriers which these and other disadvantaged groups encounter in accessing the labour market could be grouped as follows:[30]

- **social and individual** (lack of skills, inadequate living and educational conditions, physical and/or mental disabilities, heavy and constraining family obligations),
- **geographical** (isolation, life in remote areas),
- **community** (lack of cohesive local approaches to enabling the transition to employment, lack of social capital networks with those in employment, information deficits relating to training and employment opportunities),

[30] See European Commission (2003). 'Building the Information Society in Europe: A Pathway Approach to Employment Interventions for Disadvantaged Groups'. IST Study Report. Information Society Technologies, (IST) Research Programme. May 2003. Luxembourg: EC.

- **cultural** (language barriers experienced by immigrants and refugees, discrimination),
- **economic** (few or no jobs available, need to supplement the welfare system in providing care for familly members who need it, disincentives to work arising from the welfare/tax system (poverty trap))
- **political and structural** (government policies restricting eligibility for training programmes, lack of accessible information on citizenship rights and issues)
- **organisational** (restrictive recruitment practices, lack of awareness and flexibility of the business community, and training, which does not cater specifically for these groups)

Long-term unemployed people are usually subject to *social and individual barriers*, often generated or amplified by *economic, geographical, cultural (gender discrimination) and community barriers*. They need to upgrade their skills and/or acquire new ones more appropriate for the current labour market. IST for *life-long learning*, the opportunity to update existing skills and acquire new skills irrespective of age and employment status is a key theme for inclusion in this context.

Recommendations to counteract the social and individual barriers affecting the employability of the long term unemployed are:

- All e-learning actions, including those oriented towards building awareness, relevant to e-Skills and/or work-related training will have positive effects on the employability of the long-term unemployed.[31]
- Targeting e-learning and training through the labour offices, and embedding them into the system of active labour market measures is more likely to affect the employability of this specific group, given the differences in e-literacy and usage between the employed and the unemployed.
- Implementation and harmonisation of a system of certification of e-skills would be fundamental for the success of e-skills training on the labour market success. Such a system should be implemented by the training institutions and recognised by the employers.
- Life-long learning approaches need to be modular and flexible. They must enable people to assess their current and future skill needs and select relevant training components.

Recommendations to counteract the economic, geographical, cultural and community barriers affecting the employability of the long term unemployed consist of the following:

- Job creation policies, in themselves very important for re-integrating the long-term unemployed, need to be accompanied by measures to increase the mobility of the long-term unemployed, including their "virtual mobility", thereby encouraging employment through networked work environments (teleworking

[31] A number of actions have been taken in the member states to favour service provision, either through a "portal" approach and/or services provided directly online, see for instance *Fife Direct* (http://www.fifedirect.org.uk/), *MerseyWorkplace* (http://www.merseyworkplace.com/) or *Thenortheast.com* (http:/www.thenortheast.com/employment/employmentcore.html) for examples concerning the UK.. These types of services basically aim to improve job awareness for those suffering from long-term unemployment.

and mobile eWorking). Teleworking appears to be an option mainly for disadvantaged groups, unemployed and home-based carers in remote areas.[32] Networked work environments - which make extensive use of ISTs for interconnecting workplaces across space and time, but do not necessarily involve a relocation of physical workplaces from central offices – play a key role for economic competitiveness, and are expected to be more suitable for long-term unemployed in urban and other populated areas. Furthermore, research suggests that traditional (home-based) teleworking is unlikely to ever achieve the significance for the labour market predicted only a few years ago.[33]

- All the measures that aim to increase the job search behaviour and the creation of virtual labour markets have relevance for the long-tem unemployed as well, provided that they are designed with the specific needs of the corresponding groups in mind and also entail a strong awareness raising and training component.

Carers and other groups with special time commitments are usually subject to *social, individual, economic and organisational barriers* mostly resulting from the incompatibility between their specific time constraints and the fixed working hours required by the private sector. All policies that strengthen the social support nets for carers can have positive effects on the labour market inclusion of these groups. The role of ISTs here is to enable more flexible work arrangements. IST can allow employees to time-shift their workload. This can be of tremendous benefit to child-carers, and informal carers for elderly or disabled people. IST-supported remote working arrangements can help to sustain an employment relationship at reduced/adjusted level for growing numbers of home carers, who might otherwise be forced to fully withdraw from the labour market altogether.[34]

Recommendations to counteract the *economic and organisational barriers* affecting the employability of the carers and other groups with special time commitments are as follows:

- The design of IST systems should be geared towards accessibility and offer secure, robust communication tools that underpin teleworking and mobile working arrangements.

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[32] *Work-Global* is a teleworking facilitator and manages a skills register which currently includes resumés on over 600 highly qualified people based in the Western Isles of Scotland. Supported by the local and regional economic development bodies, their motto is "live local, work global". Their marketing focuses on encouraging companies to outsource business processes to teleworkers in the islands, and encouraging inward investment through setting up satellite offices and call centres (http://www.flexibility.co.uk/issues/modgov/communities.htm).

[33] It is very interesting to observe that permanent telework by people with a contract of employment is so rare in Europe that it could not be measured in a statistically significant way using the SIBIS sample of ~ 12,000 interviews in the EU15. Moreover, the share of home-based teleworkers (at least 1 day/week) has remained stagnant over the period 1999-2002 in the EU15, at around 2% of the EU15 employed. It has become more and more obvious in recent years that permanently teleworking at home is in most cases not sustainable with regard to psychosocial and economic factors. On the other hand, the supplementary home-based telework –that means working for less than one full day per week at home – is on the rise. In 2002, there were more than two and a half times more supplementary teleworkers in the EU15 than three years before (see Gareis, K. and Lilischkis, S. and Mentrup, A. (2006). 'Mapping the Mobile eWorkforce in Europe'. in: Andriessen, E. and Vartiainen, M. (eds). 'Mobile Virtual Work - A New Paradigm?'. Berlin: Springer. pp 45-70).

[34] The financial benefits of a continuing income stream aside, this is also an effective insurance against future unemployment risks, since a temporary drop-out of the labour market comes with a real danger of de-skilling and loss of employability and thus significant difficulty in re-entering the labour market later on.

- It is also imperative to establish initiatives that raise awareness about the range of options and innovative solutions in teleworking and mobile eWorking among employers (including SMEs) and potential employee groups (including associations of homecarers, disabled people) alike.
- The lack of links with employers was identified[35] as one major weakness of the EU Employment Initiative, which operated between 1995 and 2000. It is an important need to raise awareness within the business sector about the feasibility and usefulness of adjusting some work procedures to the special needs of some employees.[36]
- It is, in our view, also important to review, amend and step up the provision of additional incentives for the employer, such as tax deductions or direct subsidies, for the creation of teleworking opportunities.[37]
- Measures helping teleworkers to acquire teleworking equipment are also called for.
- A carer-oriented policy should be complemented and harmonised with the policies specially targeted at creating a more family-friendly enterprise and working environment. This requires a shift towards a more flexible working time, including supplementary teleworking as an alternative to fixed hours.

People with disabilities can be affected by physical difficulties (sight, hearing, mobility constraints), mental difficulties (learning) or psychological problems (low self-esteem, obsessive behaviour, or other disorders). They face barriers, ranging from social and individual to organisational, and as a consequence, inclusion policies targeting the disabled are the most pervasive. In this context the notion of "Universal Access" becomes critically important, and the needs of the broadest possible end-user population should be taken into account in the early design phases of new products and services. The field of Human-Computer Interaction (HCI) plays a critical role in facilitating Universal Access, as citizens in the information society experience technology through their contact with the user interfaces of interactive products, applications and telematic services. In addition to HCI, there are at least two other important levels of concern: the telecommunications infrastructure, and the digital content of IST applications and services in a variety of domains.[38]

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[35] European Commission (2003). 'Building the Information Society in Europe - A Pathway Approach to Employment Interventions for Disadvantaged Groups'. IST Study Report, Information Society Technologies, (IST) Research Programme, Luxembourg: EC.

[36] One such initiative is the *Work & Family Audit* of the Hertie Foundation which is a "management tool for business enterprises and organisations for the optimisation of a family oriented employment policy". It aims at ensuring a strong balance between corporate interests and employees' concerns. See Gareis, K. and Korte, W. (2005). 'eWork in Germany – Contribution for Collaboration@Work'. 2005 Status Report. Bonn: Empirica.

[37] In 2004 the State government of Hesse in Germany introduced a scheme for giving financial support to SMEs that implement teleworking. The scheme is targeted at disadvantaged areas. Financial support is offered to the amount of 50% of IST investment costs, and up to a sum of €2500 per workplace and additionally €2500 for consultancy and planning expenses. Investments eligible for subsidies must be telework-specific and can include technological infrastructure, furniture, training and others. See Gareis, K. and Korte, W. (2005). 'eWork in Germany – Contribution for Collaboration@Work'. 2005 Status Report. Bonn: Empirica.

[38] http://www.beepsocial.org/ShowAnalysisReport.asp?IDFocusAnalysis2=9

Recommendations to counteract the barriers affecting the employability of people with disabilities include:

- Policies for integration into the labour market should not be separated from broader policies for social integration for disabled people.
- There is a great potential for using the Internet to provide information on local IST training opportunities, if at the same time Internet access is facilitated for disabled, including through accessibility technologies and smart (disabled person-friendly) location and design of PIAPs.[39]
- *Training must be coupled with concrete employment prospects and, where necessary, further on-the-job mentoring, in order to ensure* the success and popularity of the measures.
- Continuing efforts to integrate corporate social responsibility (CSR) measures into employment, social and information society policy are needed. In particular, ongoing efforts are needed by employers to ensure that disadvantaged groups do not face barriers in their attempts to acquire further IST training and skills certifications in employment. CSR activities can also help ensure IST work placements for disadvantaged groups.
- With regard to existing online job markets, policymakers should be encouraged to work with industry to ensure that these marketplaces and their job profiling and search functions accommodate the classification systems, and accessibility standards that makes it useful for marginalized segments of the job market.
- A very important line of interventions is the promotion of the widespread use of input-output devices for disabled people.[40]

4.2 IST to support equitable participation in public and political life

4.2.1 Definition and vision

In this section, we look at the IST-enabled activities which can contribute to enhanced inclusion in all processes of collective governance. As various EC and IPTS documents underscore, the EU vision for the next decade conceptualizes eGovernment as a tool for better government in its broadest sense. It places eGovernment at the core of public management modernisation and reform, where technology is used as a strategic tool to modernise structures, processes, the regulatory framework, human resources and the culture of public administrations with a view to providing better government, and

[39] The TARDIS project in the UK, for example, designed, built and installed six multimedia kiosks in various community-based locations in Manchester, UK. The kiosks were located in disadvantaged areas to allow information provision to be targeted directly at disadvantaged users. Information content was designed or collated to address the specific needs of the target groups, and presented through a simple, touchscreen enabled interface designed to allow information retrieval with little or no training: (http://www.beepsocial.org/ShowAnalysisReport.asp?IDFocusAnalysis2=9).

[40] In a narrow sense, assistive technologies cover the various specifically designed devices and software applications that enable alternative or augmented forms of interaction by disabled people with the tools and services of the Information Society. In a broader sense, they encompass any online applications and services (eHealth, eCare, eShopping, eWork) that are developed to support or otherwise open up new opportunities for participation and access for disabled people and older people: (http://www.beepsocial.org/ShowAnalysisReport.asp?IDFocusAnalysis2=9).

ultimately increased *public value*.[41] The creation of public value in this context is a broad term that encompasses the various democratic, social, economic, environmental and governance roles of governments."[42]

EU Member States and Regions are beginning to converge in their visions for future government in the following key issues: citizen- and business-centred government, universal access to government/eGovernment services; networked, subsidiaristic government through delegation of responsibilities to the most appropriate level, including local authorities and private service providers. Other central elements of this vision pertain to participative, transparent, accountable political decisions, the growing cross-border mobility of citizens and businesses and the related need for closer cross-border cooperation between Public Administrations. As a result, the Government mission includes commitments to manage public finances and service provision efficiently, guarantee freedom of expression, enhance quality of life, promote individual autonomy and development, support disadvantaged social groups, and enhance democratic awareness and participation. Diversity as a key characteristic of the future society, needs to be complemented by a firm commitment to inclusiveness, in order to preserve and increase the cohesion and integration of different and, in some ways, diverging layers of the society.

All these goals are reflected in and strongly affirmed by the EU Manchester Declaration on the Future of eGovernment, adopted in November 2005, which sets itself four main policy objectives: to leave no citizen behind, to work towards effective and efficient government, to achieve high impact European services and to provide simple and secure access to online public services.

eGovernment can contribute specifically to the objectives of inclusion in a variety of ways.

4.2.2 e Services

Starting with the basic public services provided by governments at all levels from the international and national, to the regional and local, one of the basic necessities is the accessibility of eGovernment for people with special needs. eGovernment can also make inclusion policies themselves more transparent. Enhanced access to content/information/knowledge (CIK) on decisions that relate to issues of concern to society's marginalised groups, can contribute to a sense of more accountable, transparent and responsive social policy-making and help these marginalized groups to feel more strongly plugged into public life and the political process in their communities. With regard to the internal functioning and implementation of eGovernment, principles of change management and learning organisation need to be adopted. In order not to leave anyone behind, eGovernment will also have to be oriented to the motivation and integration of the older and less skilled civil workers in the reorganisation process.

[41] See OECD (2003). 'Checklist for eGovernment Leaders'. Policy Brief. Paris: OECD.
[42] IPTS (2004). 'eGovernment in the EU in the Next Decade: the Vision and Key Challenges'. 4-5th March, 2004 Workshop Report. Seville: IPTS (http://fiste.jrc.es).

In order to reach out to all user groups, it is important that eGovernment not only focuses on a narrow set of IST tools, but also considers the most effective mix of all different channels available to support the interaction between public institutions and citizens and business. In fact, the multi-channel approach – i.e. guaranteeing the accessibility of eGovernment services through both advanced IST-based solutions, such as the PC, PDA, mobile phone and traditional ones such as the telephone and the television – is regarded by practitioners as a necessary condition for increasing citizen involvement and for reaching out most effectively to groups of people with very different preferences, ownership levels and familiarity with regard to different ISTs.

4.2.3 eEngagement

Besides using ISTs for enhancing the accessibility and quality of public services, specific attention also needs to be paid to the promotion of empowerment and more active citizen involvement in collective decision-making processes. ,IST-enabled forms of citizen involvement and participation in policy formulation and decision-making processes have come to be called **eEngagement**.

Promoting eEngagement requires strong political leadership from senior levels of government, as all spheres of the government will be involved and asked to fully contribute to the process. A commitment to eEngagement is critical[43] in order to expand the relationship between citizens and entities of governance, initially from information provision (a one-way relationship) to a consultation process (two-way relationship), and finally to active participation, in which the relationship is built on partnership. The political decision-making process consists of the following steps: agenda setting, analysis, formulation, implementation, and monitoring. Each of these steps requires appropriate online tools for providing information, opening spaces for consultation and facilitating participation.

The following matrix provides an overview of possible ways to support governance with the help of ISTs:

[43] See Macintosh, A.; Coleman, S. and Lalljee, M. (2005). 'eMethods for Public Engagement'. Published by Bristol City Council for the Local eDemocracy Project.

eEngagement Matrix

	Information	Consultation	Participation
Agenda Setting	Search engines, email alerts, translation support, style checkers	Online surveys and opinion polls, discussion forums, monitoring emails, FAQs	E-petitions, E-referenda E-communities
Analysis	translation support, style checkers	Evidence-managed, Expert profiling	E-citizen juries E-communities
Formulation	Style checking to interpret technical and legal terms	Policy-based forums E-citizen juries	E-petitions, E-referenda
Implementation	Style checkers	Discussion forums E-citizen juries	Email distribution lists
Monitoring	Online feedback	Online surveys and polls, discussion forums, monitoring emails, FAQs	E-petitions E-referenda

Source: A. Macintosh, eEngagement & Evaluation, presentation 18.12.2005

Important issues in the design of eEngagement tools include the need to ensure security, confidentiality and auditability of the applications in use, while at the same time maximizing the accessibility, usability and transparency of the IST-supported participation process.

In order to stimulate the adoption of eEngagement, two key tasks exist:

- to *motivate* people to access and use the tool for eEngagement, by clearly explaining the importance of IST-enabled citizen involvement; and,
- to *facilitate* the use of the tools and make them as user-friendly as possible.

A number of important points must be kept in mind when designing eEngagement initiatives.

First, there is no one-size-fits-all approach. The eEngagement sphere is deeply embedded in the institutional structure of collective governance in each country. It is closely linked with the perception of civil duties and citizens' rights, and with the cultural character of the society. eEngagement mechanisms have to take into account and closely align themselves with the variety of socio-political models that coexist in Europe.

Second, engaging the wider society in an inclusive manner in eEngagement is a challenging task. Right now, eEngagement is still in its experimental stage with many innovative initiatives being tried out and participated in mostly by IST-savvy citizens. When eEngagement is more widely implemented, new roles will be required. Mediators/intermediaries will be necessary to coordinate and mediate the relationship between citizens themselves, and between the citizens and the public institutions.

Third, the local level is very important for eEngagement. Many eEngagement processes will be most effective when carried out on a small-scale and pertain to decisions that directly and most visibly affect people's daily lives in their community. This pre-eminence of local eEngagement makes it very important to facilitate the co-operation and information-sharing of municipalities and local communities when designing, implementing and refining solutions for eEngagement.

Various eEngagement projects have already been carried out across Europe.[44] However, evidence on the impact and lessons learnt form these initiatives are quite fragmented. A consolidation exercise that would collect and analyze evidence in this area, reporting the results back to policy-makers, would represent a very timely and topical research task.

The main challenges for eEngagement, on which to focus for the next steps include:

- achieving a basic level of digital inclusion, a precondition of eInclusion in general
- stimulating eEngagement skills and citizen's engagement
- involving the younger generations,
- ensuring strong protection and coherence of guarantees for freedom of expression and information access.
- introducing a systematic evaluation of eEngagement, that helps to identify and showcase the benefits at social, technical and political level.

4.2.4 Target groups, stakeholders and actions

It is important to note that ePublic Services and eEngagement are not separate concepts, but refer rather to overlapping concerns in the quest for more accountable, citizen-centric systems for collective governance. Possible actions to make eEngagement and ePublic Services work for inclusion and social cohesion could be grouped in two clusters, one related to the use of ISTs in a society for the support of inclusion policies and social cohesion, the other cluster more narrowly focused on how to make eGovernment itself more inclusive.

4.2.4.1 IST for more inclusive governance (more voice for marginalized, better access to related public services, more related public services)

- conduct public consultations online to make them more accessible for people who are less mobile and flexible (handicapped, old people, mothers at home)
- provide infrastructures for online networking of marginalized groups and groups at risk of exclusion (ethnic, unemployed etc.): support collaborative web projects, experience sharing, discussion fora

[44] Examples: Belgium - Thinking today about the Flanders of Tomorrow; Czech Republic - Send e-mail to the Parliament: Pilot 2000; Denmark - Digital democracy in Hals municipality; European Commission – Interactive Policy Making; Finland – Share your views with us; Italy – Comune di Cesena PEG online; The Netherlands – e-consultation on the future of food; Sweden – Kalix: Annual consultation; Sweden – Electronic Dialogue at Normalm District Council; Italy – Comune di Bologna: DEMOProject; UK – Online Parliamentary enquiry into domestic violence; UK – Floodforum.net; UK - e-petitioning the Scottish Parliament.

- provide training in online lobbying and advocacy techniques to interest organisations that cater for excluded groups (self-help groups of unemployed, patients associations, old people associations, ethnic minority and youth groups etc.). This training can include, online research methods, online lobbying, online fundraising, online outreach, how to establish effective web presence etc.
- make inclusion policies more transparent, accountable, responsive to stakeholder needs and open to feedback and input by beneficiary groups, by for example:
  - providing online budget information that helps to track expenditures for inclusion measures (social budget analysis)
  - conduct online consultations on social policy issues with firm outreach to stakeholder groups
- support online translation and assistance services that help disadvantaged groups deal with public authorities and services providers, e.g. web interface for people with hearing problems who can write in messages to be relayed by a trained operator to the public authorities in question and vice versa with the answers
- support IST-based hotlines and consultation services for at-risk groups (e.g. sms helplines, Internet helplines)

4.2.4.2 Making eGovernance and all IST-related measures more inclusive

- adhere to accessibility standards and further develop these standards, and expand them to other ISTs
- target online content and relevant services on not only the average online surfer, but also specific target groups for inclusion
- provide plain language versions and key foreign language versions of resident ethnic minorities for major e-government services and relevant public information
- promote the use of open source software tools in eGovernment activities, in order to encode public information in non-proprietary data formats for use on the broadest range of technology platforms;
- promote combined access to eGov services and repositories, i.e. the combination of IST-enabled digital services and real life access to offices providing services based on face-to-face contacts, and in-between solutions like assisted access to eGov online services, facilitated by a helpdesk member;
- promote eGovernment awareness initiatives at local level. Evidence suggests that many Internet users are not aware of their local eGovernment website or do not expect to find any useful information on it. Local authorities can counter this lack of awareness by organizing showcase events and hands-on information sessions which demonstrate to citizens the versatility of public information and usefulness of services online. Such activities can also be linked to community events or public meetings, in order to maximize outreach.
- facilitate the development of simple, universally agreed upon meta-data and data exchange formats to be used by government entities and private sector, civil society partners working on inclusion issues. In some areas, such as the financial sector and, to some extent, the health sector, the development of a common ‘language’ for data exchange is far advanced. The challenge is to strengthen such synchronization

activities in other areas of relevance to inclusive eGovernment, such as public sector held information on environmental quality, geographical information, performance information on public service providers; etc. Research can help to map the status quo of information provision and the use of data standards in this area. Consultations with stakeholders, new media information intermediaries and advocacy groups can help to agree on IST-enabled transparency and information provision tools, common meta standards and data formats, so that public sector information can be directly used, analyzed and integrated into the workings of these entities.

- establish a new media monitoring observatory that keeps track of and systematically reviews the potential for eGovernment use of new emerging applications in the private and community media sector flexible and easy-to-use application tools such as weblogs, peer-to-peer, podcasting etc.
- facilitate the acquisition of eSkills for the IST illiterate (e.g. citizens with low education profiles, immigrants, foreigners, the older population, people not attracted, or afraid of the extra burden on their shoulders)

Finally, when designing practical initiatives for this action agenda it is important to keep four key principles for ePublic Services and eEngagement in mind:

- *New media competence and basic social skills of deliberation, argumentation and, networking are more essential than ever before* to nurture civil participation and organisation. It is not so much about knowing how to vote and how the political process works, but more fundamentally about how to network, organize, aggregate interests, develop collective demands and effectively lobby for them.
- *IST is unlikely to generate political and civic engagement from scratch*, but it can remove certain obstacles to participation.
- *IST no magic remedy for 'cutting out the middle men' and enabling forms of direct participation*: It is too narrow to construe participation and engagement as direct relationship between the individual citizen on the one side and the public authorities/government at the other. This type of interaction happens only very rarely due to time and information constraints on all sides. In reality, individual civic and political engagement are significantly shaped by, embedded in and expressed via the social and professional networks that individuals maintain. A more realistic conception emphasizes the continued importance of intermediaries that operate in these spheres. However, social software tools might shift some (but not all) power from conventional intermediaries (mass media, church, labour unions) to smaller units (self-help groups, community association, NGOs etc.).
- *Multi-modal is key*: different groups prefer different ISTs, e.g. young people at risk are a lot easier to engage through sms than the Internet.

4.3 IST to support life-long learning

4.3.1 Background: education, training and social inclusion in Europe

Many studies confirm that education and training (E&T) are key determinants for employability, social inclusion, self-fulfilment and participation in society. There is also little doubt that education and training are of vital importance for realising the Lisbon goals of becoming 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 (European Council, Lisbon, March 2000). The EU has translated the Lisbon goals into specific actions such as those under the initiative Education and Training 2010 which aims to modernise E&T in view of the development of the knowledge-based society. A 2005 mid-term evaluation of the modernisation of E&T recognises that progress is being made by the Member States, but observes that further steps towards realising change for the development of the Knowledge-Based Society (KBS) need to be taken.[45]

Moreover, it is observed that notwithstanding the EU's achievement in increasing the number of graduates in maths, science and technology graduates (MST), there is little progress against the EU benchmarks for issues related most closely to social inclusion. These issues are early school leavers, upper secondary education, reading literacy and adult learning, all developments that are also illustrated in the graph below.

- Early school leavers: In 2004, almost 16% of young people aged 18-24 in the EU left school prematurely The Council wants to reduce this rate to 10% by 2010.
- Upper secondary-level education: The upper-secondary completion rate of 22-year-olds in the European Union has been fluctuating around 76.5% since 2000 while the Council agreed that, by 2010, at least 85% should have completed education.
- Reading literacy: In 2003 about 20% of young people under the age of 15 in EU Member States achieved only the lowest level of proficiency. The average performance did not improve compared to 2000. There is still a long way to go to reach the objective to reduce the percentage by 20% (to reach 15.5%) by 2010.
- Adult participation in lifelong learning: The rate of adult participation in education and training in 2005 reached 10.8% in the EU, up from 7.8% in 2000 but as a result of breaks in the time, real progress is lower. The 2010 target is 12.5%.

[45] Council of the European Union (2006). 'Modernising Education and Training: a Vital Contribution to Prosperity and Social Cohesion in Europe'. Joint Interim Report of the Council and the Commission on progress under the "Education & Training 2010" work programme, Brussels: Council of the European Union. 7022/06, EDUC 49, SOC112.

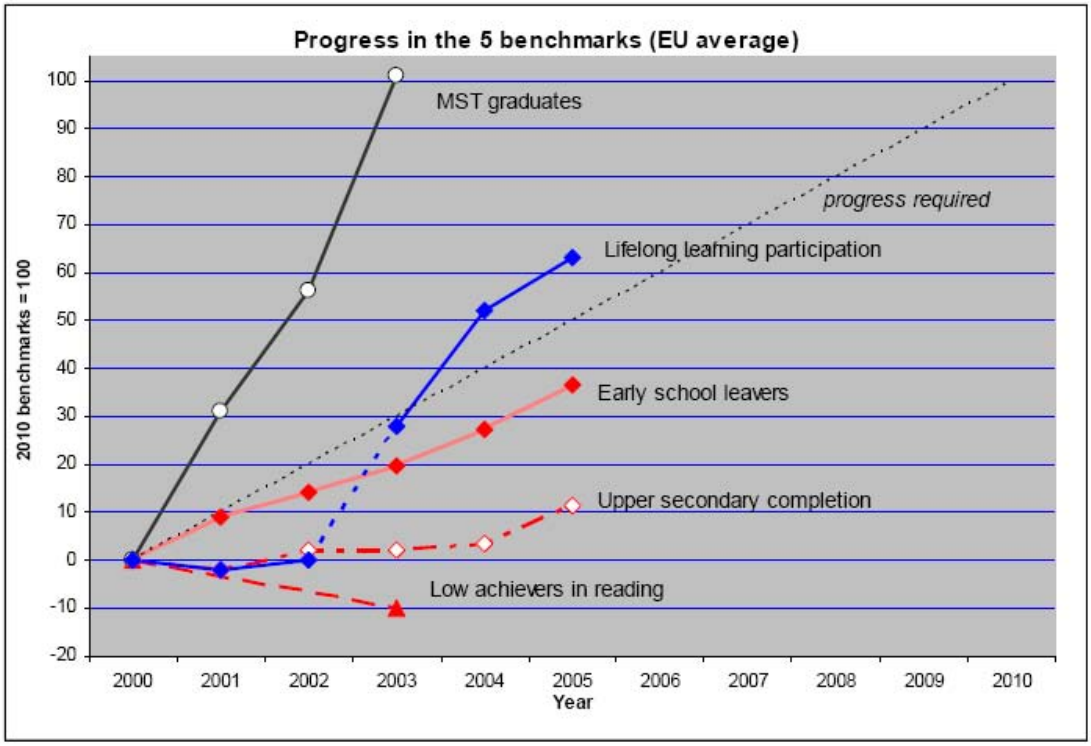

Figure 9: Education and Training Benchmarks [46]

A recent report from OECD education expert Andreas Schleicher confirms that inequalities in access to learning are a major concern for the EU. OECD data suggest that in many European countries, school access tends to reinforce rather than reduce existing socio-economic inequalities. Children from higher socio-economic backgrounds have better educational opportunities. In Germany, for example, children in white-collar families are four times more likely to go on to higher education than those with parents from blue-collar or low-skilled occupations. A similar problem occurs in post-school education. The trend is that in almost all OECD countries, those that need the most post-school education and training because they are unemployed or low-skilled, receive the fewest education and training opportunities. Adult education and training usually benefit the better educated and already employed.[47] This is an important challenge, as there are about 80 million people in the EU that are regarded as low-skilled.

There is thus still important progress needed in European educational attainments that could positively contribute to inclusion, especially when tertiary education is taken into account. The demographic changes Europe will be facing over the next decades pose

[46] Methodological note: The starting point in the year 2000 is set in the graph as zero and the 2010 benchmark as 100. The results achieved in each year are thus measured against the 2010 benchmark. A diagonal line shows the progress required, i.e. each year an additional 10% of progress would have to be achieved to reach the benchmark. If a line stays below this diagonal line, progress is not sufficient.

[47] `Schleicher, A. 'The Economics of Knowledge: Why Education is Key for Europe's Success'. Policy Brief from the Lisbon Council. March 2006: http://www.lisboncouncil.net/files/download/Policy_Brief_Economics_of_Knowledge_FINAL.pdf.

specific challenges for the knowledge economy, its labour force and especially its educational achievements. Extrapolations show that it will be difficult in an ageing society to deliver the required number of tertiary level educated young people to maintain knowledge-based economic growth, even with the support of positive migration flows.[48] This will make adult education and lifelong learning even more important than it is today. In addition to these quantitative concerns, there is also the challenge for European universities to become more competitive on a global scale since there are only two European universities in the Shanghai Jiao Tong University ranking of global top 20 universities.

There are thus many important and urgent challenges for making education and training more socially inclusive across Europe. It is not the objective of this chapter to address these issues in more detail, but they should be kept in mind as a backdrop for the folowing discussion of eInclusion.

4.3.2 Definition

A broad definition of "learning through the use of IST" is required, when addressing the inclusive potential of IST-enabled learning. Such a definition should basically embrace two perspectives: IST for learning and learning to use IST.

This definition goes far beyond the use of computers and Internet in schools for instance, traditionally regarded as eLearning. It deals with both formal and informal learning (education and training). It encompasses the use of IST for learning in traditional education (nurseries, schools and higher education), the use of IST for learning and training at the workplace (e.g. IST skills) but also the use of IST for learning and training to find work (e.g. re-skilling, up-skilling) and, last but not least, the use of IST for learning in everyday life (digital literacy/digital competences and informal learning[49]).

Learning through the use of IST should, however, be framed within a vision that is based on the characteristics of what constitutes a society that is knowledge-based, digitised and networked. This means that the view on learning (education and training) as such also needs to be re-considered.

4.3.3 Vision

The development of the information society and the wide-spread diffusion of IST give rise to new opportunities and new digital skills and competences that are relevant for employment, education and training, self-development and participation in society. There is, however, considerable risk that certain people and groups are not able to benefit fully

[48] Coomans, G. (2005). 'The Demography/Education Squeeze in a Knowledge-Based Economy (2000-2020). Work Research Centre, Dublin. Report for DG-JRC IPTS European Commission. IPTS Technical Report EUR 21573 EN. http://fiste.jrc.es/pages/documents/eur21573en.pdf).

[49] See for more details on digital competences European Commission (2004). 'Implementation of Education and Training 2010'. Report from Working Group B 'Key Competences for Lifelong Learning, a European Reference Framework'. November 2004. (http://europa.eu.int/comm/education/policies/2010/doc/basicframe.pdf). For more details on digital literacy, see: European Commission (2005). 'Report on the Consultation Workshop "Promoting Digital Literacy" '. held in Brussels on 4 November 2004: http://europa.eu.int/comm/education/programmes/elearning/workshops/index_en.html

from the new opportunities offered by ISTs, as competent users of ISTs in general and as learners in particular. Therefore, dedicated efforts are needed to make sure that everyone is able to acquire the necessary digital competence in the information society and to learn and develop other key competences via ISTs for participating more broadly in society.

If the status of knowledge is different in a knowledge society (compared to late modern industrial societies), then the vision on what knowledge people need to acquire and on how they can acquire it, needs to be changed as well. Some argue, for instance, that knowledge is changing from "know-how" and "know-what" to "know-where", "know-why" and "know-who".[50] It means that knowing where knowledge is located and who has access to what kind of knowledge and why, is becoming more important in the networked society. Such a claim emphasises the social nature of learning and knowledge, i.e. that knowledge only becomes meaningful in **context** and that learning is fundamentally a **social process** (going back to ancient teaching models of Socrates and others). It is important to understand what knowledge, what education and what new skills will be needed for participation in the knowledge society, especially if one wants to develop policies that make sure everyone is able to benefit from the new challenges and possibilities offered by ISTs.

IST-enabled learning and digital competence are of course also related to the changing requirements of the labour market and the changing nature of labour productivity (economic reasons); and to the EU Lisbon political targets and their concrete formulation in terms of education and training policies. Finally, there are individual reasons such as the drive towards upward job mobility or towards self-fulfilment that would motivate people to acquire new skills and competences.

There is growing awareness in Europe that a new vision of IST for learning is needed that takes into account the knowledge society shifts that are transforming the way people work, learn, train, make sense of their world and entertain themselves in a digitized and networked society. This will require a re-conceptualisation and re-organisation of the role of current learning actors and institutions, adapted to a knowledge society rather than an industrial society. It also means that learning models will be restructured to reflect the fact that learners will become active participants and content producers, rather than passive receivers. It could also open up possibilities for modularised learning which takes into account dynamic and changing lifestyles and non-standardised and fixed career paths. Learning could be less conditioned to formal educational access requirements and, instead, become an ongoing part of people's entire lifespans.

The FP6 – IST programme already takes such changes into account. It focuses on ubiquitous access to personalised learning throughout life: "Learning for **anyone**, at **anytime**, at **any place**".[51] Other keywords in such debates are personalisation, flexibility, collaboration, motivation, creativity, curiosity, multidisciplinarity, adaptiveness, multicultural, problem solving, and informal, intuitive learning. IST and the Internet are

[50] See for instance International Futures Forum (2005). 'Futures of Learning Seminar Report, Future Learning Practice'. Glasgow, 24-25 June 2005 (www.internationalfuturesforum.com/fol).

[51] http://www.cordis.lu/ist/telearn/index.html

indeed key to such an approach, hence the emergence of notions such as "learning 2.0" which builds upon the idea of the next generation Internet (web 2.0) and notions such learning as "connectivism".[52] It means that the potential of IST to provide meaningful **learning content** and to bring **people together** to learn is embraced. IST-enabled learning should be a social process whereby learners become co-producers in the learning process and not just consumers of learning content. Guidance and interaction therefore continue to be very important as the role of teachers, tutors and/or trainers changes rather than disappears.[53]

4.3.4 eInclusion strategies

A broad definition of learning through the use of IST enhances the potential contribution from IST-enabled learning to eInclusion because it expands the target group from students and trainees to the whole population **("Learning for all"),** at any stage in their life **("Lifelong Learning").** This would make it possible to connect Inclusion policies with IST-enabled learning policies because it starts from an everyday life perspective, that is from the perspective of the lives of the people involved. Such an approach could greatly increase the potential of IST for inclusion as it needs to conceive strategies for social and digital inclusion.[54]

This could mitigate the tendency of new technologies to predominantly benefit the already privileged, and thus to reinforce social divides. One of the biggest challenges for IST-enabled lifelong learning for inclusion is to provide new chances to those who want to learn again and to those who were not able to benefit from traditional education and training or who were not able to perform at school when they had the chance to do so. IST-enabled learning could allow them to plug-in again. The potential of IST-enabled learning to provide learning opportunities to more people (including disadvantaged groups) is widely acknowledged but it is also recognised that nothing will happen automatically. IST-enabled learning needs to make sense for the people involved, by being embedded in their everyday lives and social contexts, hence the importance of linking social inclusion policies with eLearning policies.

However, learning to learn via ISTs should not be the only objective. This instrumental concern is of course already a serious challenge for all stakeholders involved but learning also has political and emancipatory aims. Learning objectives such as social and political competence, critical thinking, knowledge sharing and cooperation techniques are essential preconditions for participation and well-being in the knowledge society.[55] All these capabilities are intimately linked to communicative, media and social competence which must be nurtured through learning. It would be beneficial for inclusion policies to focus on these empowerment goals.

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[52] http://elearnmag.org/subpage.cfm?section=articles&article=29-1; http://www.connectivism.ca

[53] 1See for more on this vision: Punie, Y. and Cabrera, M. (2006). 'The Future of ICT and Learning in the Knowledge Society'. Report on a Joint DG JRC/IPTS-DG EAC Workshop held in Sevilla, 20-21 October 2005, DG JRC-IPTS, European Communities (http://www.jrc.es/home/pages/publications.cfm).

[54] See for instance Nascimbeni, F. 'eLearning and Access to E&T: How to Close the "Learning Divide", eColumn, 15 November 2005 (www.elearningeurope.info).

[55] IPTS/DGEAC Workshop on the future of learning in the knowledge society, Seville, 20-21 October 2005.

4.3.5 Target groups and stakeholders

Taking into account the above mentioned broad approach, target groups for IST-enabled learning would be drawn from the whole population in the sense that they need to include the widest possible range of people that are disenfranchised, in a vulnerable situation and in need of skills upgrading (these could be in certain circumstances students, workers, jobseekers, the elderly, immigrants and others). This widens the scope for linking inclusion policies with IST-enabled learning policies (for non-traditional learners).

The potential for learning through the use of IST can only be realised when strongly supported by stakeholders and policy makers at all levels: learners, teachers and their institutions; technology and content providers; employees and employers; companies (including SMEs); researchers and academics; and government institutions at all levels (local, regional, national, EU). The importance of multi-stakeholder involvement was acknowledged in a joint statement from the EU commissioners Reding and Figel at the 2005 eLearning conference in Brussels.[56]

4.3.6 Actions

Following the view elaborated above, the development of IST-enabled learning to benefit eInclusion needs to be supported urgently. This can be done in many different ways. Four action lines are proposed:

- Encourage the **motivation** to learn via IST
- Support the widespread development of **digital competence**
- Monitor and assess the development and evolution of **IST-related key competences** in the knowledge society
- Emphasize the **emancipatory** and **empowerment** goals of IST-enabled learning (including digital competence)

It should be stressed that this list of actions is not exhaustive, neither is it the only one possible. The examples below contain further suggestions for the role that could be played by the different stakeholders and also possible timeframes for action. These suggestions are included here in order to stimulate debate amongst policymakers. They do not reflect the position of the European Commission.

A. Encourage the motivation to learn via IST

IST-enabled learning would need to be relevant, interesting, cheap, accessible, exciting and fun, to motivate people who are not interested at the moment to learn via IST and to learn to master IST. The target group consists of people who are not taking part in traditional education and are unemployed, or who have jobs, but are low skilled. This could amount to a total of about 80 million people in Europe.[57] It would require concerted actions by multiple stakeholders to develop **attractive learning content** and learning activities that take into account the **everyday life context** of target groups for IST-enabled learning and that are embedded in **social networks.** In other words, IST-enabled learning spaces should be developed rather than putting people in front of a computer to

[56] http://www.elearningconference.org
[57] http://europa.eu.int/comm/education/policies/2010/et_2010_en.html.

learn. These spaces would provide "blended learning", i.e. the combination of IST-enabled digital learning (using media-rich virtual environments) in combination with real life learning based on face-to-face contacts.

- Member states could develop dedicated **pilot projects** of IST-enabled learning that enable people to plug-in again (anytime, anywhere, anyhow). Such projects should be developed by local organisations and local communities close to the target groups. These projects could be low-cost by taking into account the potential of IST (digital storage cheaper than paper; electronic networking, open source learning content and systems). The Commission would start consultation in 2006 to develop guidelines for these pilot projects; Member States could launch projects in 2007, with the first results available in 2008; Additionally, technology projects could be funded by the FP7 IST programme.
- The Commission could set up an **IST-enhanced learning award** to give prizes to IST-enabled learning projects according to the above mentioned criteria. These projects would be developed specifically for eInclusion target groups (excluding eLearning in formal education[58]) in Europe, and aim to create awareness and to exchange best practice amongst Member States. It would be announced in 2007 and and the first award made in the 2008 eInclusion year.

B. Support the widespread development of digital competence

Living in a digital society requires being able not just to use and understand digital technologies but also to master them in a way that enables users to do things with ISTs. The objective of the following suggestion would be to facilitate the acquisition of digital skills for the IST illiterate. This would give jobseekers and others proof of newly acquired skills that are relevant in the information society and that could help them find a job or get access to better jobs.

- The Commission would make operational the notion of digital competence as defined by the EU proposal on key competences for lifelong learning[59] in order to propose a new **European accreditation system** for digital competence that is broader than the ECDL (European Computer Driving Licence).[60] This would be developed by the Commission in 2006, to be implemented by Member States in 2007;
- A **target** could be set for digital competence diplomas for specific target groups - for instance, 50% of jobseekers - by 2010;
- Companies, especially SMEs, providing IST-enabled learning of digital competences to IST illiterate staff would be supported. The Commission could develop guidelines for Member States to set up special schemes for this by 2007;

[58] The eLearning awards exist already, looking exclusively at ICT-enabled learning in schools: http://elearningawards.eun.org.

[59] European Commission (2005). 'COM(2005) 548 Final: Proposal for a Recommendation of the European Parliament and the Council on Key Competences for Lifelong Learning'. Digital competence involves the confident and critical use of Information Society Technology (IST) for work, leisure and communication. It is underpinned by basic skills in ICT: the use of computers to retrieve, assess, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the Internet.

[60] http://www.ecdl.com/main/index_old.php

- A more advanced digital accreditation system that is bottom-up (managed by people themselves) and that shows achievements, career and IST experience could be developed to increase employability through better education and skills. It could be based on the **ePortfolio example**[61] which takes into account both non-accredited experience and competences. It could, for instance, also be combined with the EUROPASS/ European CV format which aims at transparency of qualifications and skills throughout Europe.[62] The Commission and Member States could promote the use of ePortfolio-like systems for all jobseekers (and other target groups) by 2010.

The private sector is also interested in supporting the development of IST competences. In January 2006, the e-Skills Certification Consortium (eSCC) launched the "European Alliance on Skills for Employability", a coalition of mainly private companies to bring technology and training on IST skills for employability to millions of people across Europe by 2010. The Alliance has committed itself to investing €60 million in providing 20 million people in the EU with access to technology, training and certification in IT and IST. The focus is on the positive impact of IST literacy and training on employability prospects of young unemployed people, those with disabilities, and older workers.[63]

C. Monitor and assess the development and evolution of new digital competences in the knowledge society:

The knowledge society is unfolding and key digital competences are under construction and evolving, because new ISTs are picked-up by users and used in many different and sometimes unexpected ways (e.g. weblogging, podcasting). It is important to monitor the development and evolution of these IST-related key competences so that those who are not up to speed with technological evolution are able to keep track (cf. early and late adopters). This could also help to get a better understanding of the changing meaning and requirements of knowledge and learning in the knowledge society as early as possible (i.e. when they are unfolding).

- The Commission could set-up an **EU observatory** on emerging digital competences by 2007;
- The Commission could support **research** (prospective and analytical) on new skills, competences, jobs and employment in the knowledge society, from 2006 onwards; and,
- The Commission and Member States could acknowledge the importance of IST-based learning outside formal learning institutions (e.g. at home, on the road, community centres) by way of a **Commission Communication** in 2006.

[61] www.eife-l.org/portfolio/index_html?set_language=en
[62] http://europa.eu.int/comm/education/programmes/europass/index_en.html
[63] http://www.e-scc.org/alliance/default.aspx

D. Emphasize emancipatory and empowerment goals of IST-enabled learning (including digital competence)

The need to adapt the existing educational institutions and vocational training programmes to the requirements of the knowledge society, and to support world-class education for all in Europe is acknowledged by the EU and Member States. These instrumental objectives are very important for competitiveness and innovation, but the impact of IST-enabled learning for emancipation and empowerment deserves special attention as well. Being able to use IST tools and content to improve equal rights and the position of people, be it politically, socially, economically and personally, is of great value.

- A broad vision on "IST-enabled learning that benefits all" should be promoted, rather than focussing only on IST skills and the use of IST in education and training;
- The Commission and Member States could raise awareness of the emancipatory and empowerment potential of IST-enabled learning in their communications and policies, from 2006 onwards. The Commission could develop a reporting system to keep track of this, by the end of 2006; and,
- The Commission and Member States could support specific IST-enabled learning projects that have emancipatory and empowerment goals. The Commission could start consultation in 2006 to develop guidelines for pilot projects. Then the Member States could launch projects in 2007, with the first results available in 2008.

The graph below indicates that these different actions are interrelated. Thus policies, need to tackle them in an integrated manner.

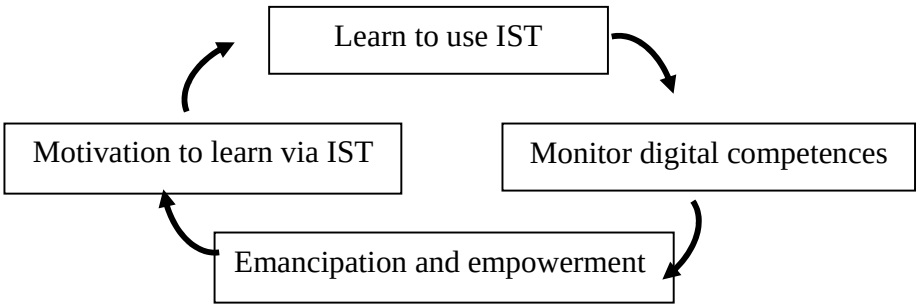

Figure 10: IST-enabled learning and inclusion[64]

[64] A comparable but different circular model on the relationship between ICT experience and employability has been developed by Hüsing. He distinguishes: "Employability" => "Employment"=> "ICT experience" => "ICT skills". See Hüsing, T. (2004). 'The impact of ICT on Social Cohesion: Looking Beyond the Digital Divide'. DG JRC IPTS Technical Report, European Commission. EUR 21474 EN. (http://www.jrc.es/home/pages/publications.cfm).

4.4 IST to minimize individual impairments caused by ageing, disability and disease

4.4.1 Definitions, vision

In a context where collective healthcare and pension systems are in structural crisis as a result of the ageing of the population, the opportunities offered by the knowledge-based society are of particular importance. According to a special report by the Economic Policy Committee and the European Commission, it is expected that ageing populations will lead to increases in public spending in most Member States by 2050, if their policies remain the same. This means, for instance, that EU15 public spending on long-term care is projected to increase by over 60% of GDP between 2004 and 2050. Similarly, the proportion of GDP to be devoted to overall expenditure on public health care is expected to grow by 25% in the same period, reaching 8% of GDP in 2050. The budgetary impact of ageing is anticipated to become apparent by 2010 and to pick up markedly between 2020 and 2040.[65]

In order to fully harness the potential of independent living and IST for active ageing in the information society, dramatically different approaches to ageing policies are required. These must be in harmony with overall European goals. For example, fostering independence in old age and promoting active ageing policies are interlinked goals which aim to improve social cohesion and inclusiveness. An Information Society that is inclusive provides high quality public services, while the IST-based services for an ageing society can contribute strongly to improvements in quality of life for older European citizens. Furthermore neither the EU nor any other ageing society worldwide can afford to be insufficiently inclusive with regard to an ever larger segment of its population. This would carry a high risk of creating unacceptable social inequities.

The best suited analytical framework to guide the design of independent living and active ageing would appear to be the **life course approach**. It emphasizes the fact that personal lives and individual choices are interwoven with social histories and social ties, the role of networks, and the importance of membership of particular groups in society (by gender, ethnicity, social class, and age). Research in biology, genetics, psychology, health and social sciences, enables us to identify some key "events" or transitions that are of particular importance for "active ageing" and "independent living". A major concern for developing a policy or conceptual vision for the active ageing and independent living perspective, is the need for a dynamic perspective on ageing that takes into account the complexity of constructing individual and social lives. Indeed, the adaptation to (all dimensions of) ageing is a broad and cumulative process. It is more than the simple adaptation to individual life events or transitions.

Within this perspective the notion of **integrity** is a fundamental issue. Integrity entails independence, the ability to manage on one's own. Being or becoming dependent on help from others, especially family or informal carers, can produce a sense of being a burden

[65] European Council and European Commission (2006). 'The Impact of Ageing on Public Expenditure: Projection for the EU25 Member States on Pensions, Health Care, Long-term Care, Education and Unemployment Transfers (2004-2050)'. EC: Luxembourg.

on the part of the recipient. On the other hand, frail elderly people often present themselves as competent people in charge of their lives and able to organise their situation. They still focus on what they are able to do by themselves and on how they manage, rather than on what they are no longer able to accomplish. But the loss of independence is not a purely individual and 'absolute' phenomenon. It is very closely linked to the conditions in which older people are living. In a supportive environment, people with decreased functional capacity may continue to live independently. A supportive environment that anticipates specific characteristics and key junctures in an individual's life course will improve independent living. Finally, two basic facts are acknowledged: a) the elderly are not a homogeneous group; b) the domains in which important life course events occur are interrelated. An integrated approach is therefore required. We need to be aware that policy measures taken in one domain will affect the other domains.

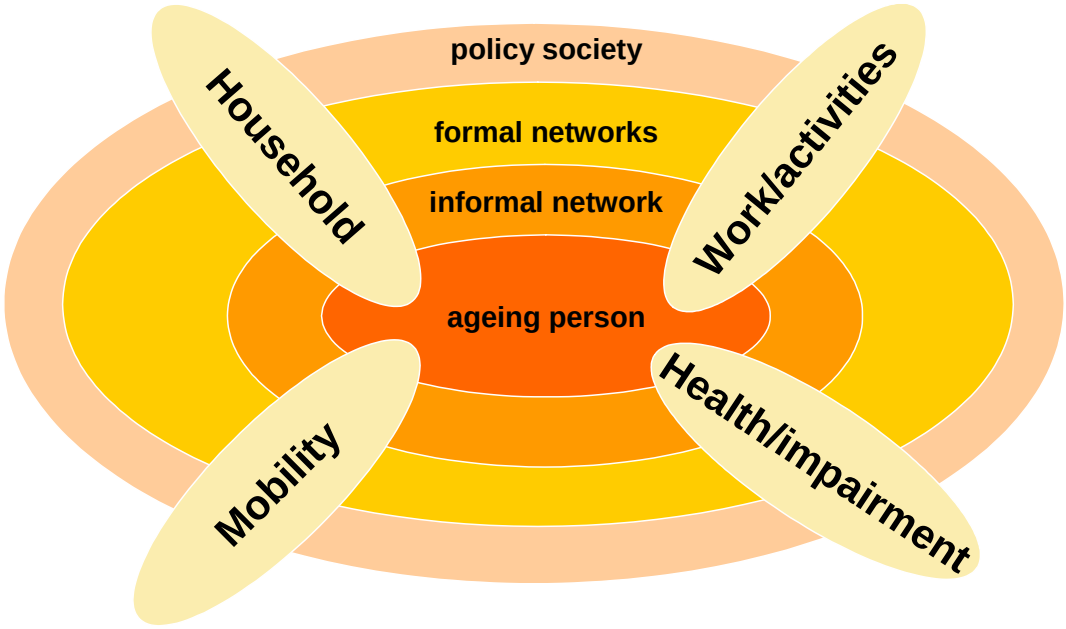

Figure 9: Conceptual Framework of Independent Living
Source: Leys, M. and De Rouck, S. (2005). 'Active Ageing and Independent Living Services: Core Propositions Leading to a Conceptual Framework'. IPTS unpublished project report.

The WHO defines independence as the ability to perform daily life activities with little or no help from others (living independently). One can immediately spot that barriers to such independence are numerous. Frail physical and/or mental health, housing conditions, lack of transportation facilities, lack of community information and communication services, and low income levels are the main obstacles for older people. Thus, the most common physical health barriers are low mobility level, impairments (vision, hearing…), pain, sensory loss, fall-related injuries, chronic illness and adverse drug reactions, and loneliness, dementia and cognitive impairments are the main mental health ones. However, independence in the older age groups will be most effectively

enhanced through healthy ageing. This in turn is supported by **sound economic, social and environmental conditions,** including adequate and equitable income distribution through paid employment and social security provisions. In addition, well developed communities, high levels of accessibility and appropriate living situations leverage the level of independence of older people and a range of health and community service programmes can effectively support healthy ageing and thus independence also.

The WHO **Policy Framework on Active Ageing** is intended to inform discussion and the formation of action plans that promote healthy and active ageing. WHO defines active ageing as "the process of optimising opportunities for health, participation and security in order to enhance quality of life as people age". The policy framework takes into account the determinants of health throughout the life course, in order to understand the social roles and opportunities for older age groups in future society. The determinants are represented in the figure below.

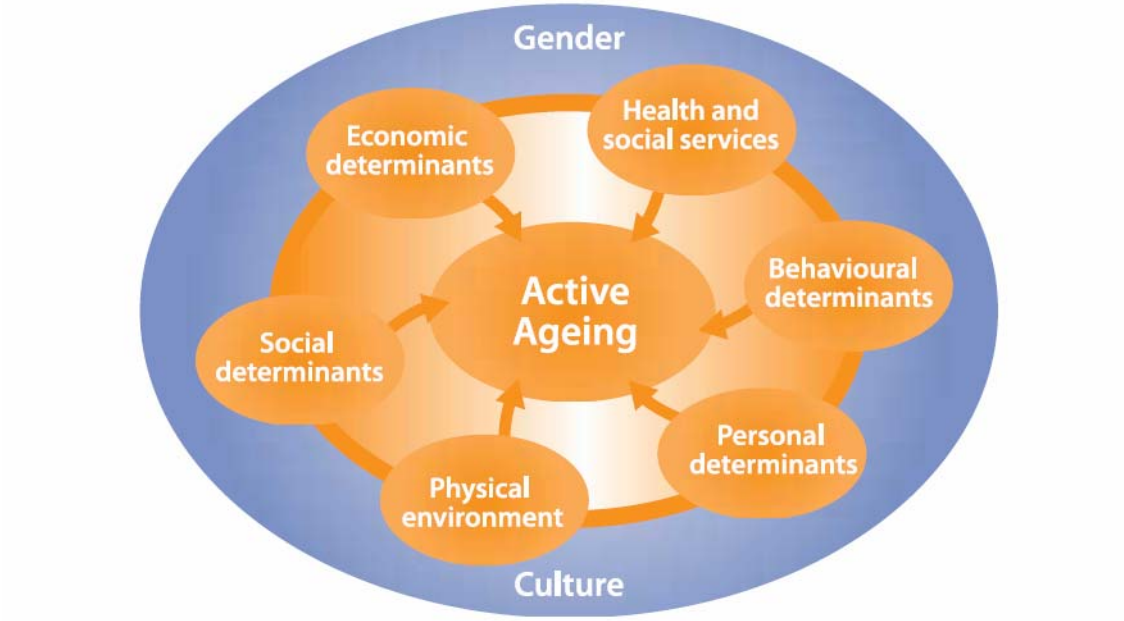

Figure 10: Determinants of Active Ageing
Source: WHO (2002). 'Active Ageing: A Policy Framework'. Geneva: WHO.

Active Ageing policies should include policies for all older people. This means that Active Ageing requires a refined distinction between types of older people Flexibility in working and care arrangements are key. So is the recognition of the contribution made to society by volunteers and the role IST plays as an enabler for voluntary work. Active ageing policies are not solely determined by the imperative to maintain the integrity of public finances. An active ageing process and independent living policies (including IST-based support services) should also focus on the **needs" of individuals and groups in a life course perspective**, instead of limiting the perspective to particular age groups and offering standardized packages of support.

As a way to summarise our vision on independence and active ageing, we stress the importance of two main aspects:

a) the need for a dynamic, needs-based approach, since a standardized policy approach to independent living which focuses on a specific age group is not useful.

b) the need for a wider policy approach that extends to the objectives of active ageing.

Translating this vision into policy actions requires a combined approach that entails:

a) supporting individual choices, and,

b) actions on a broader societal level to eliminate or reduce the barriers and constraints to independence and active ageing and to create new opportunities for independent living (e.g: treating the older person as a vital societal resource, with important knowledge capital, or as a volunteer resource for involvement in societal affairs).

With respect to IST use, there is no denying that the take up of ISTs by older people is still lagging behind. A large group is still 'digitally challenged': **Actions to support the specific take up of ISTs by older people** are thus needed to realize the potential of ISTs for empowerment and independence. A look at the independent living policies across the EU indicates that until now there seems to be a strong and overly narrow focus on policy/initiatives in the health care domain, while other life domains which are equally important for independent living are relatively neglected. A balanced, encompassing approach has many advantages. For example, a **focus on introduction of Independent Living Services through informal carers** will result in stronger IST take-up, since the benefits of IST are becoming more visible and practical to older people and carers are in a prime position to communicate the benefits to the target group of old people. The utility of IST as social technology is especially attuned to the needs of informal networks, small-scale project empowerment, the support and networking of individual and group initiatives.

The need to formulate informal care policies in conjunction with social ageing policies are commonly raised by observers. The fact that many women leave work to care for relatives is important, both economically and from the viewpoint of independent living. Integrated policies should provide solutions that make it possible to combine employment and the provision of care at the same time.

In the healthcare domain the main challenge seems to be the *upscaling* of promising small-scale initiatives. Organisational complexities in this field can be seen as the main barrier to upscaling. Policy actions need to directly address these organisational barriers. Due to the limited application of Independent Living Services in the health-care sector, there is insufficient awareness of their usefulness in other domains as well, such as working life, informal family networks/informal care, community life. In these domains there is still **a need for *experiments and examples of best practice*** which allow us to explore the opportunities and constraints. Independence via IST services also needs to be included in education for professional carers. What has a better impact on quality of life

or cost effectiveness: hip operations or stimulating independence? To answer this question, we must dig even deeper and stimulate some fresh thinking on what we want. What can we afford? What is more sustainable, taking into account all parameters?

The evaluation of IST applications is often very narrow. It is tricky, since innovation is rarely directly cost effective. Therefore a broader approach to impact analysis that takes into account social benefits, and prevention, for example, is needed. Also, in this particular context, there should be more focus on the network and context in which the individual lives, and not only on the patient. This would mean a call for a context-oriented approach, supplementing user- or needs-focussed approaches.

4.4.2 Matching independent living services with life events

A recent review of Independent Living Services in a number of countries[66] illustrates the links between major life events and emerging service needs, which can provide an embryonic structure for the implementation of future policies for independence and active ageing.

The following life events provide a starting point for structuring the evidence available:

- Physical decline: sickness and impairments
- Reduced contact network
- Changes (non-physical) in housing requirements
- Retirement / retaining work

Life Event		Provider			
		Health Service	Social care, social welfare	Other (pressure groups, self help groups, Universities etc.)	Technology providers
Sickness and impairments	Chronic diseases	Home Health Monitoring System Virtual reality walking aid Wireless sensor insole measuring plantar pressure Stress and mental health self monitoring	Telecare	Mental Health platform , professional advice Home Health (Self) Monitoring System	Home Health (Self) Monitoring System wearable health monitoring device
	Help for carers		Information and instructions for family carers (Internet, Video) joint patient and carers platform		

[66] Leys, M. and De Rouck, S. (2005). 'Active Ageing and Independent Living Services: Core Propositions Leading to a Conceptual Framework'. IPTS unpublished project report.

Life Event		Provider			
		Health Service	Social care, social welfare	Other (pressure groups, self help groups, Universities etc.)	Technology providers
	Reduced adapting/ learning capacity				Simplified hardware (PC, remote control, mobile phone, Word prediction and on-screen keyboard PDA for people with severe disabilities
	Mobility impairments	Treatment at home: portable medical devices and remote evaluation)	Mobile systems enabling house calls of Government officers		
	Vision impairments			Collection of freeware	Speech based e-mail application Speaking bar code scanner PDA for visually impaired Mobile reading device Video magnification and speech output
Reduced contact network	Shrinking circle of friends and death of partner	Daily phone call	Video based social support Internet portal and communication platform Daily phone call	Internet portal and communication Daily phone call	
Changes in housing requirements	Vulnerability		Emergency call system		Mobile phone +tracking device Emergency call system with additional sensors; stationary: mobile: Fall detector
	Forgetfulness / reduced capacity for remembering	SMS appointment reminder	Appointment reminder Medication reminder Fire, burglary and gas detection systems	Medication aid	
	Reduced mobility		Mechanic environment control		Speech driven environment control Mechanic environment control Automatic lawnmower recognising borders
Retirement / retain work	Reduced ability to work		Job bourse for people with impairments		

4.4.3 Target groups, stakeholders and actions

Users (i.e. older people, disabled, formal and informal carers…) together with industry, social and health policy makers, and insurance companies should be consulted on a regular basis. Questions about the possible links of actual needs with business models, accessibility, etc. will then be optimally dealt with. For instance, industry usually provides mainly technology, not the services or follow-up maintenance that can help enhance ease-of-use and overall adoption.

Possible actions to promote independent living and active ageing as main components for inclusion and social cohesion include:

- Create an ageing platform to look for innovative views on ageing policies under the three main concepts developed above: the adoption of an European dynamic life course approach of policy making, the fostering of independence enabled by IST tools and active ageing, especially for the promotion of prevention and healthy lifestyles, self-care, support to informal care with modern technologies and socio-economic participation activities in the older ages. The platform should have a cross-cutting impact on all policies by promoting the *age-proofing* of policy measures in all domains.
- Provide links with e-society through use of public life empowering applications (e.g. e-voting facilities for seniors with mobility impairments; tele-consultations for health care, social e-meetings, e-leisure…).
- Establish national programmes focusing on the introduction of IST-based independent living services through informal carers. Implement R&D programmes on social software that will assist informal carers (e.g. matching people that can support each other).
- Create a European forum on active ageing with social, health and employment policy makers, in order to find common frameworks to promote e-activity in the older age groups underpinned by the European values of integrity, respect, dignity, right to healthcare, participation, social protection and inclusion.

4.4.4 Fostering converging applications: the new technological wave applied to the ageing EU

Converging technologies is a term used in the literature to capture sciences and technologies that enable each other for the achievement of a common goal.[67] It is understood as a co-evolutionary process, where progress in one area accelerates progress in many others. Applications arising from this co-evolutionary process promise huge economic benefits. We would like to place the focus on Converging Applications (CA), i.e. the applications arising from the convergence of previously separate scientific disciplines and technologies, rather than focussing on the technologies themselves. One of the most promising areas of future application is believed to emerge at the cross-roads of IST and Cognitive Sciences. "Cognitive systems" are natural or artificial information

[67] Nordmann, A. et al. (2004). 'Foresighting the New Technology Wave - Converging Technologies - Shaping the Future of European Societies'. Brussels: European Commission.

processing systems, including those responsible for perception, learning, reasoning, decision-making, communication and action.[68] Related potential applications are numerous and may arise from artificial intelligence, linguistics, neuroscience, logic, robotics and other disciplines. Particular attention will be given to robotics, speech recognition and artificial neural networks. The potential for independence and active ageing is huge, given that cognitive needs and challenges are very salient in the older age groups.

4.4.4.1 Actions and involvement of stakeholders

The actions outlined below should allow the European Union to achieve the full potential of Converging Applications in the area of Independent Living and Active Ageing. The recommended actions are clustered here around three main objectives:

Identify and showcase the most promising converging applications in Europe (2006)

In collaboration with the European Commission, Member States should build up high profile research networks to provide excellence and insight into promising IST-Cogno applications for Independence and active ageing. This exercise should be constructed around application options embedded within older people's needs and the socio-economic context. There should be **consultations with the main stakeholders on a regular basis**. The development and use of an Internet tool to manage information and foster knowledge sharing is extremely important. The objective is to establish an efficient network structure that allows us in the future to access information and knowledge broadly. The European Commission should produce a summary of European best practice in the development of converging applications for the ageing society.

Identify the full range of needs of older people (2007)

A clear picture about the **needs** of older Europeans and socio-economic **trends** in the field of converging applications is definitely needed. This could be achieved by developing focussed scenario-building processes, which would ultimately help to identify strategies and policy options to shape future developments. The relevant stakeholders should be involved in the scenario building exercises. The Commission should produce a summary of the results of these scenario building processes and also develop an overall picture of the needs of older people as a guide to European societies and policy makers.

Stimulate the use of CA and exploit their social and economic potential.

The European Commission and the Member States can give impetus to the use of Converging Applications and the exploitation of their social and economic potential. In order to achieve this goal, in-depth explorations of the social and economic potential are necessary. Market studies should be carried out and dialogue with stakeholders (including industrial companies, banks etc.) should take place. A robust body of clear information, showing the advantages of the new applications, should be publicly available.

[68] UK Foresight Project on Cognitive Systems 2003: http://admin.foresight.gov.uk.

4.5 Crosscutting initiatives

In addition to these sector-specific eInclusion activities, a number of cross-cutting actions should also be considered:

4.5.1 Strengthening beneficiary involvement in the design of eInclusion initiatives

Rationale:

eInclusion policies need to be closely tailored on the actual needs of target groups. Feasible, effective implementation strategies must be developed in which the incentives and interests of all stakeholders are clear and aligned.

Approach:

- Convene a series of consultations with interest groups, associations that represent at-risk groups with a view to exploring concrete needs and suggestions for targeted eInclusion interventions; and,
- Discuss the role that these groups can play as partners in eInclusion initiatives - for example, as partners in communication and outreach or as organizers and implementers of specific eInclusion measures.

These consultations can take place at European level (i.e. to discuss FP7 priorities and EU level regulation of IST and media with relevance to eInclusion), at national level (to discuss national eInclusion initiatives and priorities), and at local level (to forge multi-stakeholder alliances for eInclusion and agree on concrete joint inclusion initiatives at community level).

4.5.2 Facilitating user consultation in the technology design process

Rationale:

Early involvement in R&D helps to ensure, in a proactive manner, that new technologies are accessible and the innovation process for assistive technologies is geared towards real user needs and priorities

Approach:

- Map the status quo of user involvement and special needs representation in important IST standard-setting fora (IETF, IEEE, 3G Alliance) and key industry players at international, European and national level;
- Identify the range of possible mechanisms, such as ombudsmen, consultative councils etc., that could strengthen the voice of special needs users;
- Convene multi-stakeholder dialogues with industry representatives and user groups in view of establishing new consultative mechanisms;
- Work towards joint declarations of industry groups, standards bodies and user representatives that record the specific commitments and actions to be taken to create and strengthen specific consultative mechanisms; and,

- Explore how the EU and national governments could incentivize and facilitate such mechanisms through funding opportunities, convening regular information sharing workshops etc.

4.5.3 Consolidating and expanding the successes of eAccessilbility initiatives

Rationale:

The EC initiative on eAccessibility is exemplary for its creative mix of tools and activities, and for its strategic involvement and leverage of a wide range of stakeholders with a view to enhancing the accessibility of ISTs. One set of activities is geared towards securing a prominent place and concrete commitments for eAccessibility as a policy objective in high-level policy frameworks and strategy documents such as i2010, the eEurope 2005 Action Plan or the eEurope 2002 eAccessibility targets. Other efforts focus on the technology research and development process and have included successful cooperation with web standardization bodies, industries and user associations in developing accessibility standards and accessibility marks. A third set of initiatives focuses on eAccessibility implementation, measurement and benchmarking issues, in order to monitor and further incentivise progress for realizing policy goals.[69]

Approach:

As a 2005 review of public websites indicates, much remains to be done to safeguard universal accessibility of government websites and ISTs more generally.[70] It is therefore imperative to:

- Strengthen the various initiatives under the eAccessibility umbrella, to continuously fine-tune them in the light of new technological opportunities and to build sustainable institutional structures for a systematic involvement of users in the R&D process; and,
- Broaden the strategic approach and momentum generated by this multifaceted initiative, in order to establish eAccessibility as a principal theme in the wider R&D and deployment space of ISTs both for public authorities and the private sector.

4.5.4 Systematic qualitative research to capture eInclusion in all its dimensions for better benchmarking and as a complement to conventional IST statistics

Rationale:

In order to move beyond access and affordability statistics, it is required to understand in more detail the status of effective IST use, major needs and constraints as experienced by different groups at risk of exclusion.

[69] For an overview of EC initiatives under this scheme see http://europa.eu.int/information_society/policy/accessibility/index_en.htm

[70] See UK EU Presidency (2005). 'eAccessibility of Public Sector Services in the European Union'. London: UK Cabinet Office.

Approach:
Conduct qualitative research, for example through focus groups or semi-structured, open-ended interviews with a carefully selected sample of at-risk groups, in order to:

- Explore the information and communication practices and needs for daily activities with regard to learning, job search, health decisions etc. by these groups;
- Explore the extent and practices of IST use, as well as obstacles to use or suggestions for improvements.
- Consider options to mainstream this research exercise, for example by organizing it as a panel to be repeated annually over the next three years in a selected number of EU countries;
- Establish a trans-Atlantic and Europe-Asia dialogue on researching, practicing and monitoring eInclusion through a series of workshops for practitioners, researchers and policy-makers. Many interesting initiatives with regard to eInclusion are taking place in North America and East Asia and a policy-oriented information exchange with these countries and international organisations that work in this area (OECD, ITU) is highly desirable.

5 Moving from vision to action

As the conceptual framework and suggested actions outlined above indicate, eInclusion is a multi-faceted concept. It is relevant for activities in the social, economic, health, education and technology policy domains. It engages not only policy practitioners from the public sector, but also stakeholders from the technology R&D community, the private sector and civil society. It also requires concerted efforts at all levels - international and European, as well as national, regional and local. As a consequence, the number of eInclusion-related policies and initiatives that have been implemented so far across Europe and elsewhere is impressive and these initiatives vary significantly in scale, scope, focus and strategy. This makes it very difficult to directly compare individual projects and identify a list of definite, universally-applicable best practice approaches, an endeavour that already appears dubious in the first place, given that it is necessary to tailor eInclusion activities according to specific national and local inclusion priorities, as well as socio-economic and institutional circumstances.

In short, no universal, winning strategy for eInclusion is at hand. Nevertheless, it is possible to extract from the extensive and rapidly growing body of eInclusion activities a number of common best practice *elements* that can provide some guidance and inspiration for the design of future eInclusion strategies. Some of these key ingredients and messages are briefly summarized in the following sections.[71]

5.1 Secure high-level political support and co-ordination

In order to ensure that eInclusion is considered across all relevant policy areas in an integrated manner, a high-profile, political commitment and an institutional mechanism to facilitate co-ordination between different policy units and at all levels of government is required. Belgium shows how this can be approached. In 2004, the Council of Ministers adopted a National Action Plan against the digital divide. The plan takes a broad approach to eInclusion outlining three central objectives: public awareness, access and training and envisages a wide range of different activities such as inclusion-related studies, the development of public free access zones, local content and eGovernment services. Implementation is overseen at the highest political level by the Minister of Social Integration and Secretary of State for e-government, creating a central co-ordination point to facilitate co-ordination across government units.

5.2 Promote community efforts and private sector initiatives

Several European countries, including Sweden, Finland, Denmark, Ireland and the UK have instituted subsidized IST purchasing schemes which are rolled-out with the help of the private sector. Sweden, for example, enabled workers to buy subsidized computers through their places of employment and more than 800,000 households took advantage of this initiative. Such an arrangement obviously does not reach the unemployed, but it is illustrative of the mutual benefits that can flow from public-private sector cooperation in

[71] Case examples are drawn from a wide range of sources with the following base reference: European Commission (2005). 'Thematic Study to Analyse Policy Measures to Promote Access to Information Technologies as a Means of Combating Social Exclusion'. Part A – Main Report. Draft Version No. 1.0. Bonn: Empirica

eInclusion. If carefully set up, this type of initiative can provide an effective way of reaching low-income workers directly through their employers, or through their union representation. It helps to share administrative overheads with the private sector, which receives indirect benefits through the initiative in terms of a more IST-aware and skilled workforce.

Co-operation with the private sector can also help to extend infrastructure to disadvantaged communities. The Dublin Institute of Technology (DIT) in partnership with Hewlett Packard set up a project to fully computerise and provide free Internet access to a number of Dublin inner-city flat complexes. To date, the project has computerised nine inner city flat complexes. Training facilities have also been provided to all members of the communities, so as to ensure proper after-sales support on a continuing basis.[72]

Public/private partnerships can also serve to raise IST awareness. In the UK, a project sponsored by Microsoft and Cable & Wireless has enabled 9,000 senior citizens to attend free computer and Internet 'taster' sessions known as the Silver Surfers Festival.

Multi-sector collaboration between Nokia, the International Youth Foundation (IYF), Pearson and the United Nations Development Programme (UNDP) has led to 'BridgeIt', a global programme in the Philippines, aimed at delivering digital education materials to schools via mobile products and satellite technologies. The project enables teachers to order lessons via text messaging and to download the lessons to a TV set. Such programmes illustrate how challenging areas which lack adequate infrastructure can be addressed through collaboration in innovative ways.

Technological innovations aside, human resources and already established social relationships within communities could be instrumental and, at times, of more practical value in dealing with some socially excluded groups. The Kista Digital Divide project in Sweden is an example of this. The co-operation between an NGO (Ingenjörer och Naturvetare Utan Gränser), a womens' network (Kista Kvinnokraft), industry (Ericsson) and a Local Government Committee (Kista Stadsdelsnämnd) led to a programme which provides immigrants in Sweden with IST training, in order to allow them to integrate better in society.

5.3 Address multiple dimensions of exclusion in an integrated manner: access, affordability, different levels of skills, etc.

Focussing on one dimension of the digital divide at a time and leaving others for later is insufficient for promoting effective inclusion. At any given point in time, adoption and effective use of ISTs depends on the basic criteria of *access, affordability and skills* being satisfied simultaneously. Too strict a sequencing or otherwise unbalanced prioritization of one or the other of these complementary ingredients will thwart overall progress.

[72] http://www.dit.ie/DIT/communitylinks/digital_community/index.html

The initiative Digital Antwerp (www.antwerpen.be) in Belgium is a prime example of a holistic approach that addresses digital disparities both with regard to basic IST access and with regard to second-level-divide problems of awareness and skills. For a start, Digital Antwerp is a local centre that provides public Internet access on a large scale with a total of one hundred computers available in two cyber cafés and five training rooms. In addition, it serves as a training centre that offers support and structured training in IST use, as well as free email addresses and web-space as start-up tools for Internet newcomers. Finally with its exhibition space and auditorium, a physical layout that stresses accessibility and special activities for disadvantaged groups, Digital Antwerp constitutes a meeting point and hub for awareness raising and outreach, making it a one-stop-shop for a whole bundle of eInclusion measures.

Packaging IST skill-building as a practical project provides another interesting example of addressing several central eInclusion dimensions in an integrated manner. An interesting idea in this regard comes from the Netherlands, where local initiatives set-up children's news agencies in primary schools, often located in disadvantaged neighbourhoods. Focussing on the entire process of news-production provided the children with the opportunity to familiarize themselves with a wide range of IST skills, ranging from basic social and media competencies such as group work, information analysis and synthesis to the use of computer equipment, online research techniques, and the operation of digital cameras.

5.4 Target resources at specific at-risk groups

Designing eInclusion with a clear focus on specific groups of beneficiaries helps ensure that resources reach their target and are used more effectively.

Germany, for example, established a large-scale initiative to address the digital divide with regard to gender. Organized as a public-private partnership, this programme, called Frauen ans Netz (Women to the Net), provided IST training to more than 160,000 women between 1998 and 2005. After designing and delivering a first batch of general courses to the entire target group, the organizer realized the need for a more targeted curriculum and implementation strategy, in order to reach out effectively to some sub-groups at particular risk of exclusion, such as unemployed women , and women in old age or living in rural areas.

Making online public services more accessible and useful for groups at risk of exclusion is a concern of eGovernment initiatives in several countries. Providing key content in multiple languages to reach immigrant communities or other linguistic minorities is one approach that can lower the access barriers dramatically. The Swedish Social Insurance Administration (Foersaekringskassan), for example, offers information in all major EU languages and several immigrant languages, as well as in a plain language version that avoids unnecessary bureaucratic jargon, in order to make content accessible to the widest range possible of beneficiaries and alert them to their social protection entitlements and related available services.

Another example from Germany shows how an eInclusion project can be fully geared towards disadvantaged young people. To reach this particular group and cater for its needs as effectively as possible, the project Jugendmedienkompetenz Cologne (JUMEK) followed a three-pronged strategy:

- it opted for a teaching approach which took into account the difficult learning context of the target group. It allowed student to have an informal, playful interaction with the new technologies and to participate in decisions on what should be covered by the courses
- the programme was implemented through youth workers and youth centres, already actively working with disadvantage young people and familiar with their needs
- it provided extra coaching for the trainers on handling difficult learning situations.
- As a result, the programme did not register a single drop-out from the courses. What's more, assessments found a marked increase in the beneficiaries' proficiency and confidence in analyzing information, - a fundamental, yet difficult to nurture skill for participation in the information society.

Homeless people, new immigrants without fixed addresses and very mobile lives are particularly difficult to reach and engage in regular training courses. An example from the Netherlands, however, illustrates how this can be done. 'A Virtual Home for the Homeless' is a Dutch project that specifically targets homeless people. The objective of the project is to acquaint homeless people with IST through tailored courses in community centres, and to provide IST access in hostals and shelters. The introduction of a fixed method of communication in the form of a free email address can also be of enormous symbolic and psychological value since it provides a 'fixed address' and a stable reference point for communicating with this group at high risk of digital exclusion. The provision of tailored courses, as opposed to trying to enrol this group into normal training, proved to be a very effective method.

5.5 Link eInclusion initiatives closely with the practical day-to-day needs of targeted beneficiaries and consider a broad range of ISTs used by these groups

In order to illustrate the practical relevance of ISTs, the UK's Department for Education and Skills focussed IST training in its online centres across the country on useful daily activities such as searching for health information online, looking up local events, or researching family histories. In addition the programme avoids a narrow focus on Internet skills and also includes the use of other important ISTs, such as mobile phones and digital television. With this practical approach, the centre proved to be a good stepping stone towards acquiring more formal qualifications, encouraging more than half of the participants that stayed for longer than six months to obtain some certification for their learning efforts.

5.6 Engage through creativity

The creative use of IST in education could be highly significant in addressing the digital divide amongst children. Such initiatives have been adopted in countries such as UK,

Brazil, and Australia. Through the provision of training in music and recording technology, the Higher Rhythm Recording Studio Project in the UK illustrates alternative methods of reaching and integrating socially and economically disadvantaged people. Though the primary aim of the project is to engage people in practical learning at an introductory level, most participants take their learning further and some of them have their music released by record labels. More importantly, beneficiaries of this not-for-profit community organisation have moved to further education and employment. This project was the Winner of the 2005 BECTA (British Educational Communications Technology Agency) National .

The Youth Internet Radio Network Project (YIRN) in Australia illustrates another successful example of IST engagement through creativity. The project aims to connect young people across Queensland, through the use of new technologies. The idea is that through the provision of an interactive distribution platform for creative content and adequate training, young people will learn new media skills of relevance to new employment needs. This project provides an ideal research environment for investigating how ISTs are used for interaction, creativity and 'innovation at the margins'. The project methodology which combines two approaches – ethnography and action research (ethnography is used to guide the research, while action research links the findings back into the project's ongoing development) is currently being applied to UNESCO's South Asia IST projects.[73]

5.7 Design a phased roll-out, provide capacities for scaling up from pilot to mainstreaming

The European Computer Driver's Licence (ECDL) was initiated in 1995 by the European Commission to produce a standardized approach to testing and formally certifying IST skills. The roll-out of this project is a good example of phased implementation that benefits from experience along the way and minimizes the risk of costly large-scale failures. The ECDL took a similar 1994 project in Finland as its model and was extensively piloted in Sweden in 1995 and 1996. After successful completion of these pilots, a foundation was established in 1997 to oversee the Europe-wide rollout. By 2005 the ECDL has evolved into a popular and globally-used IST skill training and certification procedure.[74]

5.8 Harness a wide range of ISTs for integrated, multi-modal delivery of eInclusion initiatives

Italy's "It is never too late" initiative, an IST skills training programme, was designed to make extensive use of a wide range of delivery channels. It was broadcast via national terrestrial TV and satellite TV, in addition to being available on the Internet and managed to reach 250,000 people.

The UK makes innovative use of mobile phones in an initiative to fight extensive school truancy, often an early warning of later exclusion. An automated system sends SMS

[73] http://cirac.qut.edu.au/yirn/about/index.html
[74] http://www.ecdl.com

messages when children do not show up at school to parents, so that they can detect and put a stop to skipping classes before it becomes a habit. Similarly, the UK has also instituted SMS-based information distribution for job opportunities for unemployed people (Employment Café) and for messages from the local council in rural areas (West Devon).

5.9 Cluster services according to an integrated citizen-centric perspective, rather than along departmental lines

Presenting information on eGovernment websites in an integrated manner according to citizens' life situations or needs, rather than in a fragmented way along departamental lines, has evolved into a central principle for eGovernment design, followed in an increasing number of European countries.

The city of Wolverhampton in the UK has taken this integrated, citizen-centric approach beyond information provision. With its *Wolverhampton One City* project, it provides an integrated platform for organizing and participating in public consultations. This platform facilitates the joining up of consultations that different departments are obliged to carry out, around broader themes of interest to citizens. For local authorities, this means they can better co-ordinate and share the burden of organizing consultations. For the citizens it means a smaller number of more-encompassing and interesting consultation themes, which helps avoid the consultation fatigue that comes with an excessive number of fragmented consultation requests.[75]

As this brief review of e-government initiatives forcefully underscores, commitment to eInclusion is widespread, and innovative activities are by no means confined to the countries that have progressed furthest in the adoption of ISTs. Inspiring, innovative examples come from everywhere, emphasising the benefits from comparing notes more systematically across countries. Local circumstances vary and successful practice cannot be simply copied elsewhere. However, successful innovative approaches can be adjusted for different implementation contexts or at least provide inspiration for similar activities.

[75] http://www.wton-partnership.org.uk

6 Conclusion

As this report has underscored, eInclusion is a moral imperative, an important driver for harnessing the full potential of IST and a promising tool for supporting conventional inclusion policies. In addition, rolling-back and preventing exclusion is not only an end in itself, but also makes economic sense, promotes social cohesion and the crucial trust in fair outcomes of collective governance that underpins our democratic systems. eInclusion is not an easy challenge, but a multifaceted, concerted endeavour. It requires policy action at different levels (community, regional, national and EU) and in a variety of fields along the IST development and implementation chain (technology R&D, policy design, IST deployment and adoption). It demands the involvement of all stakeholders (policy-makers, researchers, private sector, civil society). And it requires that a pragmatic recognition of lessons learnt and things feasible is reconciled with a visionary outlook on new opportunities and innovative solutions. We believe that a citizen-centred, opportunity-oriented approach provides a promising platform for moving beyond the first wave of access-centred eInclusion initiatives. Linking such an approach with the widely recognized capability approach of Armatya Sen provides a strong normative foundation and directs attention to ISTs for health, learning, economic opportunity and societal participation as key areas for policy action. Even with such a strong normative bearing and clear policy focus, eInclusion remains an undertaking for which there is no universal best design blueprint. Key ingredients include a systematic focus on user needs and at risk groups, leverage of existing inclusion initiatives and infrastructures and high-level political commitment to institute change. At the same time, however, activities need to be tailored according to national policy circumstances, local priorities and implementation capabilities. Innovative eInclusion initiatives are underway in many communities and the European Union can play a key role in helping move the eInclusion agenda forward in the years ahead. This will make IST work for human development and social cohesion across Europe.

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Abstract

This report proposes a new policy strategy for eInclusion in support of European policy-making. First, it proposes a broad working definition for eInclusion based on recent research (Kaplan) and uses Armatya Sen's capability approach in order to identify priority areas for policy action. Secondly, it explores the role of IST take-up in inclusion, based on research into the socio-economic dimensions of ICT take-up so far. Thirdly, it explores the potential of IST-based applications in each of the priority areas in support of eInclusion. Finally, it draws up an agenda for specific policy recommendations and stakeholder action in these priority areas and offers some implementation guidelines derived from experience with previous eInclusion initiatives.

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