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## Contents

Executive Summary ................................................................................................................. 6

1 Introduction ..................................................................................................................... 12
   1.1 Objectives .................................................................................................................. 12
   1.2 Senior citizens and ICT: a looming, but avoidable crisis? ............................................. 13
   1.3 Inclusion clusters ....................................................................................................... 15
   1.4 A note on terminologies ............................................................................................. 16

2 Resources for senior citizens, ICT, inclusion, ethics & privacy ................................. 17
   2.1 Human and financial resources ..................................................................................... 17
   2.2 Political, economic and social impetus ......................................................................... 19
   2.3 Media attention ............................................................................................................. 20
   2.4 Existing resources re privacy and ethics ....................................................................... 20
       2.4.1 Privacy and data protection authorities ............................................................ 20
       2.4.2 Ethical advice ................................................................................................... 21

3 Lots of policies means lots of challenges ...................................................................... 23
   3.1 Policy documents relevant to inclusion and/or ageing well .......................................... 23
   3.2 Policy documents addressing privacy and data protection ........................................... 40
   3.3 Policy documents addressing ethics .............................................................................. 43

4 EC Framework Programme projects ........................................................................... 50
   4.1 FP5 projects – Independent living ................................................................................. 50
       4.1.1 CONFIDENT – Information Environment for Independent Living ................ 50
       4.1.2 CONSENSUS – Assessing driving ability .............................................................. 51
       4.1.3 D4AllNet – Design for All Network of Excellence ........................................... 51
       4.1.4 DASDA – Dissemination Activity Supporting Design-for-All ............................. 51
       4.1.5 DOC@HOME – Home care and remote monitoring system ............................... 51
       4.1.6 FORTUNE – Forum of user organisations for usability and networking .......... 52
       4.1.7 I-MATCH – VR interface to Assistive Technology ............................................... 52
       4.1.8 IRIS – Incorporating Requirements of People with Special Needs ...................... 53
       4.1.9 LOCOMOTION – Location-based mobile phones for elderly citizens ............. 53
       4.1.10 MATS – Assistive technology support persons with special needs .................. 54
       4.1.11 MEDICATE – delivery of prescribed medication ................................................ 54
       4.1.12 PACKAGE – Access to consumer packages ......................................................... 54
       4.1.13 SAID – Social Aid Interactive Developments ...................................................... 55
       4.1.14 SENIORWATCH – European Senior Watch Observatory and Inventory ......... 55
       4.1.15 SILC – Supporting Independently Living Citizens ............................................. 56
       4.1.16 TELECARE – Multi-agent tele-supervision system for elderly care .............. 58

   4.2 FP6 projects – Inclusion ............................................................................................ 59
       4.2.1 AAL – Ambient Assisted Living: Preparation of an Art. 169 initiative ................ 59
       4.2.2 ALADIN – Ambient lighting for the ageing ......................................................... 60
       4.2.3 ASK-IT – Promoting mobility for the impaired ..................................................... 60
       4.2.4 CAALYX – Monitoring the elderly to detect an emergency .............................. 62
       4.2.5 COGKNOW – Helping people with mild dementia navigate their day ......... 63
       4.2.6 CWST – Workshops to support e-Inclusion ....................................................... 63
4.2.7 DfA@eInclusion – Design for All for e-inclusion................................. 64
4.2.8 DIADEEM – Adaptable browser for the disabled and elderly............. 64
4.2.9 eABILITIES – Co-ordination among centres for accessibility ............ 64
4.2.10 Easy Line+ – Low cost advanced white goods for elderly people...... 66
4.2.11 eInclusion@EU – Empirical knowledge base on e-inclusion .......... 66
4.2.12 ElderGames – Development of IST-based games for elderly people ... 67
4.2.13 EMERGE – Emergency monitoring and prevention........................ 67
4.2.14 ENABLE – A wearable system supporting services for the elderly .... 68
4.2.15 EPIST – Enhanced participation in eHealth and eInclusion ............. 68
4.2.16 eSANGATHAN – Collaborative working environment for the ageing... 68
4.2.17 EU4ALL – Lifelong learning .......................................................... 68
4.2.18 EUAIN – European Accessible Information Network ....................... 69
4.2.19 HAH – Hearing at home ................................................................. 69
4.2.20 I2Home – Networking appliances .................................................. 69
4.2.21 ICT for ALL – Measuring interaction with ICT .............................. 70
4.2.22 INHOME – Intelligent services for assisted living at home ............. 70
4.2.23 MAPPED – Mobility and location-based services for the disabled .... 71
4.2.24 MonAMI – Mainstreaming on ambient intelligence ...................... 73
4.2.25 MPOWER – Empowering the cognitively disabled and elderly ....... 73
4.2.26 Netcarity – Networked multisensor system for elderly people ......... 74
4.2.27 OLDES – Older people's e-services at home ................................. 74
4.2.28 PERSONA – Perceptive spaces promoting independent aging ........ 74
4.2.29 SENSATION-AAL – SENSing and mobility in Ambient Assisted Living ... 75
4.2.30 SHARE-IT – Enhancing cognitive and motor abilities using IT ....... 75
4.2.31 SOPRANO – Smart environments for older Europeans ................... 76
4.2.32 SWAMI – Safeguards in a World of Ambient Intelligence .............. 77
4.2.33 TRANSFORM – Fostering transformative use of ICT in EU regions ... 77
4.2.34 USEM – User EMpowerment in standardisation ......................... 77
4.2.35 VITAL – Vital Assistance for the Elderly ........................................ 78
4.2.36 WAI-AGE – Web Accessibility Initiative: Ageing Education ........ 78
4.3 FP7 projects – ICT and ageing ........................................................... 78
4.3.1 AALIANCE – European ambient assisted living innovation alliance ... 79
4.3.2 CAPSIL – Common awareness and knowledge platform ................. 79
4.3.3 COMPANIONABLE – Cognitive assistive and domotic companion ... 80
4.3.4 CONFIDENCE – Ubiquitous care system to support independent living .. 80
4.3.5 EPAL – Extending professional active life ...................................... 80
4.3.6 HERMES – Cognitive care and guidance for active aging .............. 81
4.3.7 OASIS – Open architecture for accessible services standardisation ... 81
4.3.8 SMILING – Self Mobility Improvement in the elderly .................... 82
4.3.9 VM – TV and mind fitness activities for the elderly ....................... 82
4.4 Six other relevant projects ................................................................. 82
4.4.1 EDeAN – European Design for All e-accessibility Network .......... 82
4.4.2 Study on ICT enabled independent living for elderly .................... 84
4.4.3 Cost 219ter – Towards an inclusive future .................................. 84
4.4.4 MeAC – Measuring progress of eAccessibility in Europe ............... 86
4.4.5 SEN@ER – Silver Economy Network of European Regions ........... 87
4.4.6 Empirica study – ICT & Ageing: Users, Markets and Technologies .... 87
4.5 Clustering projects by key words ..................................................... 88
5 Studies and other references ............................................................... 92
6 Key themes, clusters, junctures and gaps .................................................. 109

6.1 Key themes........................................................................................................ 109
6.1.1 Europe faces a severe demographic challenge ........................................ 109
6.1.2 Europe needs to keep senior citizens employed and productive longer ...... 111
6.1.3 Europe needs to overcome discrimination against senior citizens .......... 112
6.1.4 Europe needs lifelong learning, digital literacy and active ageing ............. 112
6.1.5 Europe needs to overcome digital divides and ICTs must be accessible .... 113
6.1.6 Europe needs to respect the privacy of its (senior) citizens ....................... 115
6.1.7 Europe needs to sort out the ethical issues re ICT and senior citizens ...... 118
6.1.8 Europe needs to raise the visibility of its inclusion policies ..................... 121
6.1.9 Europe needs to enhance senior citizens’ active participation in society .... 122
6.1.10 Europe needs to overcome fragmentation in e-inclusion efforts ............. 123

6.2 Clusters ............................................................................................................. 126
6.2.1 What are clusters? ....................................................................................... 126
6.2.2 Thematic or sectoral clusters ................................................................. 127
6.2.3 Clusters focussed on citizens’ special needs ........................................... 128
6.2.4 Difference between clusters, platforms and partnerships ....................... 129
6.2.5 Networking and clusters .......................................................................... 131
6.2.6 Clustering projects .................................................................................... 132
6.2.7 Horses for courses .................................................................................... 133

6.3 Junctures ......................................................................................................... 133
6.3.1 What is a juncture? .................................................................................... 133

6.4 Gaps ................................................................................................................. 136
6.4.1 Digital divide(s)........................................................................................ 136
6.4.2 The digital divide as a state of mind: awareness, attitude, apprehension .... 137
6.4.3 The digital divide as a gap in digital competencies ............................... 139
6.4.4 The digital divide as a geographic and cost barrier ................................ 140
6.4.5 The digital divide as a linguistic and content barrier ............................ 141
6.4.6 The digital divide as a gap in accessibility and interoperability .......... 141
6.4.7 A gap in co-ordination and collaboration among stakeholders .......... 145
6.4.8 Ethical issues related to ageing in the information society ................... 148
6.4.9 Gap in understanding the privacy impacts of ICT on senior citizens ...... 149
6.4.10 Promoting Internet use to those yet to be digitally engaged ............... 151
6.4.11 Visibility of Member State projects and studies .................................... 151
6.4.12 European good practices in the development and use of ICT ............... 152

7 Towards a comprehensive map of topics ....................................................... 153

7.1 Designing a dialogue roadmap ......................................................................... 153
7.2 Identifying where we want to go (Objectives) ............................................. 154
7.3 Inviting others to go with us ........................................................................ 156
7.4 Converting objectives into actions ............................................................... 157
7.5 Considering alternate routes and the best vehicle to get there .................... 157
7.6 Monitoring progress ...................................................................................... 159
7.7 The next steps ............................................................................................... 160

8 Appendix 1 Short glossary .............................................................................. 161

9 Appendix 2 Key stakeholders ......................................................................... 172

9.1 EC, Member States, advisory bodies and agencies ........................................ 172
9.2 International organisations ............................................................................. 176
9.3 Standardisation and related bodies ............................................................... 178
9.4 Civil society organisations ................................................................. 182
9.5 Industry ............................................................................................. 186
9.6 Academia, research institutes (experts) .............................................. 188
9.7 Journals ............................................................................................. 189
EXECUTIVE SUMMARY

Objectives

The first SENIOR deliverable (D1.1) is an environmental scanning report which reviews various policy documents, projects and studies dealing with ICT, senior citizens, inclusion, privacy and ethical issues, either separately or in combination. The aim of the review is to identify

- key themes (issues or challenges),
- clusters or groupings of projects
- junctures, i.e., collaboration between stakeholders in programmes and projects to achieve a shared goal
- gaps, which can refer to issues or areas where further action is needed to meet programmatic or policy objectives, e.g., those mentioned in the Riga Declaration.

The review of the issues, clusters, junctures and gaps is intended to contribute toward development of a “dialogue” roadmap addressing the social, ethical and privacy needs of senior citizens in the context of their access to ICT.

Background

It is good, both for the individuals concerned and for society as a whole, that people are living longer and, by all accounts, senior citizens remain in better health today than they did 50 years ago. By 2020, 25 per cent of the EU’s population will be over 60.1 The snag is that as the median age increases, there are fewer younger people to support the ageing population.

The average exit age from the labour market is increasing but, among 55-64 year olds, 47 per cent of men and 65 per cent of women have dropped out of the labour market.2

The social and economic impact of Europe’s ageing population could be somewhat minimised if senior citizens remained in the labour force longer, if they were able to contribute more to the overall productivity of the economy and if they remained active in society longer. However, to achieve this, various types of digital divide need to be overcome.

A telling indicator of the digital divide is that only 10 per cent of senior citizens over the age of 65 used the Internet (in 2005), compared to 68 per cent of those aged 16-24.3 Society as a whole is losing out because a significant number of people have not developed IT skills. Although the older age group is not homogenous in terms of education, income or even the types of disabilities often associated with age, senior citizens as a group are at the greatest risk of being excluded from the benefits of the Information Society, not least of which is being able to invest in their own knowledge, skills, growth, prosperity and wellbeing.

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Policy-makers at both the EU and Member State level have adopted a cluster of measures not only to improve the treatment of senior citizens but also to re-engage them into the mainstream of European life. Senior citizens now are less often regarded as a burden and increasingly more often as an important, but under-used resource vital to the wellbeing of Europe’s economy and society. Inclusion is the watchword associated with these clusters of measures, which include policies, programmes and projects, which are reviewed in this report.

Resources

Resources are needed to overcome the digital divide which currently separates the old and the young in regard to their familiarity and accessibility to ICT. Similarly, resources are needed to address the privacy and ethical issues raised by ICT in regard to senior citizens. These resources should be seen as an investment in the future social and economic well-being and prosperity of Europe.

Resources come in different forms: human (above all) and/or intellectual, financial, social, legal, political and technological.

The European Commission and, to a lesser extent, Member States have provided funding for quite a few projects dealing with e-inclusion and senior citizens in the last 10 years or so. There are other projects (that do not come under the e-inclusion funding line) that deal with privacy and data protection and related issues, but these latter projects do not focus much on senior citizens and are rather more technical in nature. This makes SENIOR an important, if not unique, project in dealing with all five dimensions of senior citizens, ICT, e-inclusion, privacy and ethics.

Policy documents

At EU level, there are many EU policy documents dealing with one or more of the dimensions of interest to the SENIOR project, i.e., of relevance to senior citizens, ICT, e-inclusion, privacy and ethics. Many of these have been reviewed, summarised and/or annotated for this report. A review of these documents is useful to identify the key themes or issues, stakeholders, challenges (or objectives) and the resources that are being devoted to meeting those challenges.

Projects

The European Commission and Member States have sponsored various projects dealing with the key dimensions of senior citizens, ICT, e-inclusion, privacy and ethics. Sixty-seven projects have been reviewed for this report. Basic details of each project, including a short summary, have been provided. We have particularly noted those that have dealt with ethical implications in a substantive way. Only a handful of these 67 projects have produced deliverables devoted to ethical issues.

In view of time and budget constraints, the main focus of this environmental scan has been on e-inclusion projects supported under the Fifth, Sixth and Seventh Framework Programme. However, it would also be useful to do a similar scan of projects supported by the Member States, to determine to what extent they differ from or complement the EC-sponsored projects, to identify the themes or issues they address, the stakeholders involved and so on.
Studies and references

Various studies, some supported by the European Commission, others by the Member States and still others undertaken by academics, have examined some nexus between senior citizens, ICT, inclusion, privacy and ethics, but few of these have dealt with all five dimensions. The environmental scan report provides a list of these references, some of which have been annotated.

Themes

From the review of policies, projects and studies, it has been possible to identify certain key themes, clusters, junctures and gaps of interest or relevance to the SENIOR project. They provide building blocks for development of the SENIOR dialogue roadmap.

With regard to themes, the following feature in many of the policies, projects and studies:

- Europe faces a severe demographic challenge
- Europe needs to incentivise senior citizens to work longer
- Europe needs to overcome discrimination against senior citizens
- Europe needs lifelong learning, digital literacy and active ageing
- Europe needs to overcome digital divides and ICT must be accessible
- Europe needs to respect the privacy of its (senior) citizens
- Europe needs to sort out the ethical issues re ICT and senior citizens
- Europe needs to raise the visibility of its inclusion policies
- Europe needs to enhance senior citizens’ active participation in society
- Europe needs to overcome fragmentation in e-inclusion efforts

The Commission’s Ageing Well in the Information Society Action Plan says market development suffers generally from a lack of exchange of practical experiences. Benefits from e-inclusion in the EU could be in the order of €35 to €85 billion over five years, according to the Commission. Despite this, progress is still lacking and most of Riga targets may not be achieved. Fragmentation of efforts and lack of collaboration continue to persist. Much more must be done to achieve e-inclusion and realise the Riga targets.4

Clusters

In the environmental scan report, we consider the different types of clusters, variations of and alternatives to clusters (such as platforms, partnerships and networks) to see whether there are one or more models which could successfully advance the interests of senior citizens and ICT, reduce exclusion, and perhaps at the same time come to terms with the privacy and ethical issues that arise or could arise with regard to senior citizens’ use of ICT.

In addition to the traditional geographically based clusters, the term clusters can be and is used in a somewhat different sense to mean groups of independent partners (companies, universities, etc) working towards a common cause. These could be described as thematic or sectoral clusters.

There is a difference between clusters and platforms. In clusters, organisations may be working in the same geographic or thematic areas, and they may benefit from their proximity in real or cyber space, but they do not necessarily share the same purpose or objective.

Organisations involved in a platform do, however, share the same objective, for example, to collaborate in the development and deployment of a technology or type of technologies. Those organisations may be positioned at different points in the value chain, but to succeed, they see value in collaboration with regard to developing market intelligence, identifying and sorting out regulatory hurdles, developing standards, sharing in the task of developing and promoting the technology and bringing it to the market. Platforms collaborate in developing strategic research agendas, projects, scenarios and roadmaps, which is not something clusters typically do.

Any means of bringing together stakeholders to achieve a common cause should generally be welcomed, but some structures would appear to be better than others in terms of focus and achieving a particular goal, which is not to discount the value of other structures, which may be more appropriate in certain circumstances. However, as yet, no structure has been put in place as a vehicle for all relevant stakeholders to collaborate on the issues of inclusion, senior citizens, ICT, privacy and ethics. It is, as yet, an open question whether such an initiative should be a dedicated one or whether there is more mileage to be gained in tackling these issues as part of some other initiatives.

### Junctures

Junctures can be defined in two somewhat different ways: One is a joining together of things and the other is a critical point in time, between the past and the future. We can say the first refers to the spatial dimension while the second refers to the temporal dimension.

In the context of the SENIOR project or, even more generally, in the context of “Ageing well in the Information Society”, juncture is a rather interesting and important word, in both spatial and temporal senses.

We can see that Europe is at a critical juncture (to use the word in its temporal sense), demographically, economically, socially, politically. If Europe does not make better use of its senior citizens, if it does not meet their needs more effectively, growth in the European economy will slow dramatically and everyone will be worse off than if we had taken remedial action now. We can see from the various policy documents that policy-makers are well aware of this fact and have already taken steps to do something about it.

One cannot help but wonder if we could leverage scarce resources more effectively by creating more junctures between the various projects as well as between stakeholders. In other words, are there ways in which projects and stakeholders could be “joined” together to develop synergies?

Two types of junctures merit consideration: One is the joining together of projects and programmatic activities. A second is more figurative, but nonetheless has tangible outputs. The second type would include the joining of efforts to achieve, for example, new standards. In the e-inclusion domain, the mission to achieve e-accessibility (“design for all”) and interoperability of services and devices could be regarded as junctures, as they involve joining
together various stakeholder groups and organisations to achieve the accessibility and interoperability goals.

A platform or a network could be useful structures for being open to all interested stakeholders and for channelling their collective interests and efforts in ensuring that technologies are designed to be accessible to senior citizens and/or designed for all, that those technologies are extended to all no matter where they live (including in rural areas), that those technologies have designed privacy in from the outset, that projects and services involving ICTs and senior citizens are sensitive to the privacy needs and concerns of those senior citizens, that if those projects or services raise ethical issues, there is a mechanism for resolving those ethical issues satisfactorily.

Gaps

As we scan the policies, programmes, projects and studies dealing with inclusion, senior citizens, ICT, privacy and ethics – the keywords in the SENIOR project – we can identify certain gaps that have hampered the inclusion of senior citizens in the digital revolution and that have raised certain concerns with regard to privacy and ethical issues. The Environmental Scanning report identifies some of these gaps which, in due course, we hope the SENIOR roadmap will help to close.

Gaps could equate to barriers, but the term is broader, suggesting some issues may not have even been considered, for example, through a lack of awareness, rather than a barrier as such. Gaps can be detected in many ways and from different sources, not least of which is from the themes referenced above. As one example, the recurring theme about the need for lifelong learning, including the provision of training and education for senior citizens about ICT, suggests that there is a gap or shortfall now in the training and education available to or being taken up by senior citizens, including older workers.

As we do not yet live in an ideal society, it is possible, of course, to identify many gaps, but the ones below are those that we have chosen to highlight.

- The digital divide as a gap in awareness
- Fear and apprehension barrier – a trust gap
- The digital divide as a gap in digital competencies
- The digital divide as a geographic and cost barrier
- Lack of support
- The digital divide as a linguistic and content barrier
- The digital divide as a gap in accessibility and interoperability
- Gaps in socio-economic research
- Insufficient visibility of Member State projects and studies
- Gap in understanding the privacy impacts of ICTs on senior citizens
- Gaps in resolving and synthesising ethical issues related to ageing in the Information Society
- Need for a European code of good practices in the use and development of ICT
- Need to closing the gap in collaboration among stakeholders

Towards a comprehensive map of topics

From the various policy documents, programmes, projects and studies reviewed for this
environmental scan, it is possible to compile a rather comprehensive (or, at least, long) list of topics involving senior citizens, ICT, e-inclusion, privacy and ethics. However, a list by itself is of minimal value. A map, on the other hand, implies a sense of direction, how to get from here to there.

For a roadmap to work, to be functional, the support, collaboration and active participation of stakeholders is crucial. From the review carried out for this scan, probably the most notable issue, perhaps the biggest challenge, is how best to overcome the fragmentation that exists among stakeholders. There are many good ideas about what needs to be done to improve the lot of senior citizens, to engage them more fully in European society and economy, to bridge the digital divides, but wanting is a vehicle. There are some obvious possibilities, such as a platform, like the European Technology Platforms, or a network or an association. The optimum mode of transport, to use our roadmapping analogy, is yet to be determined, but will be assessed as the SENIOR project progresses.
1 INTRODUCTION

1.1 OBJECTIVES

SENIOR\(^5\) is a 24-month support action which aims to provide a systematic assessment of the social, ethical and privacy issues involved in ICT and Ageing, to understand what lessons should be learned from current technological trends, and to plan strategies for governing future trends.

The SENIOR consortium aims to understand what people expect from this technology and what values, beliefs, hopes and hype are embedded in information technology for older people. We aim also to understand how information technology is changing people’s perspective on ageing and how people’s standards about ageing (ageism included) have been influenced by advances in ICT.\(^6\)

For this environmental scanning report (SENIOR Deliverable D1.1), we have reviewed various European policy documents, programmes, projects and studies dealing with senior citizens, ICT, inclusion, privacy and ethical issues, either separately or in combination. From this review, we have identified key themes (issues or challenges).

We have also identified certain clusters, i.e., groupings of projects or stakeholders who are collaborating in some way in dealing with one or more of the issues relating to senior citizens, ICT, inclusion, privacy and ethics. In some cases, clusters are explicit, in other cases implicit. Explicit clusters are those where, for example, project consortia have taken certain steps to work together. Implicit clusters are those where one can identify various projects which are addressing similar or related challenges, but are not explicitly collaborating with each other.

We have identified certain types and examples of junctures, i.e., collaboration between stakeholders in programmes and projects. “Junctures” can be defined in two different ways – one as a joining together (collaboration) of projects and stakeholders to achieve a shared goal. There are different ways of joining together, of course, e.g., in partnerships, alliances, platforms, etc.

Junctures may also be temporal, in the sense of a turning point in time with reference (in the SENIOR project) to
- the ageing of the population,
- the time lines of policies, programmes and projects,
- the time frame to meet certain objectives, e.g., those of the i2010 programme.

From our review of the issues, clusters and junctures, we identify certain gaps. These gaps can refer to
- issues which are not being addressed by any stakeholder or by few stakeholders,
- areas where further action is needed to meet programmatic or policy objectives (e.g., those mentioned in the Riga Declaration),

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\(^5\) SENIOR is the acronym for Social Ethical and privacy Needs in ICT for Older people: a dialogue Roadmap. Its website is http://www.seniorproject.eu/

\(^6\) SENIOR Description of Work, p. 3.
• differences in ICT use between age groups
• organisational gaps, i.e., stakeholders are not organised optimally to achieve their various goals relating to senior citizens and ICT, inclusion, privacy and ethical issues
• resource gaps.

From our review of the issues, clusters, junctures and gaps, we take the first steps towards drawing a dialogue roadmap based on the inclusion, privacy and ethical issues relevant to SENIOR.

In addition to the foregoing, this report describes existing resources which are being used or could be used to address the needs of senior citizens, ICT, inclusion, privacy and ethics (see Chapter 2). Also appended to this report is a short glossary and an identification of key stakeholders.

1.2 SENIOR CITIZENS AND ICT: A LOOMING, BUT AVOIDABLE CRISIS?

People are living longer. Life expectancy in European societies has dramatically improved over the last hundred years: from 43.5 years in 1900 to 75.5 in 2000 for men, and from 46.0 to 81.4 for women. Experts expect life expectancy to continue to improve. By 2050, men are expected to live on average to 82 years and women to 87.4 years.

Soon there will be more old people than young people. In the UK, the number of people aged 65 and over is expected to exceed the number of people under 16 by 2021.⁷ Across the Europe Union as a whole, 25 per cent of its population will be over 60 by 2020.⁸

Thanks to 60 years of peace, medical progress and better living and working conditions, a growing proportion of Europeans are now enjoying longer and more active retirement. This has far-reaching impacts on welfare systems. Spending on pensions, health and long-term care is expected to increase by 4-8 per cent of GDP in coming decades, with total expenditures tripling by 2050.

Social risks such as old-age dependency and social isolation are expected to grow as a result of these demographic trends. Today, 28% of the population over 70 currently live alone. Up to two-thirds of people over 75 are dependent on informal care, mostly provided by the immediate family, especially women. One in six older people live in poverty, with elderly women particularly exposed to low pensions as a result of incomplete careers. Although the average exit age from the labour market is on the increase, among 55-64 year olds 47% of men and 65% of women have dropped out of the labour market.⁹

New risks of a generation divide are emerging between younger and older generations in terms of pay, job security and access to housing, as well as in terms of sharing the financial implications of ageing. Some experts have described a “‘triple whammy of increasing demand

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⁷ Office for National Statistics (ONS), Social Trends survey.
on the welfare state and health-care systems, with a decline in tax contributions from an ever-smaller work force.’ That is to say, there won’t be enough workers to pay for the pensions of all those long-living retirees. What’s more, there will be a smaller working-age population compared with other parts of the world.’”

An ageing population is one of the most important challenges facing OECD countries. Over the next 50 years, all OECD countries will experience a steep increase in the share of elderly persons in the population and a large decline in the share of the population of prime working-age. Consequently, in most countries, the number of workers retiring each year will increase sharply and eventually exceed the number of new labour market entrants. If there is no change in work and retirement patterns in Europe, the ratio of older inactive persons per worker could rise to almost one older inactive person for every worker over the same period.

Europe’s workforce will start to shrink from roughly 300 million people today, to approximately 250 million by 2050. A smaller workforce will act as a brake on potential growth, reducing it from 2-2.5 per cent today to just 1.25 per cent in 40 years’ time. The costs of an ageing population (including pensions and health care) will swell, and the sustainability of current social welfare systems will come under severe strain.

Few employers seem to have grasped the impact ageing populations could have on economic productivity – and indeed on their own businesses. Within companies, the impending skills shortage and the experience drain as older people leave the workforce will have a significant effect on recruitment, retention and productivity. The sharp fall in birth rates throughout the advanced economies – and increasingly in the transitional economies too – is already making it difficult for employers to recruit the people they need, especially in information technology. The problem is often made worse by the unnecessary and premature loss of experienced older workers from the labour force under current regimes that encourage early retirement. These problems are further compounded by the fact that most organisations lack systematic programmes for mentoring and transferring experience.

With the greying of the European population, many people have become concerned about the digital divide, especially as manifested in the differences in ICT use between different age-related segments of the population. In the UK, one of the most advanced countries in Europe in terms of ICT use, only 28 per cent of older people are connected to the Internet, compared with 57 per cent in the rest of the adult population. Most other European countries have a starker digital divide. In 2005, only 10 per cent of persons over 65 used the Internet, compared to 68 per cent of those aged 16-24.

http://www.oecd.org/document/42/0,3343,en_2649_34747_36104426_1_1_1_1,00.html. This report focuses on policies to improve the employment prospects of older workers, drawing on the lessons learned from 21 country reviews. See also COM(2004) 146 final, p. 5: By 2030, there will be 110 million people over the age of 65 in the EU25, up from 71 million in 2000 and the working age population will stand at 280 million compared to 303 million today.
13 HSBC Global Forum on Aging and Retirement.
http://europa.eu.int/information_society/events/ict_riga_2006/index_en.htm
Society as a whole is losing out because a significant number of people have not developed IT skills. Although the older age group is not homogenous in terms of education, income or even the types of disabilities often associated with age, older people as a group are at the greatest risk of being excluded from the benefits of the Information Society.

A recent study found that more than 60 per cent of persons over 50 in Europe feel that their needs are not adequately addressed by current ICT equipment and services. In most OECD countries, the incidence of training declines with age. Most older workers get little help in upgrading their skills, and many senior citizens are not motivated to take up available opportunities for training both because of employers’ negative perception of older employees and because ICTs are not designed to meet their needs (and/or the needs of those with some form of disability, about 15 per cent of the population). Yet, without a higher level of participation of the older population in the workforce, and more effective social services, these trends will put serious pressure on Europe's social models and public finances.

Employers are key stakeholders; they play a crucial role in shaping the employment prospects of older workers. To counter negative employer attitudes, countries have introduced age-discrimination legislation or information campaigns. Both approaches should be pursued, but with an emphasis on the benefits of age diversity in the workplace in order to avoid stigmatising older workers. In any case, as the workforce ages, it will become increasingly important to ensure that older workers have up-to-date skills, good access to employment services and better working conditions and that there is increased investment in lifelong learning at mid-career.

1.3 INCLUSION CLUSTERS

Policy-makers at both the EU and Member State level have adopted a cluster of measures not only to improve the treatment of senior citizens but also to re-engage them into the mainstream of European life. Senior citizens now are less often regarded as a burden and increasingly more often as an important, but under-used resource vital to the wellbeing of Europe’s economy and society.

These clusters of measures are supported by very good economic, political, moral, ethical and social rationales. Inclusion is the watchword associated with these clusters of measures, which include policies, programmes and projects. These inclusion measures can be clustered thematically, i.e., they relate to employment, health, education, e-government and so on. Hence, several Directorates General, including Employment, Health, Information Society and Media, in the European Commission have developed policies and programmes and are supporting studies and projects that are either focused on senior citizens or explicitly make

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16 Job retention and employment levels of older workers are strongly correlated with the level of training they receive and their initial educational attainment. There is no empirical evidence that older workers are more or less productive than other age groups. Productivity potential of older workers is not impaired by age but by skills obsolescence – something that can be corrected through training, in particular in developing the skills for taking full advantage of Information and Communication Technologies. See COM(2004) 146 final, p. 10.
18 See, for example, the Stop Discrimination website, launched 2003: http://www.stop-discrimination.info.
Quite a few of these policies, programmes and projects are referenced in the following sections of this report. One can find the same terminologies, buzz words and jargon – e.g., “active ageing”, “life-long learning”, “inclusion” – being used in these initiatives, but the real common denominator in many of them is ICT.

While ICT is undoubtedly the key to success in many of these initiatives, ICT use by and for senior citizens confronts a serious challenge, which, to use more jargon, is the digital divide, i.e., most senior citizens in Europe do not use ICT. Accessibility is improving, but still problematic for many and there are privacy and ethical issues that need to be sorted out.

1.4 A NOTE ON TERMINOLOGIES

In this report, we generally use a hyphen in such terms as e-inclusion, e-government, e-accessibility, etc. One often sees different usages, e.g., eInclusion, e-Inclusion, e-inclusion. We prefer the style of e-inclusion because it is a compounding of two words, electronic and inclusion, whereas without the hyphen, it suggests a fusion of two words, i.e., electronicinclusion, which, of course, is distasteful. We also prefer the lower case format (e-inclusion) as opposed to the upper case format (e-Inclusion) since the word inclusion itself is lower case and there is no apparent reason why it should be upper case. It is not a formal noun.

We also prefer “senior citizens” as opposed to other similar terms such as the elderly or the aged. The latter terms have a nuance of decrepitude and incapacity which we don’t like. Senior citizens often have a wealth of experience which can benefit younger citizens. Senior as a descriptor suggests someone who has risen in society, who is deserving of respect and dignity, who is senior to others by virtue of (if nothing else) the accumulation of experience and often wisdom. “Senior citizens”, to our way of thinking, is a more respectful term and not prejudicial as the terms elderly or the aged could be so construed.

Hence, unless we quote some other text, we use these terminologies generally in this report.

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20 For example, in the Commission’s e-Health action plan, COM(2004) 356, a hyphen is used, whereas in its eHealth strategy issued in 2006, it is not used.

21 The New Oxford Dictionary for Writers and Editors (2005) uses this style (e.g., e-commerce).
2 RESOURCES FOR SENIOR CITIZENS, ICT, INCLUSION, ETHICS & PRIVACY

Resources are needed to overcome the digital divide which currently separates the old and the young in regard to their familiarity and accessibility to ICT. Similarly, resources are needed to address the privacy and ethical issues raised by ICT in regard to senior citizens. These needed resources should be seen as an investment in the future social and economic well-being and prosperity of Europe.

Resources come in different forms: human (above all), intellectual, financial, social, legal, political, and technological. Some of the resources that are being applied to overcome digital divides relevant to the concerns of this report – i.e., senior citizens, ICT, inclusion, privacy and ethics – are referenced in the following sections.

2.1 HUMAN AND FINANCIAL RESOURCES

The European Social Fund (ESF) is the EU’s main financial instrument for developing employability and human resources. It is used to help people improve their skills and, consequently, their job prospects. The ESF provides support to the Member States’ implementation of the European Employment Strategy (EES) and EU social inclusion policies. Among other things, the European Social Fund contributes financially to improving access to education and training.

The Commission, supported by the ESF and the new Globalisation Adjustment Fund\(^{22}\), has been devoting increasing funds to active ageing and strongly encouraging Member States to do likewise. It has promoted active ageing strategies which include financial incentives for prolonging working lives and improving quality at work. Member States were called upon to deliver on their commitment to establish comprehensive life-long learning strategies by the end of 2006. In 2006, the Commission pledged to work with Member States to devote a higher share of structural fund spending to education and training.\(^{23}\)

The EU has been, and will continue to provide financial support to Information Society projects through its Cohesion Policy programmes, designed to tackle new challenges to the European community, including ageing populations.\(^{24}\) Over the past seven years, Europe's regions have invested €1 billion per year on a range of actions, including broadband networks and e-government solutions. The budget for the EU level research and development is only a

\(^{22}\) The European Globalisation adjustment Fund (EGF) is a new instrument which will provide personalised support to workers who have been made redundant as a result of trade liberalisation, so that they can either remain in employment or find quickly a new job. The new Fund will specifically and directly support people, not companies or institutions, through active labour market measures such as: counselling; job search and mobility allowances; new ICT skills and other forms of training; entrepreneurial support, including micro-credits.
small proportion of total government research and development spending.\textsuperscript{25}

The Commission has said that it will stimulate regional initiatives on an inclusive Information Society through thematic networks in the framework of the European Commission initiative on “Regions for Economic Change”. The Cohesion Policy Fund will continue targeting investment in knowledge in areas where commercial deployment of ICT infrastructure and services is inadequate. However, it says EU regional and local authorities must drive the effort to bridge the broadband gap, including through the use of EU structural and rural development funds, to promote an inclusive Information Society. This is especially relevant in remote and rural areas. They must support infrastructure as well as e-services and applications for citizens (e-health, e-government, e-learning and e-inclusion).\textsuperscript{26}

In the Riga Declaration, EU Ministers agreed to reduce significantly the disparities in Internet access between all regions, increasing the availability of broadband in under-served locations, with the aim of broadband coverage reaching at least 90 per cent of the EU population by 2010. They said that the Structural Funds and the Rural Development Fund would be used for this purpose, and that public Internet access points would also be supported “where appropriate”. The Declaration also pledged that national i2010 broadband strategies would be updated to provide additional guidance and targets regarding coverage and connectivity in public administrations, schools, health centres and other key locations.\textsuperscript{27}

The European Commission and, to a lesser extent, Member States have provided funding for quite a few \textbf{projects} dealing with e-inclusion and senior citizens in the last 10 years or so. Many of these (but by no means all) are mentioned in the pages that follow. Several mention privacy and ethics, but few devote more than a few paragraphs to the issues. There are, however, other projects (that do not come under the e-inclusion funding line) that do deal with privacy and data protection and related issues, but, on the other hand, these projects do not focus much on senior citizens and are rather more technical in nature (e.g., the Disappearing Computer initiative in the EC’s Fifth Framework Programme. Examples of later projects are PISA, PRIME, FIDIS and SWAMI).

The amount of funding devoted to e-inclusion and senior citizens is growing. The Ambient Assisted Living (AAL) Article 169 initiative is expected to have funding of €600 million over six years, with half coming from Member States and a matching amount from the European Commission. Between now and 2013, the Commission, the EU Member States and the private sector will together invest more than €1 billion in research and innovation for ageing well,

\textsuperscript{25} Viviane Reding, Member of the European Commission responsible for Information Society and Media, ICT R&D and Innovation in the EU - increasing the scale and the impact, Speech to ICT ETP Leaders, Brussels, 21 Feb 2008. http://ec.europa.eu/commission_barroso/reding/docs/speeches/2008/brussels_20080221.pdf. The Commissioner added: “We need to work together to encourage the Member States to match the significant increases to ICT under FP7 and in the CIP programmes so that EU-level actions continue to build on and add value to national initiatives and projects. The Forum of National ICT Directors will help to define common research agendas and to align specialisations across Europe.”

\textsuperscript{26} European Commission, European i2010 initiative on e-Inclusion: “To be part of the information society”, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, COM(2007) 694 final, Brussels, 8 Nov 2007, p. 7.

including €600 million from the new Joint Research Programme and €400 million from the EU's Seventh Framework Programme for Research and Technological Development.28

2.2 **POLITICAL, ECONOMIC AND SOCIAL IMPETUS**

Although the political, economic and social impetus devoted to improving the lot of senior citizens is arguably not a resource per se, nevertheless such impetus is necessary in order to generate the financial and legislative resources needed to make a material difference in overcoming the digital divide.

As a large and growing percentage of the population are senior citizens, gathering their votes in elections will become increasingly important to electoral success, and that in turn will depend upon governments adopting policies and programmes focused on senior citizens. Thus, for example, many countries have adopted legislation prohibiting age-related discriminatory employment practices. In its report to the 2004 European Spring Council29, the Commission identified “active ageing” as one of three priority areas needed to deliver the Lisbon strategy.

The issue of senior citizens and ICT is firmly on the political agenda. The issue is the focus of the numerous policies (see Chapter 3), including, for example, the Commission’s 2007 Action Plan for Ageing Well in the Information Society and its e-inclusion (i2010) activities. The Commission has undertaken an i2010 flagship initiative “on caring for people in an ageing society addressing technologies for wellbeing, independent living and health”. The flagship initiative activities include awareness and consensus building, improving regulatory frameworks and funding research to accelerate the delivery of Information Society benefits to the ageing population. The i2010 flagship initiative is referenced in more detail later in this report.30

Similarly, some of the world’s largest technology corporations are devoting efforts to making ICT more accessible to senior citizens. Private sector efforts are directly linked to the wish to generate and capture new markets for their products and services. Capturing the largest possible markets for products and services often requires standards.

Standardisation bodies play an important role in creating a virtuous circle (or positive feedback loop): standardised products and services remove market uncertainty and helps to create market demand. As market demand grows, so will offerings of new products and services, many of which will benefit from standardisation (or, at least, conformity assessment). As market demand grows, our economy and society will benefit.

The three principal European standardisation bodies – CEN, CENELEC and ETSI – all are devoting efforts to making ICT products and services more accessible to senior citizens, partly at the behest of the European Commission.

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30 See also SEC(2007) 811, pp. 75-76.
2.3 MEDIA ATTENTION

One could argue that media attention is not, per se, a resource either, nevertheless, media attention is important so that issues related to ageing do get on the public agenda. Media attention helps to generate awareness of the importance of the issues and, in turn, helps to convince the public and politicians that something must be done to help overcome the exclusion of senior citizens from mainstream society and to encourage senior citizens to work longer.

It is not just stories in the press, but also advertising that helps to give visibility to these issues. The more grey-haired citizens appear in adverts, especially adverts devoted to selling new technologies, the more evidence accumulates that senior citizens are achieving recognition of their importance as consumers.

2.4 EXISTING RESOURCES RE PRIVACY AND ETHICS

2.4.1 PRIVACY AND DATA PROTECTION AUTHORITIES

There are several sources (or resources, if one prefers) of information about privacy and data protection requirements, which provide useful guidance for those undertaking projects and/or developing new products and services in which personal data may be collected and processed. European legislation and Communications from the European Commission should obviously be consulted. In addition, there are several bodies dealing with privacy and data protection, which have produced important documents. Among these are the following:

European Data Protection Supervisor

The EDPS is an independent supervisory authority, created by a Decision of the European Parliament and Council. It is devoted to protecting personal data and privacy and promoting good practice in the EU institutions and bodies. It monitors the EU administration’s processing of personal data; advises on policies and legislation that affect privacy; co-operates with similar authorities to ensure consistent data protection.

Data Protection Authorities

National data protection authorities provide lots of information, advice and guidance on data protection and will respond to queries from stakeholders, including the public. Contact details for the data protection authorities of the Member States can be found here: http://ec.europa.eu/justice_home/fsj/privacy/nationalcomm/index_en.htm

The UK Information Commissioner’s Office (ICO) has produced privacy impact assessment guidelines, which are useful for those undertaking projects where there may be concerns about privacy impacts.31

Article 29 Data Protection Working Party

The Article 29 Data Protection Working Party comprises the data protection authorities from

the Member States together with a representative from the European Commission.\textsuperscript{32} The working group considers and provides its Opinions on various data protection issues, including the provision of advice.

**International Conference of Data Protection and Privacy Commissioners**

Data protection authorities from around the world convene an annual conference at which they discuss and agree their position on various data protection issues, especially in the form of Resolutions.\textsuperscript{33}

### 2.4.2 Ethical Advice

**European Group on Ethics and Science in New Technologies (EGE)**

The European Group on Ethics in Science and New Technologies is a group of experts appointed by Commission to advise the Commission on ethical questions relating to sciences and new technologies. For the purposes of preparing its opinions, the EGE may invite experts to its work, initiate studies, set up working groups and organise public round tables in order to promote dialogue and improve transparency for each opinion that it produces. EGE opinions and other documents can be accessed via [http://ec.europa.eu/european_group_ethics/avis/index_en.htm](http://ec.europa.eu/european_group_ethics/avis/index_en.htm) and [http://ec.europa.eu/european_group_ethics/publications/index_en.htm](http://ec.europa.eu/european_group_ethics/publications/index_en.htm).

**Ethics committees of the Member States**

A list of the ethics committees of the Member States and other countries can be found here: [http://ec.europa.eu/european_group_ethics/link/index_en.htm#4](http://ec.europa.eu/european_group_ethics/link/index_en.htm#4)

**European Commission**

Various Directorates General of the European Commission deal with ethical issues. Two of those most relevant to the SENIOR project are the following:

- **DG Information Society & Media**
  - H.3: ICT for Inclusion

- **DG Research**
  - Unit L.3: Governance and ethics

The European Commission has supported two workshops, specifically addressing ethical issues and ICT for senior citizens. The first workshop was sponsored by DG Information Society and held in Brussels on 29 October 2007\textsuperscript{34} and the second was held under the Slovenian Presidency of the EU, in Bled on 12 May 2008.\textsuperscript{35} Diverse stakeholders participated

\textsuperscript{32} [http://ec.europa.eu/justice_home/fsj/privacy/workinggroup/index_en.htm](http://ec.europa.eu/justice_home/fsj/privacy/workinggroup/index_en.htm)

\textsuperscript{33} [http://ec.europa.eu/justice_home/fsj/privacy/links/index_en.htm](http://ec.europa.eu/justice_home/fsj/privacy/links/index_en.htm)


in both workshops.
3 LOTS OF POLICIES MEANS LOTS OF CHALLENGES

The first section below (section 3.1) lists key EC policy documents that underpin and build on the Commission’s Action Plan on Ageing Well in the Information Society. Section 3.2 refers to those that deal more specifically with the privacy and data protection, while Section 3.3 refers to documents dealing with ethical issues.

The documents are listed in chronological order. In some instances, we have extracted some key points from the documents.

3.1 POLICY DOCUMENTS RELEVANT TO INCLUSION AND/OR AGEING WELL

European Parliament, the Council and the Commission, European Charter of Fundamental Rights, 2000/C 364/01, Dec 2000.36

\textit{Article 21: “Any discrimination based on any ground such as sex, race, colour, ethnic or social origin, genetic features, language, religion or belief, political or any other opinion, membership of a national minority, property, birth, disability, age or sexual orientation shall be prohibited”.} [Bold face added.]


\textit{The European Employment Directive requires all Member States to put in place legal and regulatory frameworks and administrative provision to “tackle age and disability discrimination”, by 2006.}


\url{www.support-eam.org/waec/docs/mod01/COM(2001)_529_accessibility_public_websites_en.pdf}


\url{http://ec.europa.eu/education/policies/lll/life/index_en.html}

\textit{The Communication makes proposals that contribute to the realisation of a European area of lifelong learning, the objectives of which are both to empower citizens to meet the challenges of the knowledge-based society; and to meet the goals and ambitions of the Member States and the candidate countries to be more prosperous, inclusive, tolerant and democratic.}

\textit{The Communication firstly proposes a broad definition of lifelong learning,}

\begin{footnotesize}
36 \url{http://www.europarl.europa.eu/charter/default_en.htm} \\
37 The full text of the directive can be downloaded from \url{http://ec.europa.eu/employment_social/fundamental_rights/pdf/legisl/2000_78_en.pdf}
\end{footnotesize}
recognising that learning takes place in a broad range of settings, across the whole life span, and with a variety of aims.

Secondly, the "building blocks" of coherent and comprehensive strategies for lifelong learning are set out in order to assist Member States and other actors in developing and implementing such strategies.

Thirdly, concrete proposals for actions at all levels are developed, supporting and adding value to national strategies. This includes a comprehensive new approach to valuing learning, which will allow citizens to move freely between learning settings, jobs and countries, making the most of their knowledge and competences.

Finally, the Communication explains how the implementation of the European area of lifelong learning will be taken forward using existing structures, processes, programmes and instruments, and through the development of a limited number of indicators.

Lifelong learning is a key element of the strategy, devised at Lisbon, to make Europe the most competitive and dynamic knowledge-based society in the world. Traditional policies and institutions are increasingly ill-equipped to empower citizens for actively dealing with the consequences of globalisation, demographic change, digital technology and environmental damage. Yet people, their knowledge and competences are the key to Europe’s future. Lifelong learning should encompass the whole spectrum of formal, nonformal and informal learning. The consultation also highlighted the objectives of learning, including active citizenship, personal fulfilment and social inclusion, as well as employment-related aspects.

The lifelong learning framework will support the exchange of good practice and experience and thus the identification of shared problems, ideas and priorities. To facilitate this, the Commission will develop a database on good practice, information and experience concerning lifelong learning at all levels.

Lifelong learning is, however, about much more than economics. It also promotes the goals and ambitions of European countries to become more inclusive, tolerant and democratic. And it promises a Europe in which citizens have the opportunity and ability to realise their ambitions and to participate in building a better society. Indeed, a recent OECD report refers to the growing evidence that learning and investment in human capital is associated not just with increased GDP, but also with greater civic participation, higher reported well-being and lower criminality.

The eLearning initiative part of the eEurope Action Plan, seeks to promote a digital culture and wider use of information and communication technologies (ICT) in education and training.

Strategies must also address issues of equality of opportunity (e.g. gender equality) and of targeting specific groups, in order to ensure lifelong learning opportunities are genuinely available to all, especially those at particular risk of exclusion such as people on low income, disabled people, ethnic minorities and immigrants, early school leavers, lone parents, unemployed people, parents returning to the labour market, workers with low levels of education and training, people outside the labour market, senior citizens (including older workers), and ex-offenders. Such targeting should address the needs not only of people in deprived urban areas, but also those in rural areas who may have particular learning needs.
Among its recommendations, the report says Member States should expand digital literacy initiatives to citizens at risk of exclusion, including older workers, to meet the objective of giving every worker the opportunity to achieve information society literacy by 2003.


This report focuses on action that is necessary to raise labour force participation through improvements in the functioning of labour markets. Active ageing is also an important contribution to the overall EC objective – as stipulated in Article 2 of the EC Treaty – to improve people's well-being.

Employment and participation rates of older workers (age group 55-64) in the EU have been declining steadily over the last 30 years. In the year 2000, participation stood at 40.6%. By comparison, the rates for the US and Japan were 59.2% and 66.5% respectively.

The fall in participation is partly due to involuntary early retirement associated with economic restructuring and partly to the impact of early retirement schemes. Participation in training declines substantially for workers over 50, with very low levels for the low-skilled. While almost half of older workers do actually work in firms that provide training, less than 15% take part in training measures – either employer-provided or private; only 7% of low-skilled older workers receive training as compared to more than one fourth of high-skilled older workers. The higher the skill levels the greater the activity rate at all ages. Participation for high-qualified people is at least 1.5 times higher than the least qualified people.

Disabled people are much more likely to be inactive than the able-bodied as a result of difficulties in entering the labour market and remaining there. Two-thirds of those with some disability are inactive. Even some 50% of those who are not hampered in their daily activities by their disability are inactive.

Some 11 million of the 77 million people currently inactive would currently like to work. The main reasons for inactivity are: personal or family responsibilities (almost 20% of the total inactives), own illness or disability (9%), education and training (27%, almost 90% in the 15-24 group) and retirement (16%, about 90% in the 55-64 group).

The report identifies three goals:

- to ensure that present and future working generations will remain active as they grow older;
- to attract a substantial part of those currently inactive but able to work, particularly women, to the labour market on a lasting basis;
- to prolong the participation of today’s older workers; those over 50 being at high risk of early retirement.

38 http://ec.europa.eu/employment_social/employment_strategy/key_en.htm#4
Preventing the erosion of skills throughout adult working life will increase the chances of people remaining in employment longer. Availability of flexible work organisation would contribute to raising older workers’ participation and reduce incentives to early retirement.


This Directive concerns the provision of electronic communications networks and services to end-users. The aim is to ensure the availability throughout the Community of good quality publicly available services through effective competition and choice and to deal with circumstances in which the needs of end-users are not satisfactorily met by the market. This Directive establishes the rights of end-users and the corresponding obligations on undertakings providing publicly available electronic communications networks and services. With regard to ensuring provision of universal service within an environment of open and competitive markets, this Directive defines the minimum set of services of specified quality to which all end-users have access, at an affordable price in the light of specific national conditions, without distorting competition.


E-government is defined as the use of information and communication technologies in public administrations combined with organisational change and new skills in order to improve public services and democratic processes and strengthen support to public policies. E-government requires that information is shared across departments and different levels of government (e.g. between the local and national level). E-government raises difficult issues. These include safeguarding trust and confidence in online interaction with governments, widespread access to online services so that no digital divide is created, interoperability for information exchange across organisational and national borders...

With the ageing of the population, public administrations will have to do with fewer employees and fewer working taxpayers as well, while still having to provide largely the same number of services and at better quality as well.

Although dedicated online services for disabled persons are emerging, access through alternatives to the PC such as digital television or mobile terminal consistent with offline access so as to guarantee inclusion, is still relatively rare.

Increased participation through online services means that all citizens need to be provided with full opportunities for access. Potential barriers include lower penetration of Internet in some countries, limited service availability, and the lack of
user-friendly access for people with disabilities or less IT literacy. Education and training are essential to ensure that citizens have the necessary digital literacy to be able to take full advantage of the services offered by eGovernment. Participation can be improved if services can be accessed through a choice of devices, including PC, digital TV, mobile terminal, or public Internet access points, alongside the usual physical, offline service provision. Such a multi-platform approach is essential for inclusion, to avoid creating a new societal divide.

Applying ‘Design for All’ principles will enable broadening participation of citizens. It is important to elaborate guidelines for the design and assessment of user interfaces and access to public services.

European Commission, *Increasing the employment of older workers and delaying the exit from the labour market*, Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions of the European Communities, COM(2004) 146 final, Brussels, 3 March 2004.39

It says that the low employment of older workers in Europe represents a waste of individual life opportunities and societal potential. For the economy as a whole, the increase in participation and employment rates of older workers are crucial to sustain economic growth. With the ageing and the coming shrinking of the working age population, older workers must be recognised for what they are: a core component of labour supply and a key factor for the sustainable development of the European Union. Member States need to develop active ageing strategies addressing access to training and lifelong learning. The EU supports active ageing through policy coordination, exchange of experience and best practice, and financial instruments. Older workers must not be perceived as just another vulnerable group meriting special attention, but as a core component of the labour supply and a key factor for the sustainable development of the European Union.


E-health describes the application of information and communications technologies across the whole range of functions that affect the health sector. E-health tools or solutions include products, systems and services that go beyond simply Internet-based applications. They include tools for both health authorities and professionals as well as personalised health systems for patients and citizens. Examples include health information networks, electronic health records, telemedicine services, personal wearable and portable communicable systems, health portals, and many other information and communication technology-based tools assisting prevention, diagnosis, treatment, health monitoring, and lifestyle management.

The health sector employs 9 per cent of Europe’s workforce. E-health is today’s tool

for substantial productivity gains. There are many examples of successful e-health developments including health information networks, electronic health records, telemedicine services, wearable and portable monitoring systems, and health portals. Today, at least four out of five European doctors have an Internet connection, and a quarter of Europeans use the Internet for health information.

Healthcare systems around the globe face major challenges, including a rising demand for health and social services, due to an ageing population and higher income and educational levels. By 2051, close to 40 per cent of the Union’s population will be more than 65 years old.

E-health systems and services can reduce costs and improve productivity in such areas as i) billing and record-keeping, ii) reduction in medical error, iii) alleviation of unnecessary care, and iv) savings achieved by business-to-business e-commerce.\(^{40}\)

Interoperability of e-health systems should enable the seamless integration of heterogeneous systems. This will allow secure and fast access to comparable public health data and to patient information located in different places over a wide variety of wired and wireless devices. However, this depends on standardisation of system components and services such as health information systems, health messages, electronic health record architecture, and patient identifying services. Work has been launched within European standards organisations to answer this issue partly, but the take-up of e-health interoperability standards has been slow and – in addition – to achieve actual interoperability is a separate task.

Fragmentation of the e-Health market has held the industry back.

The confidentiality and protection of patient data is governed by the general European Union rules of data protection, as well as by the requirements of e-privacy legislation regarding communications infrastructure. The requirement for confidentiality makes health information systems security critical. There is a provision within the general data protection directive to create a code of conduct for special domains such as health, but this has not yet been taken forward.

There is a risk that certain parts of society, including elderly persons and disabled persons, could remain excluded from the possibilities offered by e-Health (including Internet-based health services) if special efforts are not made to counterbalance such trends.


The Lisbon Council in 2000 agreed to make a decisive impact on the eradication of poverty and social exclusion by 2010. In this Communication, described as the renewed Lisbon Strategy, President Barroso says, inter alia, that the challenges we face are even more urgent in the face of an ageing population and global competition.

We still need a vision for society which can integrate both the ageing and the young, particularly for the development of our workforce, where current dynamics cast a shadow over both long-term growth and social cohesion.

This mid-term review sets out how Europe can meet its growth and jobs challenge. It launches the idea of a Partnership for Growth and Jobs, supported by a Union Action Programme and National Action Programmes containing firm commitments.

Member States and the social partners must increase efforts to boost the level of employment particularly by pursuing active employment policies which help people in work and provide incentives for them to remain there, developing active ageing policies to discourage people from leaving the workforce too early, and by modernising social protection systems, so that they continue to offer the security needed to help people embrace change. [Bold face added.]

The Union also needs to develop its priorities in responding to the demographic challenge that we face.

Europe needs more and better investments into education and training. By focusing at European and national level on skills and life-long learning, it will be easier for people to move to new jobs. This should be backed up by the adoption this year of the Life Long Learning Programme at EU level and in 2006 the presentation of national Life Long Learning strategies by the Member States. [Bold face added.]

Our innovation performance is crucially dependent on strengthening investment and the use of new technologies, particularly ICTs, by both the private and public sectors. Information and Communication technologies provide the backbone for the knowledge economy. They account for around half of the productivity growth in modern economies. A new initiative - i2010: European Information Society will stimulate the take-up of ICTs, to continue the eEurope agenda which the Lisbon Strategy fostered. It will do this by promoting a clear, stable and competitive environment for electronic communications and digital services; increased research and innovation in ICTs and an Information Society dedicated to inclusion and quality of life. [Bold face added.]

In a context of rapid economic change and intense demographic ageing, creating more and better jobs is not just a political ambition: it is an economic and social necessity. Over the next 50 years Europe will face an unprecedented demographic transition. The total working population will decrease in absolute terms on current demographic trends. Apart from the significant social changes this transition will bring about, it will also put enormous pressure on our pension and social security systems and, if left unchecked, drag down potential growth rates to a paltry 1% per year. The Commission will adopt a green paper to launch a debate on this demographic challenge in order to identify which public policies could be put in place to address it.

Raising employment levels is the strongest means of generating growth and promoting socially inclusive economies.

The Social Agenda identifies the priorities which should guide the European Union’s action in the modernisation of the European social model as well as in the promotion of social cohesion, as part of the revised Lisbon Strategy and the Sustainable Development Strategy. The Agenda develops a two-pronged strategy, which specifically addresses equal opportunities and inclusion. It identifies the main driving forces behind change as increased competition in a global context, technological development and population ageing, all of which will speed up in the coming years.


ICT and ageing is firmly embedded in i2010. The Communication defines as one of its three objectives “an Information Society that is inclusive, provides high quality public services and promotes quality of life”. In this framework, the Commission announced i2010 flagship ICT initiatives on key social challenges. One of these flagships focuses on the needs of the ageing society, more specifically on caring for people in an ageing society and addressing technologies for wellbeing, independent living and health.


The Commission aims to raise awareness of e-accessibility and leverage a range of activities and co-operation with stakeholders to enhance the accessibility of ICTs. Its goal is to foster industry self-regulation and encourage co-ordination among the Member States. It said it would produce a report measuring the progress on accessibility and propose new legislation if deemed necessary.


The Communication identifies four priority actions for growth and jobs in Europe (in the context of the re-launched Lisbon agenda), one of which is “responding to globalisation and ageing”. We cannot afford to have people drop out of the labour market when they are in their fifties. An ageing population means that European society must be ready to help more people to work, to work longer, and work in a way that uses their talents to best effect. That means employment policies that help people to find jobs at every stage of their working lives and remove barriers for those who wish to work. People need the right skills at the right time, they need help in facing change. Over the coming decades, ageing populations in Europe will put increasing pressure on public finances. Member States recognise that modernising public and private retirement and pension systems is an essential prerequisite for ensuring public finance sustainability, while responding to social concerns and economic changes.

41 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52005DC0229:EN:NOT
42 http://europa.eu.int/eur-lex/lex/LexUriServ/LexUriServ.do?uri=CELEX:52006DC0030:EN:NOT
However, in most countries, the measures already taken or envisaged appear to be piecemeal or insufficient.


It is important to accelerate e-government with a view to modernisation and innovation because governments face major challenges such as ageing, climate change or terrorism and citizens are demanding better services, better security and better democracy, while businesses demand less bureaucracy and more efficiency.

With this Action Plan the Commission seeks to:

- Accelerate the delivery of tangible benefits for all citizens and businesses;
- Ensure that e-government at national level do not lead to new barriers on the single market due to fragmentation and lack of interoperability;
- Extend the benefits of e-government at EU level by allowing economies of scale in Member States’ initiatives and cooperating on common European challenges;
- Ensure cooperation of all stakeholders in the EU in designing and delivering e-government.

The Action Plan focuses on five major objectives for e-government with specific objectives for 20104:

- No citizen left behind: advancing inclusion through e-government so that by 2010 all citizens benefit from trusted, innovative services and easy access for all;
- Making efficiency and effectiveness a reality – significantly contributing, by 2010, to high user satisfaction, transparency and accountability, a lighter administrative burden and efficiency gains;
- Implementing high-impact key services for citizens and businesses - by 2010, 100% of public procurement will be available electronically, with 50% actual usage, with agreement on cooperation on further high-impact online citizen services;
- Putting key enablers in place - enabling citizens and businesses to benefit, by 2010, from convenient, secure and interoperable authenticated access across Europe to public services;
- Strengthening participation and democratic decision-making – demonstrating, by 2010, tools for effective public debate and participation in democratic decision-making.


The ICT for Health Unit of the Directorate-General Information Society and Media adopted a strategy to promote the transformation of the healthcare landscape in

Environmental Scanning Report

Europe. This strategy entails a blend of research and policy activities, under the Seventh Framework Programme and the eHealth Action Plan. It is part of the Commission’s new strategic policy framework i2010 “A European Information Society for growth and employment” and aims to:

- Enable access to best quality care for all European citizens.
- Facilitate independent living and lifestyle management, addressing also the needs of specific groups such as elderly people and children.
- Provide safer healthcare, avoiding unnecessary medical accidents and adverse events.
- Improve the efficiency and efficacy of health systems.

The ultimate goal is to enable access to the patient’s electronic health record and emergency data from any place in Europe, even outside a citizen’s country of origin or residence, whenever this is required. The EC aims to support a restructuring of health delivery systems in Europe. This restructuring entails a two-fold paradigm shift:

a) from symptom-based to preventive healthcare and
b) from hospital-centred to person-centred health systems.

Ministerial Declaration, Approved unanimously by Ministers of European Union (EU) Member States and European Free Trade Area (EFTA) countries responsible for eInclusion policy, Riga, Latvia, 11 June 2006.
http://europa.eu.int/information_society/events/ict_riga_2006/index_en.htm

The Ministers stated that e-inclusion policy addresses issues in the fields of active ageing, geographical digital divide, accessibility, digital literacy and competences, cultural diversity and inclusive e-government. They said particular attention must be paid to further improve user motivation towards ICT use, as well as trust and confidence through better security and privacy protection. To convincingly address e-inclusion, the differences in Internet usage between current average use by the EU population and use by older people, people with disabilities, women, lower education groups, unemployed and “less-developed” regions should be reduced to a half, from 2005 to 2010.

Ministers committed themselves to the following policy goals:
Address the needs of older workers and elderly people by

- Exploiting the market of ICT services and products for the elderly, by addressing demand fragmentation, by promoting interoperability through standards and common specifications.
- Improving the employability, working conditions and work-life balance of older workers to improve productivity by supporting innovative ICT solutions which can be easily used everywhere including at home, and encouraging the provision of training from the public, private sectors and from civil society, making special efforts on ICT skills for older people.
- Enhancing active participation in the society and economy and self-expression, through innovative ICT-enabled access to goods and services, and relevant content, to facilitate interactions with public and private entities, entertainment, and social contacts.
- Realising increased quality of life, autonomy and safety, while respecting privacy and ethical requirements, through independent living initiatives, the promotion of assistive technologies, and ICT-enabled services for integrated social and
healthcare, including personal emergency and location-based services. The ambient assisted living initiative of the 7th Framework Programme is an important initiative in this respect.

Reduce geographical digital divides by
- Facilitating affordable access to ICT networks and terminal equipment, contents and services everywhere

Enhance e-accessibility and usability by
- Exploring by 2007 European e-accessibility standards and common approaches in public procurement for ICT products and services, for all public administrations above the relevant EU financial thresholds, with a view to making these mandatory by 2010.
- Fostering the application of common requirements and standards, European or global, for accessible and usable ICT hardware, software and services, to be supported by appropriate user involvement, and means of demonstrating conformance, e.g. labelling.
- Facilitating accessibility and usability of ICT products and services for all, with a special focus on people with disabilities, by accessible digital content on all platforms, interoperable assistive technologies, and mainstreaming inclusive design and design for all in the development of ICT products and services.

Research, professional training, centres and networks of excellence, user involvement, labelling, conformity assessment, and other means are key. Links between mainstream ICT industry and the assistive technologies sector should be facilitated, and a European curriculum on design for all should be promoted.

Improve digital literacy and competences
- The current gaps of digital literacy and competence between groups at risk of exclusion and the average population should be halved by 2010.

Promote cultural diversity in relation to inclusion
- Promoting and ensuring accessibility of all public websites by 2010, through compliance with the relevant W3C common web accessibility standards and guidelines, and by calling upon the private sector to do likewise.
- Disseminating user-centric security concepts to increase awareness of digital network and information security.


The Communication identifies five ways to address the demographic challenges facing Europe: helping to balance work-family-private life; improving work opportunities for older people; increasing productivity and competitiveness by valuing the

Despite repeated calls by the EU and government leaders to improve this situation, progress remains limited: by far the majority of websites fail to use universally accepted user-friendly solutions. The European Commission has launched a public consultation on further measures to make websites in Europe accessible, starting with those of public administrations, and has invited stakeholders to give their views by 27 August 2008. See European Commission, “Commission wants a web that is better enabled for the disabled”, Press release, IP/08/1074, Brussels, 2 July 2008.
contributions of older employees; harnessing the positive impact of migration for the job market; and ensuring sustainable public finances for social protection in the long-term.


The objective of this proposal is the adoption of a decision by the Council and Parliament, on the basis of Article 169 of the EC Treaty, concerning the participation by the Community in the *Ambient Assisted Living joint research and development programme* undertaken by several Member States. The overall objective of the AAL joint programme is to enhance the quality of life of older people and strengthen the industrial base in Europe through the use of ICT.

The number of people aged from 65 to 80 will rise by nearly 40% between 2010 and 2030. This demographic change poses significant challenges to Europe's society and economy. ICT can play an important role in dealing with these challenges. ICT can help older individuals to improve their quality of life, stay healthier and live independently for longer. Innovative solutions are emerging to help counteract impairments which are more prevalent with age. ICT enables older persons to remain active at work or in their community. ICT also makes it possible to provide more efficient health and social care (for which demand will rise significantly with demographic ageing), better public health management, as well as opportunities for community- and self-care and service innovation.

The AAL joint programme provides the legal and organisational framework for a large-scale European programme between Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Hungary, Italy, the Netherlands, Poland, Portugal and Spain and Israel, Norway and Switzerland on applied research and innovation in the area of ICT for Ageing Well in the Information Society. They have agreed to coordinate and implement jointly activities aimed at contributing to the AAL joint programme.

At present, a number of *research and development* programmes or activities undertaken by Member States individually at national level in the field of ICT for Ageing Well are *not sufficiently coordinated* at European level and do not allow a coherent approach at European level for research and development of innovative ICT-based products and services for ageing well. [recital 7]
Several Member States have taken the initiative in setting up a joint research and development programme entitled “Ambient Assisted Living” in the field of ICT for ageing well in the information society, in order to obtain synergies in terms of management and financial resources and the combination of additional expertise and resources available in various countries across Europe. [recital 8]

The AAL Joint Programme aims at addressing the demographic ageing challenge by providing the necessary legal and organisational framework for large-scale European cooperation between Member States on applied research and innovation in the area of Information and Communication Technologies (ICT) for Ageing Well in an ageing society. [recital 9]

The joint implementation of the national research programmes requires the establishment or existence of a dedicated implementation structure. [recital 12]

It is essential that the research activities carried out under the AAL Joint Programme conform to basic ethical principles, including those reflected in Article 6 of the Treaty on European Union and in the Charter of Fundamental Rights of the European Union, and follow the principles of gender mainstreaming and gender equality. [recital 22] [Annex I.I says “Due account shall be taken of possible ethical and privacy issues in line with international guidelines.”]

The Community contribution to the AAL research programme is set at €150 million, which is being matched by the participating Member States. The programme is spread over six years.

The "dedicated implementation structure", known as the AAL Association [see Annex II of the proposed Decision], will be responsible for implementing the AAL Joint Programme. The AAL Association is governed by the General Assembly. The General Assembly, which is the decision-taking body of the AAL Joint Programme, appoints the members of the Board of Directors and supervises the implementation of the AAL Joint Programme, including approval of annual work programmes.

The AAL Board of Directors – consisting of a Director and two Vice-Directors (alternatively one vice-director and one treasurer) – is elected by the General Assembly to undertake the specific management responsibilities such as budget planning, staffing and contracting. It legally represents the Association and reports to the General Assembly.

An Advisory Board with representatives from industry and other stakeholders will provide recommendations for priorities and topics to be addressed in the calls for proposals of the AAL Joint Programme.


The action plan is designed to create political and industrial momentum for a significant effort in developing and deploying user-friendly ICT tools and services.
mainstreaming older users' needs and supporting other policy areas in addressing the challenges of ageing. The action plan addresses market barriers and seeks to realise the opportunities for the older people of today and tomorrow, by raising awareness, building common strategies, removing technical and regulatory hurdles, and promoting take-up, joint research and innovation. It coordinates existing efforts, adds new actions to integrate, complement and reinforce existing work.

The Commission also proposes under Article 169 of the Treaty to Parliament and Council to support a new research initiative, “Ageing well in the Information Society”, aimed at coordinating Member States research programmes in ICT for ageing (prepared through the Ambient Assisted Living action).

The Action Plan is accompanied by a new joint European research programme raising to over €1bn the research investment on information and communications technologies (ICT) targeted at improving the life of older people at home, in the workplace and in society in general. The Action Plan aims to improve quality of life and social participation for older people in Europe, create new business opportunities for Europe's industries and provide more efficient and more personalised health and social services.

The Commission says a Ministerial debate under the Slovenian Presidency in the first half of 2008 will address ethical issues in ICT for ageing. Through research, analyses and pilot projects aimed at market validation, the Commission will support industry and user organisations in addressing ethical concerns and exploring opportunities to establish ethical guidance.


The paper analyses the individual, larger-scale economic and social aspects, and the business dimensions of ICT and ageing and suggests a range of policy responses.


European Parliament calls for initiatives to clarify existing rights and obligations of consumers in the digital environment. The EP said that it considers that a relaunched e-confidence initiative should not only deal with consumer protection but also set out a coordinated approach to the issue of the digital environment as a whole, including analyses of non-market factors such as the protection of privacy, access by the general public to information technologies ("e-inclusion"), internet security, and so on.

By signing the Ministerial Declaration on eGovernment on 19 September 2007, Member States unanimously reconfirmed their commitment to continue improving public services offered to citizens and businesses through the use of ICTs. The new Ministerial Declaration demonstrates Member States’ dedication to continuing progress in this domain by focusing on (i) strengthening the European dimension through cross-border interoperability; (ii) reducing the administrative burden and thereby allowing citizens and businesses to interact efficiently with public administrations; (iii) ensuring inclusive eGovernment services, especially with regard to the economically less favoured groups and vulnerable parts of the population and (iv) re-engaging citizens in political processes and increasing transparency.

The objective of achieving interoperability applies equally to the implementation of Article 8 of the Services Directive which requires interoperable and mutually authenticated electronic identities and electronic documents. An intelligent use of ICT will contribute to the reinforcement of the internal market, which generally requires broad interoperability between and within national systems to ensure an Internal Market without electronic barriers.

To ensure that all citizens can benefit from ICT-enabled administrations, inclusive e-government policies shall address how best to combine online services together with other channels, such as human intermediaries who need to be equipped with state-of-the-art ICT tools.

The use of ICT tools as part of transparency and democratic engagement policies have been successful in many national, regional and local initiatives. Sharing these experiences and those of the e-participation actions initiated by the European Parliament and launched by the Commission in 2006, shall contribute to gaining valuable experience.

By 2010 Member States shall use a common knowledge framework aiming at learning from each others experiences regarding reduction of administrative burdens. They shall also share good practices on measuring ICT-enabled benefits and the resulting impact on public services.

By the end of 2008 Member States shall identify and exchange information on their flagship e-government initiatives addressing the needs of disadvantaged and potentially excluded.

Member States shall continue to promote privacy and protection of identity as well as enhancing trust and security by means such as the comprehensive use of electronic identity and authentication.

Ministers invite the European Commission to facilitate the implementation of the inclusive e-government roadmap agreed by Member States, support inclusive e-government pilots under the ICT Policy Support Programme and the exchange of good practices among Member States. They invite the EC to build on the ongoing e-participation exploratory action and define future support mechanisms to explore and exploit the benefits of e-participation, identify good practice cases and stimulate the exchange of experiences gained by Member States.

E-inclusion is necessary for social justice, ensuring equity in the knowledge society. It is also necessary on economic grounds, to fully realise the potential of the information society for productivity growth and reduce the cost of social and economic exclusion. An inclusive information society brings large market opportunities for the ICT sector.

Initial estimates indicate that benefits from e-inclusion in the EU could be in the order of €35 to €85 billion over five years. Despite this, progress is still lacking and most of Riga targets may not be achieved. Fragmentation of efforts and lack of collaboration continue to persist. Much more must be done to achieve e-inclusion and realise the Riga targets. EU intervention is justified to guarantee equal rights in the information society, internal market coherence and e-Inclusion co-ordination actions.

Firstly, the visibility of e-inclusion should be increased and the level of political and stakeholder commitment should be raised. Secondly, enabling conditions (affordable and accessible technologies and the competences to use ICT) must be put in place, where needed with legislative support. In addition, stakeholders' efforts to deliver effective and inclusive ICT-enabled services must focus on concrete priorities with increased coherence.

This Communication proposes a European Initiative on e-Inclusion comprising a strategic framework for action to implement the Riga Ministerial Declaration.

All the main categories of actors – individual users, ICT industry, service providers, public authorities – remain confronted with a series of barriers that hamper progress.

The goal of e-inclusion is to bridge the digital availability, accessibility, affordability and ability gaps.

ICT solutions remain insufficient and fragmented. Even though Internet penetration continues to increase, about 50% of the European population does not use the Internet regularly. The non-users are predominantly among the low-educated, economically inactive or elderly people.


Building on a discussion paper from its Bureau of European Policy Advisers (BEPA) and the results of a Eurobarometer poll45, the Commission has stimulated a debate among stakeholders, the Member States and the other EU institutions and launched an Internet consultation to seek views on what constitutes Europe's social reality. The

45 http://ec.europa.eu/citizens_agenda/social_reality_stocktaking/more_index_en.htm
Purpose of this Communication is to enrich the on-going consultation on Europe's social reality by broadening the discussion from analysis to response. Reactions to this vision will feed into the preparation of a renewed Social Agenda, which the Commission will present in mid-2008.

Security and flexibility can be mutually reinforcing and should build on one another ("flexicurity") to reinforce people's capacity to enter the world of work, progress and stay longer in it, by ensuring smooth transitions and pathways throughout their career. A radical policy and culture shift is taking place, away from a "job-for-life" ending with early retirement, towards "employment for life", active ageing strategies with strengthened and more accessible lifelong learning, flexible working arrangements, safe and innovative working conditions, and modern and effective social protection mechanisms at their core. This is the way to attract and retain more people in work, so that they can fulfil their aspirations, as well as work more productively.

The implications of an ageing society are becoming obvious, with new health and social risks having far-reaching impacts on social protection systems. But demographic change also opens up new opportunities for the spread of innovative services, goods and technologies, for instance, for elderly care, with substantial potential for growth and jobs. From a life cycle perspective, the social and financial implications of ageing require a substantial rethink of intergenerational responsibilities and the way the associated costs are shared between generations.


The stated focus of the renewed social agenda is on empowering and enabling individuals to realise their potential while helping those unable to do so. It is built around opportunities, access and solidarity. It means dismantling barriers and tackling new forms of social exclusion. The EU has to innovate in the way it sets policy frameworks, in its legislation, in bringing people together in the exchange of best practice and in catalysing new approaches. This renewed social agenda takes into account the results of the broad public consultation that was launched by the Commission in 2007 to take stock of Europe’s changing “social reality”. Combined with globalisation, rapid technological change has wide ranging impacts on society and profound implications for social policies. Demographic change is driving societal change and needs innovative policy responses. The Structural Funds offer financial support to Member States, regions, municipalities, businesses and citizens in anticipating and adapting to changing circumstances. Education and investing in human capital formation is critical to ensure labour participation and social inclusion and to enhance the competitiveness of the EU. Fostering digital, media and financial literacy are all part of a modern skills set.

Europe's ageing society demands a variety of policy responses - from supporting research into how information technology can improve the health and wellbeing lives of older people, to assessing what health care and pension reforms are needed to
meet the needs of an ageing population. There is a need to facilitate the cross-border interoperability of electronic health records while protecting privacy. The Commission will present a Communication focused on actions to meet the needs of an ageing population in autumn 2008. Within the framework of the “European Action Plan for Ageing well in the information society” a new EU-funded programme on assisted living will raise over €600 million for research into the use of ICT to improve the lives of older people at home, in the workplace and society more generally. The Commission will undertake initiatives to improve digital literacy, enhance broadband deployment in underserved areas and to give better access and accessibility of persons with disabilities to the Information Society with a view to tackling the digital divide. It will propose a Directive to combat discrimination based on age, etc.

Open methods of co-ordination (OMCs) are key to the EU Social Agenda, having helped Member States to develop a shared vision of social challenges, fostered a willingness to co-operate and learn from each other's practices, created a new dynamism in furthering and implementing reforms, and promoted more knowledge-based policy making, geared towards openness, transparency and participation.

Opportunities, access and solidarity for all can only be achieved in partnership between the European institutions, Member States, regional and local authorities, social Partners, civil society and other stakeholders, including external partners as relevant. Civil Society organisations act as a vital bridge between the European Union, Member States and citizens. The Commission will continue to support NGOs’ capacity to act at the EU level and take an active part in developing and implementing EU policies.

3.2 POLICY DOCUMENTS ADDRESSING PRIVACY AND DATA PROTECTION

European Parliament, the Council and the Commission, Charter of Fundamental Rights of the European Union, 2000/C 364/01, 7 Dec 2000.46

The Charter contains two articles especially that important to privacy and data protection, as follows:

Article 7 Respect for private and family life
Everyone has the right to respect for his or her private and family life, home and communications.

Article 8 Protection of personal data
1. Everyone has the right to the protection of personal data concerning him or her.
2. Such data must be processed fairly for specified purposes and on the basis of the consent of the person concerned or some other legitimate basis laid down by law. Everyone has the right of access to data which has been collected concerning him or her, and the right to have it rectified.
3. Compliance with these rules shall be subject to control by an independent authority.


46 The Charter was signed and proclaimed by the Presidents of the European Parliament, the Council and the Commission at the European Council meeting in Nice on 7 Dec 2000.
The Directive is the main source of the regulation in the field of data protection. The Directive applies to the processing of data relating to an identified or identifiable natural person or “personal data”, both in private and public sectors. Anonymous data do not fall under the scope of the Directive. The Directive also does not apply to processing of personal data by a natural person for purely personal and domestic purposes, and to data concerning legal persons. The Directive excludes from its scope the processing of data by justice and home affairs authorities.

The Data Protection Directive and national data protection laws in general provide for a number of requirements in order to legally process personal information. Those requirements consist of a series of rights for individuals such as the right to receive certain information whenever data are collected, the right of access to the data, the right not to be subject to a decision that produces legal effects concerning him or significantly affects him and that is based solely on automated processing of data and, if necessary, the right to have the data corrected and the right to object to certain types of data processing. It also imposes a series of obligations: the obligation to use personal data for specified, explicit and legitimate purposes (finality or purpose specification principle), the obligation to guarantee the confidentiality and security of data against accidental or unauthorised access or manipulation and, in some cases, the obligation to notify a specific independent supervisory body before carrying out certain types of data processing. Any processing of personal data must be lawful and fair to the individuals (fairness principle). All data must be adequate, relevant and not excessive in relation to a purpose for which they are collected and/or further processed (proportionality principle). There is also a prohibition on processing sensitive data. To be legitimate, personal data may only be processed if the data subject has unambiguously given his consent. It may be processed without his consent under limited conditions provided by law.

The Directive also regulates cross-border transfer of data.


The e-Privacy Directive contains specific legal, regulatory and technical provisions for electronic communications. It applies only to public communication services; it does not apply to activities concerning public security, defence, state security and the activities of the state in areas of criminal law.

The Directive relates to protection of data of both natural and legal persons. It stipulates that Member States may, for reasons of national security, defence, public security and the prevention, investigation and prosecution of criminal offences, enact legislation providing for the retention of traffic and location data pertaining to all forms of electronic communications by telecommunications operators. It imposes

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security and confidentiality obligations on service providers and foresees specific rules for traffic (any data processed for the purpose of the conveyance of a communication on an electronic communications network or for the billing) and location data (any data processed in an electronic communications network, indicating the geographic position of the terminal equipment of a user) and provides for limits in processing such information. It also contains rules on unsolicited commercial communication and inclusion of private data in public directories.


The Data Retention Directive provides for at least six months and a maximum of two years for data retention necessary for the purpose of investigation, detection and prosecution of serious crime. The Directive does not define what the serious crime is, leaving it for determination in national laws. It refers to the necessity and proportionality principles stating that they must be defined in national laws in accordance with international rules. In its recitals, the Directive expresses the respect for the freedoms and fundamental rights of persons concerned. The Directive also defines the principles to be observed in the area of data security.

The data retention obligation concerns the traffic and location data (any data processed for the purpose of the conveyance of a communication on an electronic communications network or for billing) and location data (any data processed in an electronic communications network, indicating the geographic position of the terminal equipment of a user) necessary to identify the subscriber or registered user. It does not apply to the content of communication.


The European Commission in co-operation with the Member States has finalised the roadmap for the action plans on Pan-European Electronic Identity Management. In view of the continuous and fast evolution in these areas, EC intends to conduct an


The draft recommendation includes an article stating that “Member States should cooperate with industry and the Commission to stimulate and support the introduction of the 'security and privacy by design' principle at an early stage of the development of RFID applications, in particular through the development of high-performance and low-cost solutions.”

**Article 29 Data Protection Working Party**


**OECD**


### 3.3 Policy Documents Addressing Ethics

As with privacy principles, the European **Charter of Fundamental Rights** can be regarded as an ethical baseline. Several of its articles contain ethical provisions relevant to SENIOR starting with Article 1, human dignity. Others include:

- **Article 3** Right to the integrity of the person (which refers to “free and informed consent”)
- **Article 6** Right to liberty and security
- **Article 14** Right to education
- **Article 15** Right to engage in work
- **Article 21** Non-discrimination (“Any discrimination based on any ground such as ... age ... shall be prohibited.”)
- **Article 25** The rights of the elderly (“The Union recognises and respects the rights of the elderly to lead a life of dignity and independence and to participate in social and cultural life.”)
- **Article 36** Access to services of general economic interest (“...in order to promote social and territorial cohesion of the Union”)
- **Article 38** Consumer protection
- **Article 41** Right to good administration (This right includes: the right of every person to be heard, before any individual measure which would affect him or her adversely is taken; the right of every person to have access to his or her file, while respecting the legitimate interests of confidentiality and of professional and business secrecy; the obligation of the administration to give reasons for its decisions.”)

**International Conventions and declarations**


- **Article 1.** All human beings are born free and equal in dignity and rights.
- **Article 2.** Everyone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind
- **Article 3.** Everyone has the right to life, liberty and security of person.
- **Article 12.** No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence.
- **Article 22.** Everyone, as a member of society, has the right to social security.
- **Article 23.** (1) Everyone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection against unemployment. (2) Everyone, without any discrimination, has the right to equal pay for equal work.
- **Article 25.** (1) Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family.
- **Article 27.** (1) Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages... Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit...


**Council of Europe**


See especially  

*Article 1 – Obligation to respect human rights*
Article 5 – Right to liberty and security
Article 8 – Right to respect for private and family life

Council of Europe, Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data (ETS No. 108), Strasbourg, 28 Jan 1981.

See especially

Chapter II – Basic principles for data protection
Article 5 – Quality of data

Personal data undergoing automatic processing shall be:
1. obtained and processed fairly and lawfully;
2. stored for specified and legitimate purposes and not used in a way incompatible with those purposes;
3. adequate, relevant and not excessive in relation to the purposes for which they are stored;
4. accurate and, where necessary, kept up to date;
5. preserved in a form which permits identification of the data subjects for no longer than is required for the purpose for which those data are stored.

Article 7 – Data security

Appropriate security measures shall be taken for the protection of personal data stored in automated data files against accidental or unauthorised destruction or accidental loss as well as against unauthorised access, alteration or dissemination.

Article 8 – Additional safeguards for the data subject

Any person shall be enabled:
1. to establish the existence of an automated personal data file, its main purposes, as well as the identity and habitual residence or principal place of business of the controller of the file;
2. to obtain at reasonable intervals and without excessive delay or expense confirmation of whether personal data relating to him are stored in the automated data file as well as communication to him of such data in an intelligible form;
3. to obtain, as the case may be, rectification or erasure of such data if these have been processed contrary to the provisions of domestic law giving effect to the basic principles set out in Articles 5 and 6 of this convention;
4. to have a remedy if a request for confirmation or, as the case may be, communication, rectification or erasure as referred to in paragraphs b and c of this article is not complied with.

EU legislation


See especially
Annex 7, Article 2.2, Ethical consideration: “Clinical investigations shall be made in accordance with the Declaration of Helsinki approved by the 18th World Medical Assembly in Helsinki, Finland, in 1964, and amended by the 29th World Medical Assembly in Tokyo, Japan, in 1975 and the 35th World Medical Assembly in Venice, Italy, in 1983. It is mandatory that all measures relating to the protection of human subjects are carried out in the spirit of the Declaration of Helsinki. This includes every step in the clinical investigation from first consideration of need and justification of the study to publication of results.”


See especially

Article 3 Protection of clinical trial subjects

1. This Directive shall apply without prejudice to the national provisions on the protection of clinical trial subjects if they are more comprehensive than the provisions of this Directive and consistent with the procedures and time-scales specified therein. Member States shall, insofar as they have not already done so, adopt detailed rules to protect from abuse individuals who are incapable of giving their informed consent.

2. A clinical trial may be undertaken only if, in particular:

(a) the foreseeable risks and inconveniences have been weighed against the anticipated benefit for the individual trial subject and other present and future patients. A clinical trial may be initiated only if the Ethics Committee and/or the competent authority comes to the conclusion that the anticipated therapeutic and public health benefits justify the risks and may be continued only if compliance with this requirement is permanently monitored;

(b) the trial subject or, when the person is not able to give informed consent, his legal representative has had the opportunity, in a prior interview with the investigator or a member of the investigating team, to understand the objectives, risks and inconveniences of the trial, and the conditions under which it is to be conducted and has also been informed of his right to withdraw from the trial at any time;

(c) the rights of the subject to physical and mental integrity, to privacy and to the protection of the data concerning him in accordance with Directive 95/46/EC are safeguarded;

(d) the trial subject or, when the person is not able to give informed consent, his legal representative has given his written consent after being informed of the nature, significance, implications and risks of the clinical trial; if the individual is unable to write, oral consent in the presence of at least one witness may be given in exceptional cases, as provided for in national legislation;

(e) the subject may without any resulting detriment withdraw from the clinical trial at any time by revoking his informed consent;

(f) provision has been made for insurance or indemnity to cover the liability of the investigator and sponsor.

3. The medical care given to, and medical decisions made on behalf of, subjects shall be the responsibility of an appropriately qualified doctor or, where appropriate, of a qualified dentist.

4. The subject shall be provided with a contact point where he may obtain further
Ethical guidelines for ICT research in FP7

Those undertaking research under the Commission’s Seventh Framework Programme must comply with its ethical guidelines. Any proposal contravening fundamental ethical principles will not be selected. The guidelines note that all research areas within ICT of FP7 may raise ethical issues of varying seriousness. They say that “given the pervasive and ubiquitous nature of ICT and the many opportunities it offers, researchers should consider the sensitive implications of their proposals for privacy and autonomy. However, researchers should recognise that new dangers associated with the process of ICT research can exist. They should carry out a prior assessment of risk and identification of precautionary actions proportional to the potential risk/harm.”

The right to privacy and data protection is a fundamental right and therefore applicable to ICT research. Researchers must be aware that volunteers have the right to remain anonymous. Researchers must comply with Data Protection legislation in the Member State where the research will be carried out regarding ICT research data that relates to volunteers.

Informed consent is required whenever ICT research involves volunteers in interviews, behavioural observation, invasive and non-invasive experimentation, and accessing personal data records. The purpose of informed consent is to empower the individual to make a voluntary informed decision about whether or not to participate in the research based on knowledge of the purpose, procedures and outcomes of the research.

Before consent is sought, information must be given specifying the alternatives, risks, and benefits for those involved in a way they understand. When such information has been given, free and informed consent must be obtained. Depending on the nature of the research, different consent procedures may be used. Special consideration must be given when volunteers have reduced autonomy or are vulnerable.

The majority of European citizens view personal privacy as an important issue. Research, for example, on RFID and ICT for healthcare, is likely to raise privacy issues. Therefore, researchers must ensure that the manner in which research outcomes are reported does not contravene the right to privacy and data protection. Furthermore, researchers must carefully evaluate and report the personal privacy implications of the intended use or potential use of the research outcomes. Wherever possible, they must ensure that research outcomes do not contravene these fundamental rights.

ICT implants and wearable computing
- ICT implants should only be developed if the objective cannot be achieved by less-invasive methods such as wearable computing devices and RFID tags.
- To the extent that an individual, via an ICT implant or wearable computing device, becomes part of an ICT network, the operation of this whole network will need to respect privacy and data protection requirements.
- ICT implants in healthcare are, in general, acceptable when the objective is saving lives, restoring health, or improving the quality of life. They should be treated in the same way as drugs and medical devices.
- ICT implants to enhance human capabilities should only be developed: to bring individuals into the “normal” range for the population, if they so wish and give their

informed consent; or to improve health prospects such as enhancing the immune system. Their use should be based on need, rather than economic resources or social position.

- ICT implants or wearable computing devices must not: allow individuals to be located on a permanent and/or occasional basis, without the individual’s prior knowledge and consent; allow information to be changed remotely without the individual’s prior knowledge and consent; be used to support any kind of discrimination; be used to manipulate mental functions or change personal identity, memory, self-perception, perception of others; be used to enhance capabilities in order to dominate others, or enable remote control over the will of other people.
- ICT implants should not be developed to influence future generations, either biologically or culturally.
- ICT implants should be developed to be removed easily.

eHealth and genetics

Personal health data must be treated as ‘sensitive personal data’. ICT researchers using it have a duty of confidentiality equivalent to the professional duty of medical secrecy. Therefore:

- The use of personal health data in ICT research for the purposes from which society as a whole benefits must be justified in the context of the personal rights.
- The security of ICT in healthcare is an ethical imperative to ensure the respect for human rights and freedoms of the individual, in particular the confidentiality of data and the reliability of ICT systems used in medical care.
- Proposers should be particularly aware when ICT is linked to sensitive medical areas such as the use of genetic material.
- Proposers should access established general medical and genetics ethical guidance when formulating their proposals.

European Group on Ethics and Science in New Technologies (EGE)

The European Group on Ethics in Science and New Technologies is a group of experts appointed by Commission to advise the Commission on ethical questions relating to sciences and new technologies. For the purposes of preparing its opinions, the EGE may invite experts to its work, initiate studies, set up working groups and organise public round tables in order to promote dialogue and improve transparency for each opinion that it produces.

EGE opinions and other documents can be accessed via http://ec.europa.eu/european_group_ethics/avis/index_en.htm and http://ec.europa.eu/european_group_ethics/publications/index_en.htm

Among the documents of particular interest is the following:


Ethics committees of the Member States

A list of the ethics committees of the Member States and other countries can be found here: http://ec.europa.eu/european_group_ethics/link/index_en.htm#4
European Commission

Various Directorates General of the European Commission deal with ethical issues. Two of those most relevant to the SENIOR project are the following:

DG Information Society & Media
H.3: ICT for Inclusion

DG Research
Unit L.3: Governance and ethics

EC workshops on ethical issues and ICT for senior citizens

Since the so-called Riga Declaration in 2006 of European Ministers, as orchestrated by the European Commission, the issue of privacy, ethics, senior citizens and ICT has begun to get some air time.

The European Commission has supported two workshops, specifically addressing ethical issues and ICT for senior citizens. The first workshop was sponsored by DG Information Society and held in Brussels on 29 October 2007\(^\text{50}\) and the second was held under the Slovenian Presidency of the EU, in Bled on 12 May 2008.\(^\text{51}\) Diverse stakeholders participated in both workshops.

Other


The RESPECT project was funded by the European Commission's Information Society Technologies (IST) Programme, to draw up professional and ethical guidelines for the conduct of socio-economic research. The RESPECT guidelines are intended to form the basis of a voluntary code of practice covering the conduct of socio-economic research in Europe. They are based on a synthesis of existing codes, together with current legal requirements in the EU. http://www.respectproject.org/main/ethics.php


\(^{51}\) http://ec.europa.eu/information_society/newsroom/cf/itemdetail.cfm?item_id=4013
4  EC FRAMEWORK PROGRAMME PROJECTS

Various FP5, FP6 and FP7 projects deal with senior citizens, ICT and inclusion. The projects below were reviewed to understand their main orientation and to determine to what extent, if any, they dealt or are dealing with senior citizens, ICT, inclusion, ethics and/or privacy. Most projects are summarised rather briefly. Those focused on issues of direct interest to SENIOR are reviewed at somewhat greater length. In a few cases, some of their deliverables are summarised because of their relevance to SENIOR and because they offer building blocks upon which SENIOR can construct its roadmap.

For more details of these and other projects, see the following:
For FP5 projects dealing with applications relating to persons with special needs including the disabled and elderly:
http://cordis.europa.eu/ist/ka1/special_needs/projects/projects_cluster.htm#isil
For projects of all types in FP5, FP6 and FP7:

4.1  FP5 PROJECTS – INDEPENDENT LIVING

4.1.1  CONFIDENT – INFORMATION ENVIRONMENT FOR INDEPENDENT LIVING

Website: http://212.73.32.174/Fundacion/Confident
Time frame: Jan 2001- Oct 2003
Budget: €2.16 million

Led by the Fundación Vodafone España – Fundación Airtel Movil of Spain, with 12 other partners, the main goal of the project was to develop an information environment to support the independent living of persons with severe disabilities (PSD), to provide them, their assistants and relevant organisations with ubiquitous and adapted access to personal, social and operational assistance services. This information environment was to consist of GPRS/UMTS broadband systems so that PSDs could request assistance and send alerts in case of emergencies, so that assistants could organise their tasks, co-ordinate with professionals, receive emergencies and access information and so that related organisations could manage their resources. Stakeholders would be integrated in an Independent Living Services Operational Network. The products developed by CONFIDENT are designed to contribute to improving the quality of life of PSDs, giving them confidence to be in their own home even when there is no other person physically nearby. Additionally, service providers (including nursing agencies, NGOs and local authorities) would be able to organise better their own services and their workers, thus reducing social cost and loss of productive hours.

CONFIDENT products were to be validated at three different pilot sites in Greece, Northern Ireland and Spain. The need for automatic data collection was to be taken into account during the design and specification phases of the CONFIDENT products.
4.1.2 CONSENSUS – ASSESSING DRIVING ABILITY

Website: http://www.consensus-eu.org
Time frame: Sept 2002 – Aug 2004
Budget: €811,573

Led by the Belgisch Instituut Voor de Verkeersveiligheid VZW – CARA – of Belgium, with 15 other partners, CONSENSUS developed a Network of Excellence for exchanging information on assessing the driving ability of disabled people and promoting relevant technology transfer within EU. It promoted standardisation of driving ability assessment procedures for disabled people to improve their mobility and safety.

4.1.3 D4ALLNET – DESIGN FOR ALL NETWORK OF EXCELLENCE

Website: http://www.d4allnet.gr/
Time frame: Jan 2003 – Dec 2005
Budget: €699,999

Led by the Institute of Computer Science of the Foundation for Research and Technology – Hellas (Greece), with six other partners, D4ALLnet aimed to promote and advance design for all (DfA) practices in the Information Society. D4ALLnet set up a virtual resource centre, called ARIADNE, for consolidating stakeholder information and experience. D4ALLnet established a network of centres of excellence across Europe with links to other thematic networks such as European Design for All e-accessibility Network (EDeAN) under the umbrella of which D4ALLnet activities continue.

4.1.4 DASDA – DISSEMINATION ACTIVITY SUPPORTING DESIGN-FOR-ALL

Website: http://www.design-for-all.info
Budget: €869,887

Led by the Fontys Hogescholen Centre for Care and Welfare (Netherlands), with four other partners, DASDA aimed to increase awareness and knowledge about design for all among the key stakeholders. These they identified as developers, procurers and marketing staff: actors who would play a major role in implementing DfA. DASDA endeavoured to develop multimedia-based products to increase their knowledge and understanding of DfA, available on the Internet and distributed through the information and training channels of these stakeholders. The product content was based on best industry practice and end-user profiles. DASDA also aimed to continually monitor the progress of relevant IST projects so their results could be incorporated into DASDA products. Each product developed aimed to provide more comprehensive information and strengthen the case for DfA.

DASDA’s ultimate aim was to ensure that older or disabled citizens are not excluded from the developments of the Information Society through increased accessibility and usability to innovative products and services.

52 This weblink works, but clicking on it seems to generate some adware.
53 Although this is the weblink given on the EC’s FP5 webpage, it does not appear to be correct.
4.1.5 DOC@HOME – HOME CARE AND REMOTE MONITORING SYSTEM

Website: http://www.docobo.com/
Time frame: Jan 2001 – Oct 2003
Budget: €2,011,202

Led by Curonia Research OU of Estonia, with six other partners, doc@HOME created an integrated telehealth solution for remote management of patients with chronic diseases. Its telehealth scheme enabled the collection and analysis of patient data and interaction between clinicians and patients at home. The project aimed to give the patient a sense of control, to help integrate senior and disabled citizens into society, to reduce the cost of patient care and increase quality of life. The project tested and evaluated knowledge platform prototypes, and carried out demonstration trials.

4.1.6 FORTUNE – FORUM OF USER ORGANISATIONS FOR USABILITY AND NETWORKING

Website: http://www.fortune-net.de
Time frame: ???
Budget: ???

Led by Forschungsinstitut Technologie-Behindertenhilfe (FTB) of Germany, with seven partners, the objective of FORTUNE was to develop a concept for user participation in research and development, based on the concept of true partnership. The project aimed to bridge the gap between end users with disabilities, their organisations and the R&D community. FORTUNE formulated a series of principles for user participation in a project:

- Co-operation is based on the idea of partnership.
- Users are members or representatives of an organisation of end users.
- Users receive payments on the same basis as all other partners.
- All project materials, communications and premises are made accessible to the users.
- Every partner has to provide qualified staff members to the project.
- The project plan contains appropriate work packages and tasks of user participation.
- Users are partners from the very beginning of a project.

These principles are intended to guide the various parties involved in R&D, including funding institutions, user associations, industry and R&D institutions.

The FORTUNE project implemented national contact centres in almost every European country. These institutions and organisations were involved in an inventory of the experience of user participation in R&D and in the dissemination of the FORTUNE results.

4.1.7 I-MATCH – VR INTERFACE TO ASSISTIVE TECHNOLOGY

Website: http://www.i-match.org
Time frame: Nov 2002 – Oct 2005
Budget: €2.41 million

Led by the Centre for Rehabilitation and Engineering Studies (CREST) at the University of Newcastle upon Tyne (UK), with five other partners, the project developed a system for

54 This is the weblink given by the Commission, but it seems not to be correct.
selecting an optimum interface controller for users of assistive technology. The partners established user groups to define required systems and to ensure end products meet their needs. A virtual reality (VR) simulator was used to quantify user abilities for the operation of different interfaces. The project also developed services to manufacturers and a database for use by service providers. The project sought to overcome constraints on the potential of particular technologies that arise because they are difficult for users with impairments to operate. The I-MATCH system was evaluated in four different Member States.

4.1.8  IRIS – INCORPORATING REQUIREMENTS OF PEOPLE WITH SPECIAL NEEDS

Website: http://www.iris-design4all.org
Time frame: Jan 2001 – Oct 2003
Budget: €1.77 million

Led by European Dynamics (Greece), with three partners, the IRIS project addressed the need for accessible Web design through multimodal means of access and to adapt services to user preferences. The project aimed to encapsulate design-for-all tools and methods; user modelling theories and methods including users with special needs; guidelines, recommendations and results from work on hypermedia, enrolment and accessibility. It sought to redesign and enhance teleworking, online learning and e-commerce, guided by user testing and evaluation.

4.1.9  LOCOMOTION – LOCATION-BASED MOBILE PHONES FOR ELDERLY CITIZENS

Website: The LOCOMOTION website does not exist.
Budget: €3.99 million

Led by the Mobility Solutions Unit of Indra Sistemas of Spain, with eight partners, the LOCOMOTION project developed a remote and nomadic location monitoring device for use in the telecare of people with dementia and learning difficulties. Ethical acceptability was a key feature of the project’s work. The project investigated, developed and tested a location service for senior and disabled citizens. The aim of the project was to provide these persons with special needs, as well as their carers, with relevant information according to their geographical position via mobile phones equipped with position determination capabilities. These services were targeted at increasing the mobility of users, their independent living and social inclusion. The project included an ethical assessment.

Among the LOCOMOTION deliverables of interest is the following. From an ethical point of view, it is of particular interest since it provides the ethical context for new technologies where informed consent may not be possible (e.g., because the “user” suffers from dementia).


This report details the ethical framework adopted by the LOCOMOTION project. The framework takes general ethical principles and virtue ethics as a foundation and argues that applying these principles to particular grounded situations helps to

55 More information about the project can, however, be found in a fact sheet available at: http://cordis.europa.eu/fetch?ACTION=D&CALLER=PROJ_IIST&QM_EP_RCN_A=68939
identify and resolve current ethical issues. This situated ethics approach is then linked to the idea of service standards and cost-benefits. The report gives practical examples of issues that the situated ethics approach is likely to analyse in a pilot of telecare services for people with dementia or learning difficulties. The report then places the ethics of telecare in the context of general ethics by reviewing literature and previous empirical studies relevant to technologically assisted dementia care. Referencing detailed guidelines and planning documents, the report outlines a plan for gathering and analysing data relevant to an ethical study in LOCOMOTION’s piloting. The report then explores in more detail scenarios, dilemmas and issues in technologically-assisted dementia care giving rise to ethical questions, concluding that LOCOMOTION establishes a prima facie case favourable to the ethical acceptability of a LOCOMOTION-type service.

4.1.10 MATS – ASSISTIVE TECHNOLOGY SUPPORT PERSONS WITH SPECIAL NEEDS

Website: http://www.bcdi.be/mats/
Time frame: Sept 2001 – Aug 2004
Budget: €2.94 million

Led by the Centre for Rehabilitation Robotics at Staffordshire University in the UK, with eight partners, the main purpose of this project was to produce a prototype version of a house robot to improve the working and living conditions of disabled persons at home. The project aimed at contributing to decentralised ambient intelligence in the home. The main product outcome of MATS was a robotised arm which could be used for different purposes.

4.1.11 MEDICATE – DELIVERY OF PRESCRIBED MEDICATION

Website: http://193.61.149.32/56
Time frame: May 2001 – Oct 2004
Budget: €3.28 million

Led by the Institute of Health Informatics at the University of Ulster (UK), with six other partners, MEDICATE investigated the needs of patients who do not comply with their prescribed medication regime, analysed current methods for dealing with this problem and developed a care model and associated peripherals to assist with compliance. The infrastructure of the care model was based on an Internet-based control server, providing remote monitoring and control of the patient’s regimen. The project endeavoured to develop hardware for home use, to store the medication, dispense it appropriately and provide a reminder to the patient in cases of non-compliance. The device was connected to a dedicated control centre, to which doctors, pharmacists and other registered professionals had access, via a communications network. A clinical evaluation was made to ascertain the potential success in reducing non-compliance.

4.1.12 PACKAGE – ACCESS TO CONSUMER PACKAGES

Website: http://www.packageproject.com/
Budget: €2.31 million

56 This weblink does not work.
Led by the UK’s University of Strathclyde, with five other partners, the consortium undertook a user requirements analysis to quantify the difficulties that senior and disabled citizens encounter with consumer packaging. It worked with an independent packaging consultant to initiate opportunities to introduce low-tech solutions for opening packages, based on the “design-for-all” principle.

4.1.13 SAID – SOCIAL AID INTERACTIVE DEVELOPMENTS

Website: http://www.eptron.es/projects/said/
Time frame: Jan 2001 – June 2003
Budget: €4.28 million

Led by Eptron of Spain, with seven partners, the project developed a social infrastructure to provide more efficient social care for senior citizens and to improve services, access and quality of life, and to reduce costs. Specifically, it developed a set of telematic services for senior citizens to aid the work of social assistants by means of digital TV, intelligent software agents and mobile phone information services. The project envisaged use of a configurable digital TV for delivery of basic care services such as videoconferencing, surveillance, alarms, entertainment, household services, etc. as well as use of personalised digital assistants to provide information, reminders, shopping assistance, etc. The project also envisaged contributions towards standards and demonstrations of its prototypes.

4.1.14 SENIORWATCH – EUROPEAN SENIOR WATCH OBSERVATORY AND INVENTORY

Website: http://www.seniorwatch.de
Budget: €1.5 million

Led by Empirica (Germany), with four other partners, SeniorWatch carried out a market study of the specific IST needs of older and disabled people to guide industry, RTD and policy. It sought to better understand and monitor the market dynamics of IST applications targeted at senior citizens (including older disabled persons). It provided a source of empirical information on market potential. The project gathered information from surveys, country reports and industry-led technology analyses. The deliverables included an analytical framework, the SeniorWatch Web site and policy recommendations.

The SeniorWatch project produced several reports of interest to SENIOR, among which is the following:


The report indicates the IST needs and preferences of senior citizens based on SeniorWatch surveys. It describes how technology was assessed in the project. It presents an assessment model, which integrates both the demand-side and supply-side. The report examines trends in technology as well as societal metatrends in order to foresee what the future Information Society will hold for European senior citizens. The report also presents two scenarios to give insight into possible technological developments.
The reader should refer to the SeniorWatch website for additional reports, case studies and country reports.

4.1.15 SILC – SUPPORTING INDEPENDENTLY LIVING CITIZENS

Website: http://www.is.tuwien.ac.at/fortec/silcweb/silc_en/SILC.html
Time frame: Jan 2001– Dec 2003
Budget: €2.81 million

Led by the Institute of Industrial Electronics and Material Science of the FORTEC Research Group for Rehabilitation Technology (Austria), with 10 partners, the SILC project developed an intelligent alarm system to increase the safety and independence of senior and disabled citizens. The wrist-worn electronic alarm was equipped with a range of biometric sensors which could be programmed individually, triggered automatically whenever a critical situation is detected and alerts sent via wireless communications. The project designed a user-friendly, intuitive interface based on an analysis user needs.

User involvement took place across all phases of the project. The partners also undertook an analysis of any ethical impacts in conjunction with user groups. SILC aimed at a design where handling, procedures and function were as transparent to the user as possible. The SILC website cites a warning by Thomas Hodel and Ambros Lüthi: “If we do not take care, electronically-supported communication can lead to emotional isolation. The direct social contacts can get lost. The image of an isolated, socially damaged person sitting behind his computer screen and communicating over the whole world is widespread. In order to avoid social isolation because of wonderful new technologies and to establish a team concept, we have to consider some ethical values like community, excellence, individual and integrity.”

SILC discussed this issue extensively with its user panel to ensure an appropriate balance between IT-assisted personal safety and social integration.

SILC produced a deliverable which is of interest to SENIOR:

http://www.is.tuwien.ac.at/fortec/silcweb/publication/D4_3.pdf

Although it is rather short (12 pages), this deliverable has some useful data, in particular, regarding the transposition of the Data Protection Directive (EC/95/46) and the differences between the Member States in how they implemented the legislation. The report says that the differences should not be overlooked and that the level of protection guaranteed to citizens is not uniform across the Member States, a situation that can give rise to “difficulties to the free flow of information and can generate additional burdens for economic operators and citizens, such as the need to register or to be authorised to process data by supervisory authorities in several Member States, the need to comply with different standards and the possibility to be restricted from transferring data in other Member States of the EU.”

It wisely notes that ethical aspects cannot be reduced to legal considerations only. It refers to the European Group of Ethic (EGE) as having the objective of providing an ethical analysis of science and new technologies. “While taking account of the
principles of pluralism and respect of national identities required under the Treaty on European Union, the EGE, nonetheless, identified a number of ‘fundamental ethical rights’ common to European culture. From a strict point of view, the concept of ‘fundamental ethical rights’ is unusual. Ethics is not the law. It is true that the law has to comply with ethical values, but ethics itself does not lay down any rules. It is more an approach intended to reconcile conflicting values in individual cases, the core aim being to preserve human freedom and dignity. The concept of ‘fundamental ethical’ principles, which combines ethics and law, expresses the idea that, in spite of powers having remained mainly at national level in matters of ethics, the free European market is not sufficient to satisfy the requirements of European society."

The report goes on to note that the EGE has laid down the following ethical principles:

- Human dignity, which is the highest principle of European ethics;
- Individual freedom, from which arises the respect for privacy and the requirement of the individual consent before any medical or scientific intervention;
- The principle of justice and benefice, especially from the point of view of the improvement and protection of health and safety;
- The principle of solidarity, which includes the right of all to equal access to health care and the protection of the most vulnerable;
- Freedom of research, as an expression of freedom of thought;
- The principle of proportionality, which presupposes a reasonable relationship between the means and the end.

In each of its opinions, says the report, the EGE has attempted to resolve the conflicts which appear between these different values by identifying a balanced solution. SILC codified the principles into practical rules of behaviour to which its partners were expected to adhere, as follows:

1. Personal health data must not be used for commercial purposes.
2. Consent\(^{57}\) to use personal health data has to be expressed and informed. Expressed means unequivocally and written consent. Informed means consent based on clear and detailed information indicating how collected data will be used. In the case of using personal health data in the network, information will be provided about possible different implementation of privacy protection in national legislation.
3. These data should be used strictly within the activities mentioned in the previous information.
4. The user is entitled to have access to his/her personal health data and may always completely or partially revoke its diffusion.
5. Other persons (such as insurance companies and employers) are not authorised to use these personal health data without the proper authorisation.
6. There needs to be measures during transmission, handling and storage of data to prevent unauthorised access by third parties.
7. The user should always have the right and possibility to decide about the momentary collection of data (i.e., wearing/deactivation of the device, privacy) and the follow-up of a result of processing personal data (i.e. alarm trigger, intervention by third parties) unless his/her safety is jeopardised or there is a formal authorisation to override the user's decision (e.g., users tending to mental confusion).

\(^{57}\) These “practical rules of behaviour” have been slightly modified here to eliminate certain anomalies, e.g., in the deliverable, “consensus” is used where, presumably, “consent” was intended.
8. Proper documentation of events related to data collection and distribution, alarm handling and resulting actions taken by the service provider is required.

9. The main purpose of the use of SILC always must remain to improve the user’s quality of life. In no way should the user be reduced to only a part of the service system to which he/she has to comply.

10. The use of SILC must not lead to social isolation of the user by replacing social contacts (with friends, relatives or carers) by impersonal technical supervision.

Each SILC data collector was required to sign these principles. In addition, they were required to use encryption technology where appropriate and closed networks to transfer personal health data.

It said national “specialities” would require deeper investigation for possible “snares” in local legislation and applicability of special medical and ethical regulations. One of the partners was tasked with carrying out a periodical evaluation of the project activities and results.

4.1.16 TELECARE – MULTI-AGENT TELE-SUPERVISION SYSTEM FOR ELDERLY CARE

Website: http://www.uninova.pt/~telecare/
Time frame: May 2001 – April 2004
Budget: €2.86 million

TeleCARE developed a configurable framework and technologies for tele-supervision and tele-assistance of senior citizens, based on integration of a multi-agent and a federated information management approach, including both stationary and mobile intelligent agents, combined with ubiquitous computing services and intelligent home appliances.

The project aimed for an alternative to the traditional approach to care provided by relatives and senior citizen care centres. The partners viewed the latter approach as increasingly inappropriate for the following reasons:

- Shifting the burden of responsibility onto relatives is increasingly impractical, given the fact that more family members have to work to secure steady incomes.
- Care centres are costly and invariably necessitate the relocation of senior citizens, often beyond their home communities. By so doing, senior citizens lose a degree of autonomy and control over their daily lives.
- Many senior citizens preserve enough robustness to be in their homes, a situation, which they often prefer and, as such, is better for their welfare.

Thus, the project sought to leverage ICT and, in particular, stationary and mobile intelligent agents and virtual organisations to improve the quality of life, and care, of senior citizens and their families. The platform developed by the project supported the establishment of “Virtual Elderly Assistance Communities”. The project considered issues such as safety, possible loss of sense faculties, privacy and integrity of information held on each senior citizen.

The project developed an infrastructure, including services, to support an independent lifestyle and improve the quality of life for senior citizens and their families. The project identified the requirements of both the elderly user and care professional. It assessed the socio-economic, ethical and organisational impacts of the technology. It took into account the user’s privacy, security of user data and communications. It tested its solutions through
demonstration scenarios. It also developed exploitation and dissemination strategies to bring project results to the market.

Among the findings of the project were the following:

- Supervision of senior citizens in their homes using appropriate appliances and agent technologies is not elderly care. Although methods of remote supervision may prove useful in the right circumstances, elderly care can only be provided by care professionals who develop a close personal relationship with the people in their care. Elderly care requires human contact.
- The TeleCARE approach is quite intrusive in that it compromises the senior citizen’s privacy.
- Senior citizens, as a group, are very technology averse. They feel alienated and, to some extent, frightened by advances in network technologies. They do not feel so inclined to retrain, if this proves necessary.
- The services offered through TeleCARE, in particular those services giving rise to virtual communities of elderly and their relatives, should be seen as a complement to, rather than a replacement for, community groups.
- Since there could be a perceived threat to the elderly person’s privacy, particularly with regard to the Lifestyle Monitoring service, the senior citizen should retain the right to choose the service options available through TeleCARE as well as the use to which such services are put.
- Many senior citizens remarked that, with the ubiquitous deployment of CCTV technology throughout our communities, privacy is already compromised. The crucial ethical question is the nature of the intent to which the technology is put. If the senior citizen’s desire for a better quality of life in a safer environment is supported, and if the senior citizen retains some control over the use of the technology, then privacy is not such a critical issue.  

4.2 FP6 PROJECTS – INCLUSION

4.2.1 AAL – AMBIENT ASSISTED LIVING: PREPARATION OF AN ART. 169 INITIATIVE

Website: http://www.aal-europe.eu.
Budget: €925,085.

Led by VDI/VDE Innovation + Technik GmbH of Germany, AAL, with seven other partners, this Specific Support Action prepared an Article 169 initiative addressing the needs of the ageing population, reducing market barriers and lowering social security costs. AAL aimed to extend the time senior citizens can live in their homes by increasing their autonomy and assisting them in daily activities by means of intelligent products and the provision of remote services including care services.

The project’s work contributed to a positive co-decision of the Council and European Parliament, under Article 169 of the European treaty, which allowed the EC to participate in

http://www.uninova.pt/~telecare/publications.htm
the AAL programme. 59

The legal body of the AAL Joint Programme is the AAL Association, founded by 14 European nations on 19 Sept 2007. The AAL joint programme aims to:

- Foster the development of innovative ICT-based products, services and systems for ageing well at home, in the community and at work;
- Create a critical mass of research, development and innovation in technologies and services for ageing well in the Information Society;
- Improve conditions for industrial exploitation of R&D by providing a European framework for developing common approaches compatible with varying social preferences and national regulatory regimes.

The Commission Staff Working Document describes the proposed Article 169 initiative as “an innovative approach to linking research programmes of several Member States and creating a critical mass with the support of EU funding”. It is expected to mobilise at least €600 million of public and private funding over a six-year period. Ambient Assisted Living will provide equipment and services for the independent living of elderly people. It will use ICT within homes which will increase senior citizens’ quality of life and autonomy and reduce the need to be institutionalised. ICT will help them to carry out daily activities, monitor their health and activity, enhance their safety and security, get access to social, medical and emergency systems, and facilitate social contacts, context-based infotainment and entertainment.

4.2.2 ALADIN – AMBIENT LIGHTING FOR THE AGING

Website: http://www.ambient-lighting.eu/
Budget: €2.6 million.

Lead by Fachhochschule Vorarlberg GmbH (Austria), with six other partners, the project aims to extend knowledge about the impact of lighting on the well-being and health of senior citizens and to develop cost-effective hardware and software applications, easily integrated with other ICTs, to help them live at home autonomously for a longer time and contribute to their quality of life.

4.2.3 ASK-IT – PROMOTING MOBILITY FOR THE IMPAIRED

Website: http://www.ask-it.org/
Budget: €14.88 million.

Led by Siemens SA of Spain, with 49 partners, the ASK-IT Integrated Project is developing working personalised route guidance services for elderly persons and people with impaired mobility. These services will provide relevant and real-time information, primarily for travelling, but also for use at home and at work. The services are being demonstrated in eight major European cities, using a platform developed under a previous research project IM@GINE IT. ASK-IT will assist an elderly traveller to find the right bus stop at an airport

The proposal for the co-decision can be found at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52007PC0329:EN:NOT
and then tell them when to get off to find a hotel or restaurant with accessible facilities. While visiting a town, the user will be able to use their mobile phone to request information about local facilities, including whether or not they are accessible to him or her. The profile stored on the mobile device could include parameters such as the turning radius of their electric wheelchair, for instance, so that restaurants meeting these specific needs are selected. The content and tools are integrated within an ambient intelligent framework and a self-configurable user interface offering service personalisation according to a user’s profile, habits, preferences and context of use. The project promotes a “design-for-all” approach.60

Among the many ASK-IT deliverables are two dealing with ethical, privacy and legal issues:


_This was a template on ethical and legal issues to be completed by all partners who conduct trials. The template is divided two parts: The first part is a questionnaire on ethical and legal issues and the documents for informed consent. The questionnaire on ethical and legal issues had to be filled in by the investigator who was conducting experiments. It was a sort of checklist in which the researcher was reminded to take into account relevant ethical aspects before conducting any experiment. The questionnaire was divided into different subsections dealing with informed consent, ethical control instruments, privacy, safety and risk assessment. Informed consent is a process through which the participant is given information about the research. In seeking informed consent according to the American Psychological Association61, the following information is to be provided to each subject:

1 The purpose of the research, expected duration and procedures;
2 Explanations on confidentiality of the data and the protection of privacy;
3 The possible risks, discomfort, adverse effects and side-effects (if any);
4 A description of any benefits to the subject or to others which may reasonably be expected from the research;
5 Their right to decline to participate and to withdraw from the research once participation has begun and the foreseeable consequences of declining or withdrawing.
6 Whom to contact for questions about the research and research participants’ rights._

Researchers sent the completed questionnaires to an ethics advisory board which then scrutinised the results.


_This ethics manual defines the ethics code of conduct of research within ASK-IT and was conceptualised to offer guidelines for all ASK-IT research. Key ethical and legal issues are identified. The manual says no personal data will be centrally stored. All personal data will only be locally stored in the device of the user. Furthermore, it specifies which data are essential for the project and which should be excluded from_

60 See the IST project fact sheet for ASK-IT at http://cordis.europa.eu/fetch?ACTION=D&CALLER=PROJ_IST&QM_EP_RCN_A=72134
After an introduction, in which the ASK-IT project is described (Chapter 1), detailed information about informed consent, such as basic elements of and guidelines for compiling informed consent, is provided (Chapter 2). This is based upon informed consent templates which clarified the privacy protection policies of the project. Also the issue of conducting experiments with people who have learning or cognition (i.e., memory, concentration, or divided attention) difficulties is provided. Detailed guidelines on how to document the informed consent process regarding the different groups are listed. Chapter 3 defines the project’s data management strategy, including which data will be stored by the ASK-IT system and which data will be kept by the trial participants, as well as how they will be managed. Privacy issues are also dealt within it. Chapter 4 is about the IT security of ASK-IT. Chapter 5 is about the ASK-IT identity management, concerning the issue of how confidentiality of personal data can be maintained and guaranteed, based upon different methods of anonymisation. It also includes reference to the most relevant EC projects in this area. Chapter 6 is on applied privacy issues, discussing relevant concepts and EC Directives.

Chapter 7 on risk assessment lists categories of risk and concludes that it is important to take into account the prospective participants’ views. The end point of this process is the informed consent given by the prospective participant. Chapter 8 examines delegation of control. Chapter 9 picks out deception and debriefing as key themes. Chapter 10 describes organisation and insurance issues. Chapter 11 analyses the ASK-IT Ethics Policy and Chapter 12 discusses ethical issues insurance during the project and the methodology followed to gather information on ethical issues. Chapter 13 refers to the ASK-IT Advisory Board and its members. How the ASK-IT ethical policy is applied to its sites is the subject of Chapter 14. Conclusions follow in Chapter 15.

The Ethics Advisory Board comprised three renowned experts in the field, chaired by an experienced ethics coach, and was assisted by further external experts, when needed. The Ethics Advisory Board assumed responsibility for implementing and managing the ethical and legal issues of all procedures in the project and ensured that each of the partners provided the necessary participation in ASK-IT and its code of conduct towards the participants.

4.2.4 CAALYX – MONITORING THE ELDERLY TO DETECT AN EMERGENCY

Website: http://caalyx.eu
Budget: €2.7 million.

Led by Telefónica Investigación y Desarrollo SA Unipersonal of Spain, with seven other partners, CAALYX aims to develop a wearable light device able to measure specific vital signs of the elderly or ill person, to detect falls and to communicate autonomously in real time with his or her caregiver, wherever they are, and/or the 112 Emergency Service. The transmitted information will provide the geographic position and health information of the senior citizen. The incorporation of largely non-intrusive new sensors for fall detection and highly sensitive positioning will address many seniors’ concerns about adopting technology. The monitoring device for the caretaker can be a mobile phone or a more complex system so that an integrated care-taking service can be created to look after groups of senior citizens. In the latter case, the monitoring system will include other devices such as cameras. The system will be tested to obtain feedback from real users.


**4.2.5 COGKNOW – HELPING PEOPLE WITH MILD DEMENTIA NAVIGATE THEIR DAY**

Website: http://www.cogknow.eu/
Time frame: Sept 2006 – Aug 2009
Budget: €2.66 million

Led by Telefónica I+D, with 10 other partners, this project addresses the needs of those with mild dementia, who account for about 2 per cent of the elderly population, and helps them to remember, maintain social contact, perform daily activities and enhance their feelings of safety. The few studies where people with dementia describe their needs indicate the most frequently identified unmet needs relate to information (on treatment, care and support, appointments), memory problems, and communication and psychological distress. COGKNOW aims to

- promote accessibility in consumer goods and services, including public services, through applied research and development of advanced technologies,
- develop next generation assistive systems that empower persons with cognitive disabilities.

COGKNOW is developing a location service with detailed information that can be sent to the carers who decide if the patient is in danger. COGKNOW also provides a reminder service to help these people. COGKNOW’s main innovation is use of a personal digital assistant (PDA) that Alzheimer’s sufferers can carry all the time to help them in their daily life.

**4.2.6 CWST – WORKSHOPS TO SUPPORT E-INCLUSION**

Website: http://cwst.icchp.org/
Time frame: July 2004 – June 2009

Led by the University of Linz Institut “Integriert Studieren” of Austria, with three other partners, this Specific Support Action organises conferences, workshops, seminars, tutorials and meetings to support the objectives of e-inclusion and specifically e-accessibility and “Design for All” in FP6.
4.2.7 DFA@EINCLUSION – DESIGN FOR ALL FOR E-INCLUSION

Website: http://www.dfaei.org/
Budget: EUR 1.91 million.

Led by Consiglio Nazionale delle Ricerche (National Research Council) of Italy, with 22 partners, this co-ordination action aims to promote inclusion by advancing design-for-all (DfA) practices, to evaluate the European Design for All e-accessibility Network (EDeAN) environment, to support networking and co-operation within the DfA community, to ensure that technological developments take into account the needs and requirements of all citizens, including people with disabilities and elderly people. The CA builds upon past and ongoing initiatives, such as EDeAN and some FP 5 projects such as D4ALLnet and IDCnet.

Among the DfA@eInclusion deliverables of interest to SENIOR is the following:


The deliverable discusses the possible impact of ongoing technological developments in ICT on the inclusion of people with activity limitations.

4.2.8 DIADEM – ADAPTABLE BROWSER FOR THE DISABLED AND ELDERLY

Website: http://www.project-diadem.eu/
Time frame: Sept 2006 – Aug 2009
Budget: €3.2 million

Led by Brunel University (UK), with six other partners, the project aims to provide an adaptable web browser interface to help people who suffer a reduction in cognitive skills to remain active and independent both at work and at home. The project is developing an “expert system”, which monitors the user, adapting and personalising the computer interface, whilst providing privacy and security.

4.2.9 EABILITIES – CO-ORDINATION AMONG CENTRES FOR ACCESSIBILITY

Website: http://www.eabilities-eu.org/
Timeframe: Sept 2006 – Aug 2008
Budget: €980,486.

Led by the Universidad Politécnica de Madrid, with 10 other partners, eABILITIES aims to develop a framework for research, education and technology transfer in the field of ICT accessibility in the home, vehicle and work environments. eABILITIES is mapping current and possible future technological developments in ICT accessibility, and identifying needs, breakthroughs and bottlenecks. Its stakeholders include industry, academic and government institutions and research centres. eABILITIES aims to become a platform where organisations involved in e-accessibility collaborate to:

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63 EDeAN = European Design for All e-accessibility Network. See section 4.1.
• benchmark commercial products and research activities;
• propose recommendations and best practices, and contribute to standards;
• share research resources (personnel, equipment, facilities and expertise) and support the mobility of researchers and consultants;
• establish fora and workshops where knowledge and experience are exchanged among end-users and professionals.

One of the eABILITIES deliverables has some sections dealing with privacy and ethical issues in involving users in research activities. It says two ethical issues that should be considered when involving end users in research activities are protection of their personal data and ensuring their informed consent for participation.

It refers to the EU Directive on clinical trials (2001/20/EC) which says a person gives informed consent to take part in a trial only if his decision:

• is given freely after that person is informed of the nature, significance, implications and risks of the trial and either:
• is evidenced in writing, dated and signed, or otherwise marked, by that person so as to indicate his consent, or
• if the person is unable to sign or to mark a document so as to indicate his consent, is given orally in the presence of at least one witness and recorded in writing.

The Directive says the following conditions apply to the giving of informed consent by a capable adult:

• The subject (end user) has had an interview with the investigator, or another member of the investigating team, in which he has been given the opportunity to understand the objectives, risks and inconveniences of the trial (research activity) and the conditions under which it is to be conducted.
• The subject has been informed of his right to withdraw from the trial at any time.
• The subject has given his informed consent to taking part in the trial.
• The subject may, without being subject to any resulting detriment, withdraw from the trial at any time.
• The subject has been provided with a contact point where he may obtain further information about the trial.

Thus, says the eABILITIES report, all researchers involved in the area of assistive technology should seek the informed consent of the test user, only under circumstances that provide the prospective participant sufficient opportunity to consider whether or not to participate and that minimise the possibility of coercion or undue influence. Also, the information that is to be given to the end user participating in the research or his representative will be in a language understandable to him.

The application form that potential end users should complete in order to participate in any research should contain all of the information that a person could reasonably need to know in order to decide whether or not to participate in a research project.

65 See section 3.3 above.
Among the eABILITIES deliverables of particular interest is:


This deliverable deals with end user involvement in research and development activities. It says that, sadly, the end user is often reduced to the status of an informant rather than a partner who is treated in the same way and with the same amount of respect as a professional researcher. Involvement does not simply mean participation, it means empowerment. Rather than simply answering questions in a questionnaire, the end user could be designing the questionnaire or interviewing other end users. The deliverable identifies several opportunities for end users to be actively involved, and says that end users can make valuable contributions to projects. The deliverable deals with aspects arising from end user involvement, presents guidelines and gives some examples of best practice.

4.2.10 EASY LINE+ – LOW COST ADVANCED WHITE GOODS FOR ELDERLY PEOPLE

Website: http://www.arenque-ks.com/easynet/
Time frame: Jan 2007 – June 2009
Budget: €2.1 million

Led by BSH Electrodomesticos España S.A., with six other partners, the EASY LINE+ project is developing prototypes of advanced white goods in order to support senior citizens with physical and/or cognitive disabilities. The project is using integrated RFID, neuronal networks and human-machine interface technologies to build a system that can capture data from the home environment, and can control any white good in the home via wireless communication (ZigBee) or the mains electricity. Senior citizens may actuate any white good in the home or let an “e-servant” do it. The e-servant is a system that controls white goods, based on sensor information and user habits and can program any application with or without user co-operation. It is also a learning system that compensates for any detected loss in user abilities.

4.2.11 EINCLUSION@EU – EMPIRICAL KNOWLEDGE BASE ON E-INCLUSION

Website: http://www.einclusion-eu.org
Budget: €1.7 million

Led by Empirica of Germany, with eight other partners, eInclusion@EU aimed to establish a comprehensive empirical knowledge base to support all aspects of the policy-making process in relation to three core topics, namely:

- e-accessibility issues emerging from the e-Europe 2005 action plan and roadmap, the inclusive electronic communication legal framework, public procurement and other relevant policy frameworks,
- e-inclusion in relation to work and employment with particular focus on aspects relating to demographic development and
- e-inclusion in relation to online services (such as e-government, e-learning and e-health).
Tangible outputs included policy roadmaps for each of these themes, “best practice” examples of policy and research on the e-accessibility and e-inclusion topics, and recommendations for policy strategies and implementation. In its final report, Empirica noted that responsibility for e-inclusion and e-accessibility issues in Europe is split across policy fields ranging from telecommunications to social services and between central EU bodies, Member States and regions according to principles of subsidiarity, which presents a challenge in itself in implementing policy co-ordination.

This final report is of interest to SENIOR, especially for its long fourth chapter (which accounts for 72 pages of the 110-page report), which is entitled “Key outcomes of the eInclusion stakeholder dialogue”.

See also the eInclusion@EU newsletters:

4.2.12 ELDERGAMES – DEVELOPMENT OF IST-BASED GAMES FOR ELDERLY PEOPLE

Website: http://www.eldergames.eu
Time frame: Sept 2006 – Feb 2009
Budget: €1.79 million

Led by the Asociación de Investigación de la Industria del Juguete, Conexas y Afines of Spain, with nine partners, the project is creating an interactive play board (ElderGames) to explore how ICTs can be combined with play activities to create a therapeutic tool for improving cognitive skills and quality of life (affective, physiological and social) in old age. It will allow an early detection of cognitive disease or social unease. The ElderGames interactive board will integrate a communication system for overcoming linguistic barriers, allowing online games between users from different European countries. The project will build a network that mediates the researcher’s interests with commercial projects, involving academia, industry, experts specialising in elderly care and users.

4.2.13 EMERGE – EMERGENCY MONITORING AND PREVENTION

Website: http://www.emerge-project.eu/
Budget: €4.01 million

Led by Fraunhofer IESE of Germany, with eight other partners, EMERGE is monitoring senior citizens to prevent or detect emergencies. The project aims to detect deviations from typical behaviour patterns and acute disorders in their health in case of strokes, falls or similar emergencies. The project will use ambient and unobtrusive sensors to monitor activity, location and vital data. Daily routine is tracked in order to detect abnormalities and to create early indicators of potential emergencies. In case an emergency cannot be handled by the senior citizen or friends or caregivers, an integrated emergency medical service (EMS) is called and informed about the case. The EMS will provide counselling, activate social services or send a rescue team as necessary.
4.2.14 ENABLE – A WEARABLE SYSTEM SUPPORTING SERVICES FOR THE ELDERLY

Website: http://www.enable-project.eu/
Time frame: Jan 2007 – Dec 2009
Budget: €2.8 million.

Led by the Vienna University of Technology – IS, with eight other partners, the project is developing a personal system, with services for senior citizens in or out of the home, to mitigate the effects of any disability and to increase autonomy, mobility, communications, care and safety. The system will use a mobile phone and wrist unit as an open platform by means of which third parties could add other services by plugging into defined interfaces. The project will address problems of everyday living such as using the phone, raising an alarm to get help, monitoring for health conditions, taking medicines, ensuring appliances are turned on and off, etc.

4.2.15 EPIST – ENHANCED PARTICIPATION IN EHEALTH AND EINCLUSION

Website: http://www.epist.org/
Budget: €471,650

Led by European Business Associates SRL, with nine other partners, EPIST created a portal for stakeholders in e-health and e-inclusion. It offered guidance, technical assistance, a help desk and other online services free of charge to experts and public and private organisations.

4.2.16 ESANGATHAN – COLLABORATIVE WORKING ENVIRONMENT FOR THE AGEING

Website: http://www.esangathan.eu/
Budget: €914,801

Led by Distance Expert with six other partners, the project aims to contribute to the definition and development of a renewed European social model for the ageing workforce, to ensure that the ageing workforce remains part of the active population. The project will identify research in ICT to cope with the needs of the ageing workforce, ICT-enable expert retirees and foster joint research projects between Europe and India.

4.2.17 EU4ALL – LIFELONG LEARNING

Website: http://www.eu4all-project.eu/
Time frame: Oct 2006 – Sept 2010
Budget: €10.5 million.

Led by ATOS Origin SAE of Spain, with 10 other partners, the EU4ALL project is focused on accessible lifelong learning (ALL). Its interest is in technology that accommodates the diverse ways people, including disabled learners, interact with technology, content and services. The project is developing an open service architecture – a standards-based framework – that supports a wide range of e-learning systems. Its key stakeholders include end-users (adult learners with disabilities, teachers and tutors) and providers of e-learning
Environmental Scanning Report

4.2.18 EUAIN – EUROPEAN ACCESSIBLE INFORMATION NETWORK

Website: http://www.euain.org/
Time frame: Nov 2004 – Apr 2007
Budget: €977,824.

Led by Stichting FNB (Netherlands), with nine other partners, EUAIN aimed to create a European Accessible Information Network of stakeholders in the content creation and publishing industries to provide accessible information for print-impaired people.

4.2.19 HAH – HEARING AT HOME

Website: http://www.hearing-at-home.eu/
Time frame: Dec 2006 – May 2009
Budget: €2.03 million.

Led by Offis E.V. of Germany with five other partners, the HaH project is researching and developing next generation assistive devices for the hearing-impaired, notably for senior citizens, in home environments. HaH will develop hearing support applications and integrate next generation assistive technologies into a Home Information and Communication (HIC) platform, connected to radio and TV antennas, a LAN network and TV screen, implemented on either a personal computer, an “embedded” PC or a set-top box (STB).

4.2.20 I2HOME – NETWORKING APPLIANCES

Time frame: Sept 2006 – Aug 2009
Budget: €4.9 million.

Led by the German Research Center for Artificial Intelligence (DFKI), with eight other partners, I2HOME aims to make devices and appliances at home more accessible to persons with mild cognitive disabilities and senior citizens. To this end, i2home is implementing a standards-based technology – the universal remote console (URC) standard – for interacting with a large number of mainstream devices and services. The project’s partners believe the URC approach is more appropriate for the digital home than other approaches because it allows for substitutable (pluggable) user interfaces that are tailored to the needs of the individuals. The project gives weight to accessibility and intuitiveness. The project will evaluate its intermediate results in laboratory environments as well as in day-care centres.

On ethical issues, the project participants say they introduced the purpose of the study individually to each participant and the participant could take part on the study on a voluntary basis. Each participant also signed a consent form. Each participant could withdraw his/her consent without any consequences to him/her. All data stored after the interview or usability test were made anonymous. All interviews and tests were first approved by the local ethical commission, which also supervised the interviews and tests.
4.2.21 ICT FOR ALL – MEASURING INTERACTION WITH ICT

Website: http://www.ictforall.info/description.html
Budget: €344,499

Led by ASM Market Research and Analysis Centre (Poland), with four other partners, ICT for ALL is focused on indicators of the use of ICT by immigrants (including internal migration), the disabled, unemployed and older citizens. It aims to establish a framework for measuring their interaction with ICT and, in particular, broadband Internet, 3G, digital TV and ambient intelligence. The framework will comprise indicators describing their use of ICT compared to the rest of society. The project aims to get support from national and EU experts and give recommendations on how the exclusion of these groups can gradually be removed.

Among the ICT for ALL deliverables of interest to the SENIOR project is the following:


This deliverable reviews the indicators used in 30 projects for measuring ICT’s impact on society. It includes:

- A concise definition of terms in the context of ICT FOR ALL,
- A methodology for review of projects that have developed such indicators,
- The review of the projects,
- A summary and conclusions.

Overall, the authors identified and analysed 545 such indicators, some of which overlap.


The aim of this deliverable is to evaluate survey instruments such as questionnaires and sampling strategies that can be used to develop indicators of e-inclusion. The document proposes a methodology which, if consequently applied in consecutive surveys, would provide information comparable over time and across EU Member States. The document covers all steps of the process of indicator development for e-inclusion.

4.2.22 INHOME – INTELLIGENT SERVICES FOR ASSISTED LIVING AT HOME

Website: http://www.ist-inhome.eu/
Budget: €4.2 million

Led by Alcatel SEL AG (Germany), with eight other partners, INHOME is developing generic technologies and services to help senior citizens manage their domestic ambient environment, including white goods, entertainment equipment and home automation systems. It expects to define a single terminal (INHOME terminal) for the management of all appliances and home automation systems. It intends to conduct application trials with
prospective users, to define appliance design guidelines and to disseminate standardisation information to relevant bodies. It will build on the ESTIA project, which is also developing technologies for personalised management of audiovisual content and white goods functions.

4.2.23 MAPPED – MOBILITY AND LOCATION-BASED SERVICES FOR THE DISABLED

Website: http://www.bmtproject.net/mapped
Budget: €2.9 million

Led by British Maritime Technology Limited, with four other partners, the MAPPED project aimed to provide disabled users with the ability to plan excursions from any point, at any time, using public transport, their own vehicle, walking or using a wheelchair. It developed a multi-modal route planner that provided disability-specific routing information and reservation of accessibility services, with disabled-friendly mobile user interfaces. The MAPPED system was based on a Web browser running on PDAs or smart phones, with audio output to facilitate the visually-impaired, and voice-command recognition for ease of use. Other assistive technologies were added. The project aimed to develop a system with the potential to become a European standard and planned demonstrations at four separate sites in Ireland and the UK.

The MAPPED website has a prominently displayed webpage on ethical issues, and is interesting (and unusual among all projects reviewed) in stating up front that it “certifies” that it complies with various pieces of legislation. The MAPPED webpage offers a good model not only for other e-inclusion projects, but also for any website. Here are the items on that webpage:

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**Ethical Issues**

**National legislation**

We certify that we conform to the current legislation and regulations in the countries where the research will be carried out.

**EC legislation**

We certify that we conform to EU legislation such as:

- The Charter of Fundamental Rights of the EU
- Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data

We also certify that the proposed research has no clinical, medicinal, biotechnological or genetic content.

**International Conventions and Declarations**

We certify that we conform to the following international conventions and declarations:

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66 http://services.txt.it/MAPPED/ethical_issues.html
• Helsinki Declaration in its latest version  
• UN Convention on the Rights of the Child  
• Universal Declaration on the human genome and human rights adopted by UNESCO

We certify that we take into account the opinions of the European Group of Advisers on the Ethical Implications of Biotechnology (1991-1997) and the opinions of the European Group on Ethics in Science and New Technologies (as from 1998).

We also certify this research will not conduct experiments on animals.

**Personal data**

The Commission conducted an ethical review of the MAPPED proposal in relation to the use of personal data.

**Data collected**

MAPPED will require the collection of some personal data from volunteers who test the system. This data will include:

- accessibility needs
- journeys taken
- feedback on the system.

Only data that are essential to the project will be included.

**Purpose**

The data will be collected to determine if MAPPED works how we expect it to work and to ascertain the reactions and suggestions for improvement of the volunteers.

**Consent**

Each volunteer will be asked to sign a consent form outlining the use for which data will be collected, how the data will be collected, instructions to obtain a copy of the data relating to them, and a description of the mechanism to correct any erroneous data and details of who will have access to this data (only end user representatives).

This consent form will also specify that their data will be used to provide a statistical analysis of MAPPED which will be distributed to the consortium and the Commission and may be made public. The presentation of the analysis will ensure that none of the volunteers can be identified from the results.

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Storage

Personal data will be stored only at the user sites in accordance with their data protection policies. We expect that this information will be both electronic and paper-based (e.g., completed questionnaires). The data will be stored where the public do not have access. Analysed data will disseminated to rest of the consortium and the Commission and may be made public. Individual data will only be required for the duration of the project. Two months after the end of the project, the information will be destroyed and/or deleted. Statistical information, however, will be kept.

Registration

The end users will ensure the registration of the data they are collecting with the relevant data protection authority in their country.

4.2.24 MONAMI – MAINSTREAMING ON AMBIENT INTELLIGENCE

Website: http://www.monami.info/
Time frame: Sept 2006 – Aug 2010
Budget: €13.7 million

Led by the Swedish Institute of Assistive Technology, with 13 other partners, the MonAMI project is developing services for elderly and disabled people delivered on mainstream platforms such as digital television, mobile telephones and broadband Internet. The aim is to enhance security, facilitate communication and raise quality of life and well-being. The MonAMI project will demonstrate comfort applications, communication/information, health, safety and security services to users and other stakeholders. It will identify usability requirements, select an evaluation methodology and address the economic viability and long term sustainability of such services. The project has a vision scenario (“Mrs European – an example of the potential results of the MonAMI project”) on its website which shows how its system would work.68

4.2.25 MPOWER – EMPOWERING THE COGNITIVELY DISABLED AND ELDERLY

Website: http://www.mpower-project.eu/
Time frame: Oct 2006 – March 2009
Budget: €3.9 million

Led by SINTEF of Norway, with seven other partners, MPOWER will define and implement an open platform to simplify and speed up the task of developing and deploying services for persons with cognitive disabilities and elderly. The platform will integrate SMART HOUSE and sensor technology, enable interoperability between institutional systems (e.g., hospital information system), and provide secure and safe management of social and medical information. It will demonstrate its feasibility through the deployment of two end-user applications. The project will promote standardisation through aligning its work with ongoing development of HL769, security and interoperability standards, and promote the MPOWER platform internationally.

68 http://www.monami.info/
69 See section 9.3 for more on HL7.
4.2.26 NETCARITY – NETWORKED MULTISENSOR SYSTEM FOR ELDERLY PEOPLE

Website: http://www.netcarity.org
Budget: €12.9 million

Led by the Italian National Research Council, with 14 other partners, Netcarity fosters the development of a “light” technological infrastructure, to be integrated in senior citizens’ homes, that provides basic support of everyday activities as well as detection of health emergencies, and social and psychological engagement. The project aims to advance ambient intelligence technologies in a networked wireless and wired multi-sensing environment with plug and play capabilities and intelligent decision-making for an effective detection of critical situations and support of task completion. The project is concentrating on efforts in developing low-cost solutions that could reach the market rapidly and facilitate easy adaptation in existing homes. The project is addressing the social and psychological factors of the “ageing-in-place” issue by the development of advanced multimodal interfaces that strengthen the communication channel between seniors and their friends and caregivers, thus reducing isolation and the feeling of being alone, and stimulating them in carrying out everyday activities to maintain high levels of motivation and a correct perception of their own abilities.

4.2.27 OLDES – OLDER PEOPLE'S E-SERVICES AT HOME

Website: http://www.oldes.eu/
Time frame: Jan 2007 – Dec 2009
Budget: €3.6 million

Led by Ente per le Nuove Tecnologie, l'Energia e l'Ambiente (ENEA) (Italy), with 10 other partners, the OLDES project is developing a low-cost, easy-to-use entertainment and health care platform designed to ease the life of senior citizens in their homes. OLDES is providing user entertainment services, through easy-to-access thematic channels, special interest forums supported by animators, and health care based on established Internet and tele-care communication standards. The system includes wireless ambient and medical sensors linked via a contact centre to social services and health care providers. OLDES is defining, implementing and evaluating a knowledge management (KM) program, an advanced user profiling system to enhance the communication between all stakeholders in its system. The system will be tested at two different locations, in Italy, with a group of 100 senior citizens (including 10 suffering with cardio disease), and the Czech Republic with a group of diabetic patients. OLDES uses modelling and animation tools to create scenarios designed to elicit responses from older people, their carers and service providers.

4.2.28 PERSONA – PERCEPTIVE SPACES PROMOTING INDEPENDENT AGING

Website: http://www.aal-persona.org/
Time frame: Jan 2007 – June 2010
Budget: €11.7 million

Led by Vodafone Omnitel N.V. (Italy), with 20 other partners, the PERSONA integrated project aims to harmonise ambient assisted living (AAL) technologies and concepts for the
development of sustainable, affordable solutions for the social inclusion and independent living of senior citizens. It is developing a scalable, open standard, technology platform for a broad range of AAL services, to demonstrate and test its concepts in real life implementations, assessing their social impact and establishing a business strategy for deployment of the proposed technologies and services. The project plans trials at three sites in Spain, Italy and Denmark.

Among other points of interest, PERSONA is noteworthy because it has devoted a deliverable to ethical guidelines.


This report puts forward PERSONA’s ethics code of conduct for its research. It identifies key ethical principles and guidelines and includes a checklist which it is applying to the project. It describes a procedure to handle any ethical issue that may arise during the course of the project. The project has an ethical advisory group.

4.2.29 SENSATION-AAL – SENSING AND MOBILITY IN AMBIENT ASSISTED LIVING

Website: http://www.sensaction-aal.eu/
Time frame: Jan 2007 – June 2009
Budget: €3 million

Led by the University of Bologna (Italy), with seven other partners, the SENSATION-AAL project aims to assist older people in maintaining independent mobility and daily life activities and prevent injuries by introducing smart body-fixed sensor-based technology that allows medical professionals to initiate interventions in the home environment. The SENSATION-AAL project is designing, testing and releasing a next-generation, smart, wireless on-body system which enables monitoring of activities of daily living and real-time active control of physical performance using sensory augmentation and biofeedback.

SENSATION-AAL has established synergies with other projects and networks, including SOPRANO, which is developing context-aware, smart services for older people, OLDES, which is developing an entertainment and health care platform, and NETCARY, which is investigating how technologies can be integrated cost effectively into people’s homes, making them feel more comfortable about remaining in this familiar environment.

4.2.30 SHARE-IT – ENHANCING COGNITIVE AND MOTOR ABILITIES USING IT

Website: http://www.ist-shareit.eu/shareit
Time frame: Jan 2007 – Dec 2009
Budget: €4.9 million.

Led by the Universitat Politècnica de Catalunya, with seven other partners, SHARE-IT is developing add-ons to sensor and assistive technology for senior citizens or people with disabilities so that they can be as independent as possible in their homes. The technology will inform and assist the user and his or her caregivers through monitoring and mobility help.
4.2.31 SOPRANO – SMART ENVIRONMENTS FOR OLDER EUROPEANS

Website: http://www.soprano-ip.org/
Time frame: Jan 2007 – April 2010
Budget: €11.7 million

SOPRANO stands for “Service-oriented Programmable Smart Environments for Older Europeans”. Led by EXODUS (Greece), with 23 partners from seven European countries, the integrated project is developing affordable, smart ICT-based assisted living services for senior citizens. It is integrating assistive technologies (products designed to compensate for motor, sensory and cognitive difficulties frequently experienced by senior citizens), smart home technology (networking of ICT with appliances and control devices), and telecare services. The SOPRANO architecture will gather and interpret information about a user’s situation. Following agreed rules, external professionals will respond to and interact with users by voice and video. To ensure services meet real needs, developers will work with potential users throughout the project, which includes large-scale field trials.

Among the SOPRANO deliverables of interest to SENIOR are the following:


One of the SOPRANO deliverables addresses, among other things, privacy and ethical issues. With regard to ethical principles, SOPRANO says it will be conducted in accordance with the ethical codes of conduct outlined on the Europa website and in regulations and frameworks for research governance in the various participating countries. Key principles include:

- **Participants** will need to give informed consent, not just in relation to the aims of the study, but also concerning the process of the research. They agree to take part in the research based on an understanding of the research aims, interview process, who the research involves, where it takes place and what happens with the results.
- **All participants** will be protected from harm in the sense that they will not be exposed to any risks other than those they might meet in normal everyday life.
- **Interviewers** will ensure that participants are left in a positive frame of mind as far as possible.
- **Participants can withdraw** from the research process at any time including the withdrawal of their data after the conclusion of the interview and right up until publication.
- **If requested by the participant**, a short report will be made available so they can read about the results of the project.
- **Participants will be treated with respect at all times and their anonymity will be protected.**
- **Pseudonyms or codes** will be used to replace any data that could identify the individual.


SOPRANO aims to design an ICT-based system which assists older people to cope...
with everyday life in greater comfort, safety and independence and to play a full role in society. Such a system will only be possible if technologies and solutions from diverse areas are extended and combined. In spite of its complexity, such a system is increasingly needed as examination of the market reveals. This deliverable therefore examines and analyses the current state-of-the-art of important technologies that will be used in SOPRANO. It also presents the market for such products.

4.2.32 SWAMI – SAFEGUARDS IN A WORLD OF AMBIENT INTELLIGENCE

Website: no longer operational
Budget: €483,909

Led by Fraunhofer ISI (Germany), with four other partners, the project examined privacy, trust, security, identity and inclusion threats and vulnerabilities posed by ambient intelligence (AmI). It developed four “dark scenarios”, including one involving senior citizens on a bus tour in Italy who have the misfortune to be involved in an accident resulting in one death and numerous injuries, as a result of someone hacking into a traffic management system. This and three other dark scenarios are analysed for AmI threats and vulnerabilities. The SWAMI consortium proposed numerous safeguards. The key results of the project can be found in Wright, D., S. Gutwirth et al, Safeguards in a World of Ambient Intelligence, Springer, Dordrecht, 2008.

4.2.33 TRANSFORM – FOSTERING TRANSFORMATIVE USE OF ICT IN EU REGIONS

Website: http://www.transform-eu.org/
Time frame: Jan 2006 – June 2008
Budget: €850,000

Led by Empirica (Germany), with four other partners, the project delivers tested methods for benchmarking “transformative” use of ICT in European regions. TRANSFORM seeks to:
• draw up a conceptual framework to better understand the transformational use of ICT and its relation to regional development;
• review available evidence from the research and practitioner literature;
• take stock of available indicators and measurement approaches for exploring IT-related, transformative change in regions;
• carry out in-depth primary research in 12 case study regions across Europe;
• construct and test a set of indicators on ICT-related transformative change at regional level;
• develop concrete suggestions how the evidence collected should feed into regional policy-making;
• and provide recommendations how the issues addressed can feasibly be taken up by the European Statistical System and other providers of region-level comparative data.

4.2.34 USEM – USER EMPOWERMENT IN STANDARDISATION

Website: http://www.usem-net.eu/
Time frame: Jan 2007 – June 2009
Budget: €425,221
Led by VILANS (Netherlands), with eight other partners, USEM aims to increase qualification and participation of disabled and senior citizens and their respective organisations in the European IST standardisation process. It relies mainly on the FORTUNE concept. FORTUNE was a European project entitled “Empowered Participation of Users with Disabilities in Projects”. User information networking will improve European exchange of experiences and encourage the adoption of new IST standards.

4.2.35 VITAL – VITAL ASSISTANCE FOR THE ELDERLY

Website: http://www.eptron.es/projects/vital/
Time frame: Jan 2007 – Dec 2009
Budget: €4.11 million

Led by Eptron SA of Spain, with six other partners, the VITAL project is combining advanced ICT with familiar devices such as the TV in order to deliver services to senior citizens in the home. It is also using standard mobile phones for some applications. The new services will offer information, inter-personal communication, personal advice, edu-tainment and safety. The project aims to empower senior citizens in taking care of themselves, with assistance as necessary.

4.2.36 WAI-AGE – WEB ACCESSIBILITY INITIATIVE: AGEING EDUCATION

Website: http://www.w3.org/WAI/WAI-AGE/
Time frame: Apr 2007 – March 2010
Budget: €1.27 million euro

The project is being undertaken by European Research Consortium for Informatics and Mathematics (ERCIM), the European host for the World Wide Web Consortium (W3C). The Web Accessibility Initiative (WAI), one of the four main domains of W3C, develops guidelines and resources to promote accessibility for people with disabilities. The WAI-AGE project aims to better understand the needs of senior citizens in the context of existing Web accessibility guidelines, which have been developed for people with disabilities; to work with senior citizens to obtain more direct contribution into W3C/WAI work; to revise existing and develop new educational materials to better reflect the needs of senior citizens; and to promote adoption and implementation of a common set of guidelines.

Among the WAI-AGE papers of interest to SENIOR are the following:


4.3 FP7 PROJECTS – ICT AND AGEING

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70 See section 4.1.7 above.
In 2007, the EC launched the first call under the Competitiveness and Innovation Programme (CIP), under which 22 projects are being funded in the areas of e-government, e-inclusion and e-health. The following are some of those most relevant to SENIOR.

4.3.1 AALIANCE – EUROPEAN AMBIENT ASSISTED LIVING INNOVATION ALLIANCE

Website: http://www.aaliance.eu/public/
Time frame: Jan 2008 – Dec 2009
Budget: €1.65 million

Led by VDI/VDE Innovation + Technik GmbH of Germany, with the 13 other consortium members, and 17 associated partners, the project focuses on advanced ICT technologies for ageing at work, ageing at home and ageing in the society. It aims to:

- provide a framework for stakeholders, led by industry, to define research and development priorities, timeframes and action plans on strategically important issues in the field of ambient assisted living (AAL);
- play a key role in ensuring an adequate focus of research funding for AAL, in fostering effective public-private partnerships and in developing a European research policy, in particular in focusing on FP7 and on current activities launched by EU Member States (such as the AAL Joint Programme);
- set up a sustainable network, starting with 14 partners and eventually about 35, involving companies as technology providers and systems integrators, service providers, research organisations and user associations;
- co-ordinate the various activities of European industry and research institutions in the field of ambient assisted living, preparing and maintaining an R&D roadmap and strategic research agenda (SRA) for AAL with a mid to long-term perspective;
- define standardisation requirements providing recommendations for a European RTD policy on ambient assisted living, and supporting European and national entities to increase political awareness and intensify activities for the enhancement of new AAL technologies.

From these activities, the project expects to strengthen the AAL value chain in Europe, to reinforce the position of providers of AAL solutions in Europe and address one of the most promising markets of industrialised countries.

4.3.2 CAPSIL – COMMON AWARENESS AND KNOWLEDGE PLATFORM

Website: http://www.capsil.org/
Timeframe: Jan 2008 – Dec 2009
Budget: €786,618

Led by University College Dublin, National University of Ireland, with seven other partners, this support action aims to develop international support for a common awareness and knowledge platform for studying and enabling independent living. It aims to launch initiatives, co-ordinated and disseminated by a series of workshops in the US, EU, and Japan (two per year for two years), with two fundamental goals:

- to develop a detailed CAPSIL roadmap for EU research to achieve effective and sustainable solutions to independent living based on an in-depth analysis of clinical requirements and the ICT scenarios developed or under development in the EU, as well as the US and Japan (societies where the aging of the population are currently on par or
exceeding the challenges that will be found within the EU).

- to support aging research by proposing procedures to incorporate all of these diverse solutions into wiki entries (CAPSIL Wiki) which describe interoperable ICT solutions to clinical requirements for independent living that can then be deployed throughout the EU, US and Japan for verification and testing.

### 4.3.3 COMPANIONABLE – COGNITIVE ASSISTIVE AND DOMOTIC COMPANION

Website: http://companionable.net/news.aspx  
Timeframe: Jan 2008 – Dec 2011  
Budget: €11 million  

Led by the University of Reading with 18 partners, the project is developing integrated cognitive, assistive and domotic companion robotic systems for ability and security. The project addresses issues of social inclusion and homecare of persons suffering from chronic cognitive disabilities prevalent among the elderly. The project will evaluate and test the system in field trials.

### 4.3.4 CONFIDENCE – UBIQUITOUS CARE SYSTEM TO SUPPORT INDEPENDENT LIVING

Website: http://www.confidence-eu.org/  
Timeframe: Feb 2008 – Feb 2011  
Budget: €4.66 million  

Led by Centro de Estudios e Investagaciones Tecnicas de Guipuzcoa of Spain with nine partners, CONFIDENCE is developing and integrating technologies for the detection of abnormal events (such as falls) or unexpected behaviour, both outdoors and indoors. The user will wear a few tags, the positions of which are determined using radio technology. The tags’ co-ordinates will be used to reconstruct the user’s posture. This information, together with some environment information, will be analysed to decide whether to trigger an alarm. The project aims to develop a working prototype. The end-user will be involved in the RTD activities by co-defining the specifications, monitoring and testing the project. Psychological, ethical and legal surveillance activities will be carried out throughout the project.

### 4.3.5 EPAL – EXTENDING PROFESSIONAL ACTIVE LIFE

Website: http://www.uninova.pt/~epal/  
Timeframe: Feb 2008 – Jan 2010  
Budget: €1.12 million  

Led by Uninova, Instituto de Desenvolvimento de Novas Tecnologias, of Portugal, with four partners, ePAL is developing a strategic research roadmap focused on inducing new ways towards a balanced active life for retiring and retired professionals while promoting a new notion of the silver economy with a wide societal impact. It is exploring ways to facilitate active ageing and to ensure an improved transition for senior citizens as they cope with the onset of age. ePAL is identifying and characterising key research challenges, required constituency and the implementation model for a comprehensive approach to support the increasing numbers of professional retirees in Europe.
4.3.6 HERMES – COGNITIVE CARE AND GUIDANCE FOR ACTIVE AGING

Website: http://www.fp7-hermes.eu/
Timeframe: Jan 2008 – Dec 2010
Budget: €4.19 million

Led by the Center for Usability Research and Engineering (CURE) of Austria, with five other partners, HERMES is aimed at people experiencing mild to mid severe memory problems. The outcome of the project will provide users with a system helping and assisting in the following three core domains:

• Prospective memory – remembering to remember or remember to perform an intended action
• Retrospective memory – remembering the past
• Cognitive training – exercises to train the brain and not to forget important things.

The HERMES system is built around a mobile phone and a computer that work together automatically and both can record what is being said in a room. The home computer additionally has two cameras with which it can be see who is speaking and who is in the room. The home-computer enables the user to

• use voice to interact with the system
• browse his or her past
• extract meaningful content from conversations at home, for example, appointment-dates that then are automatically stored in the mobile device
• automated detection of daily routines and based on these reminding the user to perform these routines
• perform cognitive trainings at home and on the go.

Among the HERMES deliverables of interest is the following:


This deliverable addresses the privacy implications of recording and processing conversations and key moments in the life of the user. The authors say that it is necessary to safeguard the senior citizens’ privacy, especially in user evaluations. It is also important to take into account the privacy of other persons involved in the conversations and interactions with the senior citizens (e.g., doctor, friends, relatives). The deliverable addresses privacy management. It refers to the Spanish, Greek, Austrian and Israeli legislation and then addresses data protection issues including informed consent, data storage and handling processes, encoding and anonymisation of data, security measures for storage and handling data and enforcing security.

4.3.7 OASIS – OPEN ARCHITECTURE FOR ACCESSIBLE SERVICES STANDARDISATION

Website: Not available as of July 2008
Timeframe: Jan 2008 – Dec 2011
Budget: €12.41 million

Led by FIMI S.R.L. of Italy, with 32 other partners, OASIS will enable interoperability,
seamless connectivity and sharing of content between different services and ontologies in application domains relevant to applications for senior citizens. The OASIS platform is open, modular, holistic, easy to use and standards abiding. It includes a set of novel tools for content and services, for user interfaces and for service personalisation. Various services are connected with the OASIS platform. Applications support all types of mobile devices and environments (living labs, sheltered homes, private homes, two-car demonstrators, public transport, etc.) in four pilot sites. As user friendliness and acceptability is a top priority, the project follows a user-centred-design approach, involving hundreds of end users, their caregivers and other stakeholders. The OASIS platform and applications will be optimised and submitted for standardisation by the OASIS worldwide industrial forum.

4.3.8 SMILING – SELF MOBILITY IMPROVEMENT IN THE ELDERLY

http://www.smilingproject.eu/index.html
Timeframe: Jan 2008 – June 2010
Budget: €2.87 million

Led by INRCA (Istituto Nazionale di Riposo e Cura per Anziani) of Italy, with 10 other partners, the SMILING project addresses the problem that every third person aged over 65 years is at the risk of falling or has had an experience of falling. The most effective way to counteract falls is to improve movement capabilities. The SMILING solution, a wearable non-invasive computer-controlled system, will not develop any assistive technology to cope with ageing related mobility limitations but will offer new training procedures and advanced technologies to deliver them.

4.3.9 VM – TV AND MIND FITNESS ACTIVITIES FOR THE ELDERLY

Website: http://www.vitalmind-project.eu/
Timeframe: Jan 2008 – June 2010
Budget: €3.89 million

Led by Cognifit Ltd of Israel, with six other partners, the VM (Vital Mind) project will use cognitive psychology and interactive ICT to enable older adults to actively and autonomously participate in mind fitness activities while sitting in front of their TV. The research question of whether cognitive training will prove more beneficial if trained in de-contextualised, contextualised settings or in both settings will be verified using randomised, double-blind methodology. This home-based tool would be inexpensive and easy to use for healthy or handicapped individuals.

4.4 SIX OTHER RELEVANT PROJECTS

This environmental scanning report has focused mainly on FP5, FP6 and FP7 projects. Nevertheless, this section of the report provides a brief description of six other selected projects of interest.

4.4.1 EDeAN – EUROPEAN DESIGN FOR ALL E-ACCESSIBILITY NETWORK

The EU and Member States created the EDeAN network in July 2002 through the High Level
Group for the Employment and Social Dimension of the Information Society (ESDIS). Its focus is on e-accessibility, design for all (DfA) and e-inclusion. It collaborates with various relevant national, regional, European and international networks, organisations and projects. The ultimate goal of the network is to support all citizens’ access to the Information Society.

Through the network one can find partners from other parts of Europe, initiate discussions or contribute to development of DfA curricula, standards and guidelines. EDeAN also fosters awareness, promotes changes of culture and provides online resources on DfA.

Although it does not get financial aid from the EC directly, the network’s activities have been supported by a number of EC-funded projects, notably the DfA@eInclusion project.

The EDeAN network comprises 160 organisations in EU Member States. It is composed of NCCs (National Contact Centres), members and observers. Members are organised in national networks, and observers are organised in mailing lists. NCCs form the EDeAN Steering Committee and have one vote each for operational matters. The EC, via the Directorate General for the Information Society (DG INFSO), participates as an observer in the network and supports its work.

There is one NCC per Member State, which co-ordinates the national work. NCCs are nominated at the national level by the competent authorities and selected through representatives of ESDIS (or its replacement).

In addition to the European network, each Member State has its own national network which forms part of the EDeAN network. Member organisations include universities, research and development centres, consumer organisations, designers, web developers and media.

EDeAN operates six Special Interest Groups (SIGs), the members of which share common interest in topics of relevance to design for all, universal access and e-accessibility. The six are devoted to:
- Policy and legislation
- Standardisation
- Best practice in DfA training
- Benchmarking
- Technological development
- All members.

The network is co-ordinated by the EDeAN Secretariat, which rotates annually. In 2008, the Secretariat is based in Spain, at the National Centre for Personal Autonomy and Technical Aids (CEAPAT), the national contact centre for the Spanish Design for All network.

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See also http://www.edean.org/

72 The “Design for All for eInclusion” Co-ordination Action runs from Jan 2007 to Dec 2009. It is the main supporting project of EDeAN. It aims to contribute towards the advancement of e-inclusion in Europe through fostering design for all. All EDeAN national contact centres (NCCs) are members of the DfA@eInclusion consortium.
4.4.2 **STUDY ON ICT ENABLED INDEPENDENT LIVING FOR ELDERLY**

Website: http://www.ict-ile.eu/
Timeframe: May 2007 – April 2008
Costs: €289,250

VDI/VDE Innovation + Technik GmbH, Germany, contracted with the European Commission’s DG Information Society and Media, for a study on best practices in Europe on ICT-enabled independent living for senior citizens. It developed an online database of relevant stakeholders at the national level, including user organisations, service providers, care organisations, social professionals, insurance companies, industry, research and governmental actors. It provided a description of national strategies regarding governmental and private schemes of social and medical care and research funding programmes to support the relevant industry. It compiled a database of relevant ICT-based RTD projects and products already on the market in EU Member States in the field of independent living for the elderly. It also provided an overview of the relevant legal framework at the national level and analysed market barriers for a wider take-up of products and solutions.

4.4.3 **COST 219TER – TOWARDS AN INCLUSIVE FUTURE**

Website: http://www.cost.esf.org/index.php?id=110&action_number=219ter
http://www.tiresias.org/cost219ter/

COST is the acronym for European Co-operation in the field of Scientific and Technical Research. COST is an intergovernmental mechanism, now with 35 member countries, for co-ordinating national research activities and supporting co-operation among scientists and researchers across Europe. COST Actions are interdisciplinary networks of nationally funded research teams, supporting networking activities such as meetings, conferences, scientific exchanges and outreach activities. An Action is based on a Memorandum of Understanding (MoU) accepted by the governments of at least five COST member countries. An Action generally lasts four years.

The main objective of the COST 219ter Action is to increase the accessibility of next generation telecommunication network services and equipment by senior citizens and people with disabilities.73 Specifically, the project aims to

- extend the existing COST 219 database and knowledge required for designers on consumers and their requirements, to cater to many more disabled and elderly people in mainstream design,
- exchange information on inclusion and accessibility issues with developers, researchers and representatives of the telecommunications industries and service providers.

Representatives from 19 countries have been collaborating on the COST 219ter Action. The project has several working groups engaged in monitoring technology trends, collating information and identifying gaps in technology development. They are developing good practice accessibility guidelines for new telecom products and services and providing input to standardisation bodies and policy-makers. They are also networking test laboratories to improve methods of testing the accessibility of new telecom devices and services.

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73 See http://cordis.europa.eu/cost/ and/or http://www.cost.esf.org
A principal outcome of the COST 219ter Action was publication of the following report:


Viviane Reding, the Commissioner for Information Society and Media, comments in the Foreword to this book that “About 15% of Europeans report difficulties performing daily life activities due to some form of disability. With the demographic change towards an ageing population, this figure will significantly increase in the coming years...As a result, people with disabilities are one of the largest groups at risk of exclusion within the Information Society in Europe.

“It is estimated that only 10% of persons over 65 years of age use the Internet compared with 65% of people aged between 16-24. This restricts their possibilities of buying cheaper products, booking trips online or having access to relevant information, including social and health services. Furthermore, accessibility barriers in products and devices prevents older people and people with disabilities from fully enjoying digital TV, using mobile phones and accessing remote services having a direct impact in the quality of their daily lives... COST 219 activities have been pioneers in preventing eAccessibility problems by promoting a Design for All approach for telecommunication products and services. This book addresses the accessibility of next generation ICT networks and services running on them.”

The book says it should be possible for persons to control and make choices concerning the functioning of ambient intelligence, e.g., concerning their own profiles or the system's operation. This is an implication of the moral principle of autonomy.

The book regards privacy as “the interest that individuals have in sustaining a 'personal space’, free from interference by other people and organisations”. It is an interest that has several dimensions:

- privacy of the person. This is concerned with the integrity of the individual's body.
- privacy of personal behaviour. This relates to all aspects of behaviour, but especially to sensitive matters, such as sexual preferences and habits, political activities and religious practices, both in private and in public places
- privacy of personal communications. Individuals claim an interest in being able to communicate among themselves, using various media, without routine monitoring of their communications by other persons or organisations
- privacy of personal data. Individuals claim that data about themselves should not be automatically available to other individuals and organisations, and, even where data is possessed by another party, the individual must be able to exercise a substantial degree of control over that data and its use.

On moral requirements, the book says user involvement is important for the development of good products but it also has value in itself. It builds up trust in the production process. Products should correspond to the needs of users. Users themselves are the best experts in that. But in complicated technologies user involvement is not an easy task. There are methods for user involvement, but perhaps even more effort should be put into the development and dissemination of these
methodologies. Producers should thus listen to consumers. In addition to this co-operation, consumers have some other opportunities. They can make their choice in the market.

4.4.4 MEAC – MEASURING PROGRESS OF EACCESSIBILITY IN EUROPE

Website: http://ec.europa.eu/information_society/activities/einclusion/library/studies/meac_study/index_en.htm
Time frame: 2006 – 2008

This study project was undertaken for the European Commission’s Directorate General Information Society and Media by Empirica Communication and Technology Research (Bonn) and the Work Research Centre (Dublin) in co-operation with the Royal National Institute for Deaf People (London), the Royal National Institute for Blind People (London) and eWORX S.A (Athens). Among other things, the study has been assessing the degree of compliance with the Web Content Accessibility Guidelines of the World Wide Web consortium. The group’s principal deliverables so far have been the following (both of which can be downloaded from the website referenced above):


The study highlighted the need for improving access to information and communication technologies by people with disabilities. The study was launched as a follow-up to the European Commission’s Communication on eAccessibility of 2005. The MeAC study provided the results of an extensive benchmarking exercise and analysis on the status and progress of e-accessibility in Europe.


This report presents an inventory of information on policies of relevance for e-accessibility. It covers 28 countries (the 25 EU Member States at the end of 2006, plus Australia, Canada and the US). The information is organised according to 11 policy themes:

• Public websites
• Other websites
• Telecommunications services and equipment
• Analogue TV
• Digital TV
• Copyright and services for the print-disabled
• Assistive technology
• Public procurement
• Equality and anti-discrimination
• (Other) disability policy
• Other

The report says it is the first such to present the panorama of policies relating to e-accessibility in Europe and important third countries.

According to the Commission, on the website cited above, overall, the MeAC study project
showed that there has been only limited progress towards e-accessibility in Europe, and further EU-level measures need to be considered to stimulate progress in this area. Three key findings underpin this conclusion:

- The e-accessibility “deficit”. People with disabilities in Europe continue to be confronted with many barriers to usage of everyday ICT products and services that are now essential elements of social and economic life.
- The e-accessibility “gap”. From a comparative perspective, the e-accessibility situation for people with disabilities across Europe as a whole, in terms of both e-accessibility status and e-accessibility policy, compares unfavourably with Australia, Canada and the US.
- The e-accessibility “patchwork”. The situation across Europe for both e-accessibility status and policy is a patchwork, with many important gaps, uneven attention across the spectrum of e-accessibility themes, and wide disparities across the Member States.

### 4.4.5 SEN@ER – SILVER ECONOMY NETWORK OF EUROPEAN REGIONS

Website: www.silvereconomy-europe.org  
Time frame: Feb 2005 – ongoing

The Silver Economy Network of European Regions (SEN@ER), initiated by the region of North Rhine-Westphalia (Germany), comprises 11 European regions. SEN@ER regards the ageing of our society not as a threat but rather as a challenge and an opportunity for regional economic growth and for improving Europe's competitiveness. SEN@ER objectives are:

- **Raising awareness**: Develop policy memoranda and communications for policy-makers at regional, national and EU level.
- **Exchanging experience**: Organise thematic Special Interest Groups (SIGs) and hold workshops on specific issues, such as ageing well.
- **Conferences**: Organise annual European conferences and good-practice competitions.
- **EU lobbying**: Meet with representatives from the European Commission and the European Parliament.
- **Empowerment of regions**: Present and explain relevant EU funding programmes and support development of project proposals.

Among its SIGs, the network has one devoted to ageing well, the objectives of which are to establish contact with others, exchange information, agree on joint activities, develop ideas for new products and services, and decide which ideas could be further developed into proposals for submission to EC funding programmes.

SEN@ER produces an online newsletter and convenes annual conferences.

### 4.4.6 EMPIRICA STUDY – ICT & AGEING: USERS, MARKETS AND TECHNOLOGIES

Time frame: Jan 2008 – Dec 2009

Led by Empirica GmbH, of Germany in collaboration with the Work Research Centre (Ireland) and fortec, Vienna University of Technology (Austria), the main aim of this study for DG Information Society and Media is to identify the market barriers which currently hinder uptake of ICT for independent living in Europe. On the basis of the analysis, recommendations for action are to be developed in order to tackle these barriers and to foster market development. The results of the study will also guide the way towards further research needs in this area.
Specific objectives of the study are to:

- Provide comprehensive information and understanding on ICT and ageing markets and existing barriers;
- Help to identify and explore existing market barriers at national and European level;
- Provide recommendations to all relevant stakeholders in order to help overcome existing barriers;
- Analyse the main ethical issues related to ICT and ageing markets;
- Provide assistance in clustering and co-ordination between EU-funded RTD projects related to ICT and Ageing.

Three main domains or application categories are to be the focus of the work:

- Independent living: Ageing well at home;
- Employment: Active ageing at work;
- Social participation: Ageing well in the community.

4.5 CLUSTERING PROJECTS BY KEY WORDS

The 67 projects reviewed for this chapter can be grouped in different ways. The following is by key word, partly as an aide-memoire for the patient and indulgent reader and partly to recognise that several projects cover if not exactly the same ground then at least adjacent territory. This would suggest that Europe has built and is building up a body of expertise dealing with these issues and that there is added value to be extracted in maximising synergy, co-operation and collaboration between and among the various players. It goes without saying that the partners in these various projects form an important constituency in building SENIOR’s dialogue roadmap.

In the following table, some projects appear more than once because they are engaged in more than one activity (or theme, if you will). Some projects only appear once and the author offers his apologies upfront here if the partners in those latter projects believe they could be listed under more than one activity area.

<table>
<thead>
<tr>
<th>FP</th>
<th>Keyword / Project</th>
<th>Themes</th>
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<tbody>
<tr>
<td></td>
<td><strong>Roadmaps</strong></td>
<td></td>
</tr>
<tr>
<td>FP7</td>
<td>CAPSIL</td>
<td>Roadmap for EU research to achieve effective and sustainable solutions to independent living</td>
</tr>
<tr>
<td>FP7</td>
<td>EPAL</td>
<td>Developing a strategic research roadmap focused on extending professional active life</td>
</tr>
<tr>
<td>FP6</td>
<td>eABILITIES</td>
<td>Mapping current and possible future technological developments in ICT accessibility, and identifying needs, breakthroughs and bottlenecks</td>
</tr>
<tr>
<td>FP6</td>
<td>eInclusion@EU</td>
<td>Produced e-inclusion policy roadmaps</td>
</tr>
<tr>
<td></td>
<td><strong>Networks</strong></td>
<td></td>
</tr>
<tr>
<td>FP7</td>
<td>AALIANCE</td>
<td>European ambient assisted living innovation alliance</td>
</tr>
<tr>
<td>FP6</td>
<td>AAL</td>
<td>Preparation of Art 169 initiative</td>
</tr>
<tr>
<td>FP6</td>
<td>eABILITIES</td>
<td>Developing a collaborative platform for organisations involved in e-accessibility. Stakeholders include industry, academic and</td>
</tr>
<tr>
<td><strong>FP6</strong></td>
<td>EUAIN</td>
<td>Network in the content creation and publishing industries to provide accessible information for print-impaired people</td>
</tr>
<tr>
<td><strong>FP5</strong></td>
<td>CONSENSUS</td>
<td>Network of Excellence, to systematically exchange information on driving ability assessment of disabled people</td>
</tr>
<tr>
<td><strong>FP5</strong></td>
<td>D4ALLNet</td>
<td>Design for All Network of Excellence</td>
</tr>
<tr>
<td><strong>FP5</strong></td>
<td>EDeAN</td>
<td>European Design for All e-Accessibility Network</td>
</tr>
<tr>
<td><strong>FP5</strong></td>
<td>FORTUNE</td>
<td>Forum of user organisations for usability and networking</td>
</tr>
<tr>
<td><strong>Regions</strong></td>
<td>SEN@ER</td>
<td>Silver Economy Network of European Regions</td>
</tr>
</tbody>
</table>

**Databases**

| **EC tender** | **Study on ICT-enabled independent living for elderly** | Online database of relevant stakeholders |
| **EC tender** | MeAC | Inventory of information on policies of relevance for e-accessibility in 28 countries |
| **FP6** | eInclusion@EU | Developed an empirical knowledge base on e-accessibility and e-inclusion issues to support policy-making |

**Monitoring senior citizens**

| **FP7** | CONFIDENCE | Integrating technologies for detection of abnormal events (such as falls) or unexpected behaviour, both outdoors and indoors. The user will wear a few tags, the positions of which are determined using radio technology |
| **FP6** | CAALYX | Monitoring the elderly to detect an emergency |
| **FP6** | ElderGames | Creating an interactive-play board to explore how ICTs can be combined with play activities to create a therapeutic tool for improving cognitive skills and quality of life (affective, physiological and social) in old age. It will allow an early detection of cognitive disease or social unease |
| **FP6** | EMERGE | Emergency monitoring and prevention |
| **FP6** | ENABLE | A wearable system supporting services for the elderly |
| **FP6** | Netcarity | Supporting everyday activities as well as detection of health emergencies, and social and psychological engagement |
| **FP6** | OLDES | Developing a low-cost, easy-to-use entertainment and health care platform, including wireless ambient and medical sensors linked to social services and health care providers |
| **FP6** | SENSATION-AAL | SENsing and mobility in Ambient Assisted Living |
| **FP5** | DOC@HOME | Home care and remote monitoring system |
| **FP5** | LOCOMOTION | Developed a remote and nomadic location monitoring device |
| **FP5** | SILC | Developed a wrist-worn electronic alarm equipped with a range of biometric sensors |

**Portal**

| **FP6** | EPIST | A portal offering e-health and e-inclusion guidance, technical assistance, help desk and other online services free of charge |

**Lifelong learning**
<table>
<thead>
<tr>
<th>FP6</th>
<th>EU4ALL</th>
<th>Developing an open service architecture – a standards-based framework – supporting a wide range of e-learning systems</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assistive devices &amp; services</strong></td>
<td><strong>FP7</strong></td>
<td><strong>COMPANION-ABLE</strong></td>
</tr>
<tr>
<td><strong>FP7</strong></td>
<td><strong>COMPANION-ABLE</strong></td>
<td>Assisting people with memory problems, using a mobile phone and computer recording what is said in a room</td>
</tr>
<tr>
<td><strong>FP6</strong></td>
<td><strong>ASK-IT</strong></td>
<td>Promoting mobility for the impaired</td>
</tr>
<tr>
<td><strong>FP6</strong></td>
<td><strong>COGKNOW</strong></td>
<td>Helping people with mild dementia navigate their day</td>
</tr>
<tr>
<td><strong>FP6</strong></td>
<td><strong>DIADEM</strong></td>
<td>Adaptable browser for the disabled and elderly</td>
</tr>
<tr>
<td><strong>FP6</strong></td>
<td><strong>Easy Line+</strong></td>
<td>Developing prototypes of advanced white goods to support elderly persons with physical and/or cognitive disabilities</td>
</tr>
<tr>
<td><strong>FP6</strong></td>
<td><strong>HaH</strong></td>
<td>Developing next generation assistive devices for the hearing-impaired</td>
</tr>
<tr>
<td><strong>FP6</strong></td>
<td><strong>I2Home</strong></td>
<td>Networking appliances</td>
</tr>
<tr>
<td><strong>FP6</strong></td>
<td><strong>INHOME</strong></td>
<td>Developing a single terminal (the INHOME terminal) for management of all appliances and home automation systems</td>
</tr>
<tr>
<td><strong>FP6</strong></td>
<td><strong>MAPPED</strong></td>
<td>Provided disabled users with a multi-modal route planner</td>
</tr>
<tr>
<td><strong>FP6</strong></td>
<td><strong>MonAMI</strong></td>
<td>Developing services for elderly and disabled people delivered on mainstream platforms such as digital television, mobile telephones and broadband Internet</td>
</tr>
<tr>
<td><strong>FP6</strong></td>
<td><strong>MPOWER</strong></td>
<td>An open platform for services for persons with cognitive disabilities and elderly, integrating SMART HOUSE and sensor technology</td>
</tr>
<tr>
<td><strong>FP6</strong></td>
<td><strong>NetCarity</strong></td>
<td>Networked multisensor system for elderly people</td>
</tr>
<tr>
<td><strong>FP6</strong></td>
<td><strong>SHARE-IT</strong></td>
<td>Developing add-ons to sensor and assistive technology</td>
</tr>
<tr>
<td><strong>FP6</strong></td>
<td><strong>SOPRANO</strong></td>
<td>Integrating assistive technologies (compensating for motor, sensory and cognitive difficulties), smart home technology (networking appliances and control devices), and telecare.</td>
</tr>
<tr>
<td><strong>FP6</strong></td>
<td><strong>VITAL</strong></td>
<td>Vital Assistance for the Elderly</td>
</tr>
<tr>
<td><strong>FP5</strong></td>
<td><strong>CONFIDENT</strong></td>
<td>Information environment for independent living</td>
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<tr>
<td><strong>FP5</strong></td>
<td><strong>I-MATCH</strong></td>
<td>Developed a system for selecting an optimum interface controller for users of assistive technology</td>
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<tr>
<td><strong>FP5</strong></td>
<td><strong>MATS</strong></td>
<td>Assistive technology to support persons with special needs</td>
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<tr>
<td><strong>FP5</strong></td>
<td><strong>MEDICATE</strong></td>
<td>Delivery of prescribed medication</td>
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<tr>
<td><strong>FP5</strong></td>
<td><strong>PACKAGE</strong></td>
<td>Low-tech solutions for opening packages</td>
</tr>
<tr>
<td><strong>FP5</strong></td>
<td><strong>SAID</strong></td>
<td>Used interactive TV as an assistive device for senior citizens</td>
</tr>
<tr>
<td><strong>FP5</strong></td>
<td><strong>TeleCARE</strong></td>
<td>Developed an infrastructure, including services, to support an independent lifestyle and improve the quality of life for senior citizens</td>
</tr>
<tr>
<td><strong>HCI studies</strong></td>
<td><strong>FP7</strong></td>
<td><strong>VM (Vital Mind)</strong></td>
</tr>
<tr>
<td><strong>FP6</strong></td>
<td><strong>ALADIN</strong></td>
<td>Ambient lighting for the ageing</td>
</tr>
<tr>
<td><strong>FP6</strong></td>
<td><strong>eSANGATHAN</strong></td>
<td>Research in ICT needs of ageing workforce and retirees in Europe and India</td>
</tr>
<tr>
<td><strong>FP6</strong></td>
<td><strong>ICT for ALL</strong></td>
<td>Measuring interaction with ICT</td>
</tr>
<tr>
<td><strong>FP6</strong></td>
<td><strong>TRANSFORM</strong></td>
<td>Benchmarking “transformative” use of ICT in European</td>
</tr>
<tr>
<td>Programme</td>
<td>Project/Activity</td>
<td>Description</td>
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<tr>
<td><strong>FP5</strong></td>
<td><strong>FP5 FORTUNE</strong></td>
<td>Developed a concept for user participation in research and development (R&amp;D), based on the concept of true partnership</td>
</tr>
<tr>
<td><strong>FP5</strong></td>
<td><strong>SeniorWatch</strong></td>
<td>European SeniorWatch Observatory and Inventory, carried out a market study of the specific IST needs of older and disabled people</td>
</tr>
<tr>
<td><strong>Accessibility</strong></td>
<td><strong>FP6 CWST</strong></td>
<td>Organises workshops to support e-inclusion, e-accessibility and design for all</td>
</tr>
<tr>
<td><strong>Accessibility</strong></td>
<td><strong>FP6 DfA@eInclusion</strong></td>
<td>Design for all for e-inclusion</td>
</tr>
<tr>
<td><strong>Accessibility</strong></td>
<td><strong>FP6 DIADEME</strong></td>
<td>Adaptable web browser interface for people with reduced cognitive skills</td>
</tr>
<tr>
<td><strong>Accessibility</strong></td>
<td><strong>FP6 MonAMI</strong></td>
<td>Mainstreaming devices and services for senior citizens</td>
</tr>
<tr>
<td><strong>Accessibility</strong></td>
<td><strong>FP6 WAI-AGE</strong></td>
<td>Web accessibility</td>
</tr>
<tr>
<td><strong>Accessibility</strong></td>
<td><strong>FP5 DASDA</strong></td>
<td>Dissemination activity supporting design-for-all</td>
</tr>
<tr>
<td><strong>Accessibility</strong></td>
<td><strong>FP5 IRIS</strong></td>
<td>Accessible Web design through multimodal means of access</td>
</tr>
<tr>
<td><strong>Interoperability</strong></td>
<td><strong>FP7 OASIS</strong></td>
<td>Enabling interoperability, seamless connectivity and sharing of content between different services</td>
</tr>
<tr>
<td><strong>Interoperability</strong></td>
<td><strong>FP6 USEM</strong></td>
<td>USEr EMpowerment in standardisation</td>
</tr>
<tr>
<td><strong>Interoperability</strong></td>
<td><strong>FP6 MPOWER</strong></td>
<td>An open platform enabling interoperability between institutional systems (e.g., hospital information system)</td>
</tr>
<tr>
<td><strong>Interoperability</strong></td>
<td><strong>FP6 Netcarity</strong></td>
<td>Networked wireless and wired multi-sensing environment with plug-and-play capabilities</td>
</tr>
<tr>
<td><strong>Interoperability</strong></td>
<td><strong>FP6 PERSONA</strong></td>
<td>Developing a scalable, open standard, technology platform for a broad range of AAL services</td>
</tr>
</tbody>
</table>
5 STUDIES AND OTHER REFERENCES

There are hundreds, probably thousands of studies, articles, press stories and other documents that deal with one or more of the five key elements in the SENIOR project – i.e., senior citizens, ICT, inclusion, ethics and privacy. In this chapter, we present a small selection of these. We have annotated a few (which should not be construed as an indication of their importance relative to the others cited that have not been annotated).


Accessible interfaces have become so indispensable for personal autonomy and social inclusion that in several countries special legislation protects people from ‘digital exclusion’. To apply this legislation, inexperienced HCI designers can experience difficulties. They would greatly benefit from inclusive design guidelines in order to be able to implement the design-for-all philosophy. In addition, they need clear criteria to avoid negative social and ethical impacts on users. This paper analyses the benefits of the use of inclusive design guidelines in order to facilitate a universal design focus so that social exclusion is avoided. In addition, the need for ethical and social guidelines in order to avoid undesirable side effects for users is discussed. Finally, some preliminary examples of socially and ethically aware guidelines are proposed.


This roadmap has been prepared in response to a request from the Office for Science and Innovation (OSI) of the Department of Trade & Industry (the new name of which is the Department of Business, Enterprise and Regulatory Reform), who are preparing the case for an Innovation Platform in Assisted Living for the Technology Strategy Board. This report presents the findings from a one-day expert workshop held on 24 November 2006. Its aim was to support the development of a roadmap which could inform the activities of a potential Assisted Living Innovation Platform.


This paper considers whether emerging wearable computing technologies could and should be applied to reducing senior citizens’ fear of crime. The paper explores why they are most likely to fear crime, even though they are least likely to be victims. It reports findings from ethnographic studies of key care and social service professionals in an English city. This field work reflects the ways in which assistive technologies for senior citizens can function as signs of vulnerability, and reports the uses of relatively simple information and communication technologies in providing
The fear of crime is then considered as an information problem centring on three questions: what’s going on, what can I do about it and can I get help? Possible applications of emerging wearable surveillance technologies are then explored through a design concept called the Cambadge. This is a wearable, wireless webcam for older people to broadcast video and audio data to police or community websites. This concept is situated with reference to a company developing a similar technology and to related fields. The authors argue that the design problems of such surveillance technology are inherently political. The case is made with reference to the history and philosophy of surveillance and the massive demographic shifts of the ageing population. They argue that utopian visions of the uses of such technology under-theorise power and accountability. The paper concludes that technological innovations will not adequately address senior citizens’ fear of crime without accompanying social and cultural change.


Bynum, Terrel Ward, “Ethics in the information age”, [undated].
http://www.southernct.edu/organizations/rccs/resources/research/global_info/bynum_info_age.html


The workshop ‘User Needs in ICT Research for Independent Living, with a Focus on Health Aspects’ aimed to better understand how ICT can help in solving some age-related problems and to identify actions which the Commission could initiate accordingly.

ICT as a tool can provide complementary support, give new opportunities, such as homecare and support to mobility, and remove the social and geographic distances between senior citizens and their families. It can also reinforce senior citizens’ involvement in the community through the development of new activities, and through new ways of becoming part of human networks. By identifying the needs of elderly
people, the authors express hope that it will be possible to address more effectively the ways in which ICT can be integrated into their lives in order to provide the best possible support for their health and well being.


http://www.jrc.es/home/report/english/articles/vol73/MET2E736.htm

http://www.bioethics.uu.se/symposium/2006/abstracts/dawson.html

Demakakos, Dr. Panayotes, Being socially excluded and living alone in old age: findings from the English Longitudinal Study of Ageing (ELSA), A report prepared for Age Concern England, January 2008.

In 2006, the Social Exclusion Unit of the Office of the Deputy Prime Minister (ODPM) published a report on the social exclusion of older people. A key finding of this report was that 7% of the older population (approximately 1.2 million older people) in the UK was excluded in three or more dimensions of life (multiply excluded). The report also suggested that factors such as: being 80 years old or older, living alone, ill-health, low income, and renting accommodation were related to multiple social exclusion. In line with these suggestions, findings of the “Growing Older” programme of the Economic and Social Research Council (ESRC) highlighted loneliness, isolation, and living alone as three factors that influence older adults’ lives.

Having identified social inclusion as a key cross-cutting policy issue, Age Concern England commissioned Dr. Panayotes Demakakos of University College London to analyse data from the English Longitudinal Study of Ageing (ELSA). An objective of this commission was to examine the characteristics of multiply excluded older people in accordance with the 2006 report of the ODPM. A further objective was to analyse the characteristics of groups of older people that were at higher risk of multiple social exclusion. A third objective was to explore dimensions of social isolation in old age.

Specifically, the aims were:

a) To analyze multiple social exclusions in old age and produce accessible data on the characteristics of multiply excluded older people that would complement published information

b) To analyze the characteristics of groups of older people at higher risk of multiple social exclusion

c) To explore dimensions of social isolation in old age with emphasis placed on people 80 years old or older living alone and people 50 and over with limited mental capacity.


www.oii.ox.ac.uk/events/details.cfm?id=159


Economic and Social Research Council (ESRC), Research Ethics Framework (REF), Swindon, UK, [undated].
http://www.esrcsocietytoday.ac.uk/ESRCInfoCentre/opportunities/research_ethics_framework/

This document sets out what the ESRC requires by way of ethical approval for the research it is asked to support, and sees as good practice for all social science research.

http://www.economist.com/books/displaystory.cfm?story_id=11448673

This book review of Working Longer74 notes employers are reluctant to retain or hire older people, mainly because they find it hard to lower their wages if their productivity slips. The authors doubt that companies will look on older folk more favourably as younger workers become scarcer, not least since many companies can tap into global labour sources. Middle-aged Americans can improve their chances of staying employed by updating skills so that they remain productive. Working longer may be the answer, but hard work is needed to make it happen.

http://www.it-edean.ifac.cnr.it/EDEAN/_documents/db-srv-results.xsp?type=technical

This paper, after briefly introducing the concepts of universal access and design for all, discusses the benefits and challenges that the emergence of ambient intelligence environments are expected to bring for user groups with diverse characteristics, needs and requirements, including users with disabilities. The paper outlines some of the research and development issues that arise in providing universal access to ambient-intelligence technologies and environments. It focuses on the need to take into account global contexts of use in forming and envisaging ambient-intelligence applications,

and to do so proactively.


The authors examine eight ethical guidelines with the explicit purpose to guide behaviour. Data on their treatment of informed consent clearly shows that users looking for ethical guidance run into three serious problems: the interpretation problem, the multiplicity problem (i.e., there is a multiplicity of ethical guidelines) and the legalisation problem. This shows that regulations do not, by themselves, suffice in facilitating ethical behaviour. The authors conclude that a new approach to ethical guidelines is needed.

The authors note the risk that ethical problems will be understood as legal problems. “What should be done?” is then interpreted as “What is legally required/permissible?” There is a risk that a procedure of legal interpretation, performed by experts, replaces ethical reflection. This legalistic development might lead to a different understanding of existing guidelines. It might lead people to think that the rules promoted in ethical guidelines will “do the job” for them. Thus, a replacement of responsibility occurs. In single-mindedly stressing the regulatory framework, there is a risk that we forget that it is the researcher or doctor/nurse who has the final moral responsibility.


Forty-five per cent of European citizens aged 15 or older believe that their fellow citizens retire too early. Furthermore, persons aged 55 years and over were the only age group in which a majority believe that people retire too early, while half of retired persons also agreed with this statement.\(^{75}\) Despite the fact that the vast majority (88%) of European citizens feel that regular training brings positive benefits and improves their employment opportunities, considerably less (about 24 per cent) participated in any training in the 12 months before the survey.\(^{76}\) A high proportion of Europeans (36% of Europeans in work and 56% of Europeans out of work who are seeking employment) say they feel the need to undertake training. Training has a positive impact on interviewees’ confidence in their ability to keep their current job, and their confidence in their ability to hold a job in two years’ time.

Eurobarometer, E-Communications Household Survey, Special Eurobarometer 274, Apr 2007.

Slightly over half of Europeans (54 per cent) have a computer in their household. The prevalence of computers is significantly higher in the old Member States (58%) than in the 12 new countries (39 per cent). The range was 83 per cent in Denmark to only

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\(^{75}\) Special Eurobarometer 261, p. 17.

\(^{76}\) Special Eurobarometer 261, p. 36.
20 per cent in Bulgaria. 42 per cent of households within the EU27 have Internet access at home. Overall, there was a 4 per cent increase over the previous year. 28 per cent of European households benefit from a broadband connection. The most common reason for not having Internet access at home is undeniably the lack of interest for this utility. Cost-related reasons, such as the cost of buying a computer and a modem and the monthly subscription fee, are mentioned by a relatively high share of respondents. There are significant differences between the reasons given by household representatives in the EU15 and in the NMS12. First, the lack of interest of having Internet access is mentioned significantly more often by EU15 residents than respondents in the new Member States. Second, cost-related reasons appear to have considerably more influence in the new Member States. 28% of Europeans that have Internet access say that spam and viruses have caused them significant problems. In the European Union, 97% of households have at least one television.


Among older Europeans, 16 per cent of Europeans aged 75 to 84 and 29 per cent of Europeans aged 85 and over have severe limitations due to a physical or mental condition. (The survey excludes people living in institutions.)


This study of the e-government and digital access activities of 78 local authorities in the UK found that the benefits of digital transformation frequently fail to reach socially excluded groups. Local authority best practice case studies are used to provide an insight into what is possible and what works, and as an evidence basis from which recommendations for the better integration of socially excluded people into the e-government agenda are proposed. The study also suggests that enhancing the reach and effectiveness of services provided to socially excluded groups does reap considerable efficiency gains. Socially excluded groups are those most likely to be digitally excluded – least likely to access or benefit from information and communication technologies. Problems with these groups include unemployment, homelessness, health issues and learning difficulties. Frequently, individuals and families who are socially excluded have complex and multiple needs, which need strategically targeted resources and support.


Implantable medical devices (IMDs) monitor and treat physiological conditions within the body. These devices – including pacemakers, implantable cardiac defibrillators (ICDs), drug delivery systems and neurostimulators – can help manage a broad range of ailments, such as cardiac arrhythmia, diabetes and Parkinson’s disease. IMDs’ pervasiveness continues to swell, with upward of 25 million US citizens currently reliant on them for life-critical functions. The latest IMDs support delivery of telemetry for remote monitoring over long-range, high-bandwidth wireless links and emerging devices will communicate with other interoperating IMDs. The authors present a framework for evaluating the security and privacy of next-generation wireless IMDs. Many existing devices present information such as a patient’s name and sometimes a stored diagnosis and history of treatments. They could also contain medical characteristics such as allergies and medications.

The article is interesting as it contains several ethical design principles.


In January 2004, the European Commission asked the eEurope Advisory Group, to assess the current e-inclusion situation and policies in order to suggest new directions to policy-makers. The e-Inclusion Working Group, composed of independent experts who prepared this report, quickly became convinced that the focus on ICT access characterised by most of current policy action on the Information Society fails to capture the real challenge: e-inclusion is essentially about social inclusion in a knowledge society. The issue is one of empowerment rather than access. In a more e-inclusive society, a greater number of citizens are empowered by new tools to work, learn, create and express themselves in new ways, thereby making society as a whole more dynamic and cohesive.

Inter alia, the report recommends that Europe

- Focus e-inclusion policy measures more on local and community levels, where the diversity of real needs can best be expressed, assessed and addressed, and support small and local projects often carried out by NGOs or even informal groups.
- Consider including access to indispensable networks and e-services within the scope of “Universal Service” for electronic communications in the EU.
- Mainstream accessibility provisions, in particular through a “European Accessibility Act” covering the design of, and access to, public e-services, as well as public procurement of ICT.
- Further exploit the possibilities of ICT in relation to the development of key skills, using ICT in order to facilitate access to, and management of, individual lifelong learning strategies.


A new social network, Finerday, was launched in June 2008, triggering the question - why on earth was something so blindingly obvious not developed before? A commercial site, supported by Age Concern, it enables older people to network and stay in touch with their families and vice versa. There are other similar sites, such as eons.com in the US and Saga Zone in the UK but they lack several factors that Finerday hopes will be killer apps: old people don't just want to talk to older people, they want to be in touch with their extended families wherever they are in the world: they want everything to be simple and they want an easy, affordable computer.

Within months, it hopes to offer a package including simple installation by an Internet...
service provider and one of the new generation of cheap computers - in this case an Acer - customised for older people with a large screen, simple buttons and a price as near £200 as they can get it. The computer world has suddenly realised that, just as there are a billion poorer people in the world wanting to buy cheap, customised computers, so there is a vast and fast-growing market of older people wanting the same.


The average retirement age for men now is 63 and for women 62. But the emphatic conclusion of recent research into retirement policy and labour markets is that working another two or three years would have a surprisingly powerful impact on the retirement living standards of millions of boomers and on the economy.

The economic gains, according to a report published this month by the McKinsey Global Institute, a research group, would include increased household savings, higher tax collections and a reduction of the fiscal strain on Social Security and Medicare.

“It’s the only answer, but don’t count on the story turning out that way,” said Alicia H. Munnell, director of the Center for Retirement Research at Boston College and co-author, with Steven A. Sass, of the book “Working Longer: The Solution to the Retirement Income Challenge” (Brookings Institution Press). “It’s going to take a lot of education and changes in policy and attitudes.”

The biggest obstacle, experts say, is that most companies are reluctant to retain or hire older workers. In one survey, one-fourth of companies said they were not inclined to hire older workers. In an industry survey, a majority of technology companies candidly said they would not hire anyone over 40.

“The issue of older workers is similar in many ways to the arguments surrounding discrimination against blacks and women in the ’60s,” Mr. Cappelli said. At the time, he noted, it was widely said that the “market will take care of it,” since self-interested companies would want to tap a wider pool of workers with varied skills. But ultimately it took anti-discrimination laws and changes in social attitudes to improve job opportunities for women and minorities.

Surveys show that companies are leery of hiring and retaining older workers because of concerns that they are less energetic, less productive, less adaptable and more likely to have outdated skills than younger workers. There are, however, studies that suggest such concerns are overstated or inaccurate.

So live longer, work longer. It certainly makes economic sense, but often the incentives for companies and workers are not in place. One step, experts say, would be to create a category of “paid up” workers. After, say, 40 years of work, they would pay no further contributions to Social Security and Medicare through payroll taxes,
nor would companies make contributions, thus trimming the cost of employing older workers.

Rising health care expenses with age are another issue. For workers 65 to 69, health care costs average 20 per cent of wages, compared with 12 per cent for workers age 45 to 49, McKinsey estimates. One way to lift that burden from companies would be to return to the pre-1983 policy of making Medicare the primary payer of health care costs for people over 65, whether they are working or not.


This report highlights the main policies related to active ageing and the policy fields, health, work and retirement, where ICT-based services will be determinant. Independent Living Systems (ILS) are enabling services designed to help people gain independence and to assist communities in eliminating barriers to independence. A major challenge for the future will be developing ICT policies which are integrated into welfare, health and social inclusion policies and adapted to a changing society.

This report suggests complementary ways of approaching ageing: addressing the demographic phenomena as a serious challenge for social support systems and considering the opportunities offered by ageing societies, such as new markets for innovative applications. It highlights the main policy areas related to ageing, where ICT-based applications could play a role, and suggests a number of research and policy challenges that need to be resolved in order to maximise the opportunities offered by ICT.

ICT-based services and understanding the needs of older people are key to supporting active ageing. However, there is still limited understanding of older people's technology-related needs. One reason for this lack of information on the technology-related needs of older people is that gerontechnology research has not kept pace with technological change. A mix of existing methods is the most suitable way of getting this information, rather than the extrapolation method alone. A purely market-driven approach towards ILS and other ICT-based products and services for Active Ageing endangers equal access and affordability for all.

Based on the basic pillars of the WHO concept on Active Ageing, higher level needs of older people with regard to quality of life in highly developed countries can be classified into five groups:

- **Health:** the health needs of older people comprise three aspects: non-existence of illness, a good functional status and an appropriate system of social support for the individual. Better informed patients will take on more responsibility for their own health. They will be more proactive when asking for a medical diagnosis, medical treatment and medical therapy.

- **Safety:** the need for personal safety is very important in everyday life and at home. The most common challenges are physical infirmity and the loss of mental abilities and cognitive performances. These restrictions quite often lead older people to
make the necessary adjustments and use safety products (e.g. the use of detectors capable of noticing when a person falls down). In other cases, more serious restrictions lead to admission to an institution which means a very serious loss of individual autonomy.

- Independence: usually, older people like to live an independent and autonomous life in their own homes as long as possible.
- Mobility: there is a strong need among older people for mobility. A serious reduction of mobility due to health problems can lead to enormous reductions in quality of life.
- Participation: being part of everyday life is one of the central needs of older people. Contact and relations with other people have a positive influence on well being and health in older age. An increasing number of older people decide, for instance, to learn more about new topics and attend courses at universities and other educational institutions. This is part of their quality of life.

The specific technology-related needs are closely related to the higher level needs for health, safety, independence, mobility and participation. These needs are on three different levels (individual, individual environment and societal environment), examples of which are shown below.

### Different levels of older people's specific technology-related needs

<table>
<thead>
<tr>
<th>Level</th>
<th>Specific technology-related needs of older people (examples)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>Devices for hearing and vision</td>
</tr>
<tr>
<td>Individual environment</td>
<td>Appropriate equipment at home (e.g., intelligent stair lifts and smoke detectors)</td>
</tr>
<tr>
<td>Societal environment</td>
<td>Appropriate communication tools (e.g., easy to use Internet, easy access)</td>
</tr>
</tbody>
</table>

It is important to remember that “older people” are a very heterogeneous group and for this reason a better differentiation is necessary when it comes to their specific technology-related needs.

Older people can be divided into four typologies of ICT involvement. European figures show that the largest group, representing almost one-third of the population, is still the “digitally challenged”. The affinity with ICT technology seems at first closely linked with the “young old”, however, there still is a potential group of “young old” who are not open to ICT use, and an encouraging group of “older old” who are beginning to be, or are already, experienced in ICT use.


This paper examines challenges of engaging the business/industry sector in research on the use of information technology to enhance accessibility for people with disabilities in two areas of common interest – to employment and to public and retail services. The data presented arise from the joint effort of two research teams who independently encountered challenges in engaging private sector firms in their respective projects. Using a case study approach, the experiences of both groups were examined for themes representing factors that inhibited collaboration between research and business sectors, and those that enhanced collaboration. Trustworthiness of themes was established by submitting them for critique and feedback to key informants knowledgeable in both business and research. From a social systems theory perspective, findings suggest that the most important difference between research and business systems reside in the meaning of communication each uses, and differences in assumptions about and value placed on factors such as pursuit of new knowledge, the importance of marketability of findings, and so on. Additional complications arise in pursuit of research related to disability. Factors to build on when seeking research collaboration include an understanding of the language and culture of business systems, and the very real possibility of developing disability research into secondary goals that business systems typically pursue once the prime need for profitability has been addressed (the notion of satisficing). Implications for communication between disability research and business systems are identified.


This report proposes actions to engage excluded citizens in the design of services to meet their needs. The report identifies barriers which appear to be preventing progress. Evidence suggests that ‘innovations’ to tackle social exclusion are seldom evaluated, often marginalised and have low visibility. Few people know about the successful projects. A focal point is needed to bring together good practice and initiatives worthy of wider roll-out. The report proposes an independent unit to consolidate and promote evidence of highly effective and efficient practices.

Essential personal information sharing around sensitive areas is often shunned as too difficult, or is wrongly considered illegal. The report sets out action to be taken across Government to develop more detailed and effective guidance and support for information sharing about excluded groups. It says a perhaps greater problem is trust and agreeing roles and responsibilities.

Access to ICT remains a critical issue. This report proposes actions to expand public access to institutions used by excluded groups such as hostels for homeless people and community centres in deprived areas and highlights successful community development approaches to ICT engagement.


A small but growing number of people have installed motion sensors and a remote monitoring system to keep aging relatives safe. Privacy is an issue for some older people. One major roadblock for wider adoption of in-home monitoring has been concern that older people, unused to everyday technologies like the Internet, would resist their use. A survey by AARP found that older people were willing to use high-tech devices at home, and to pay about $50 a month. The privacy issue made John T. Fowlkes, 86, of Raleigh, N.C., hesitate last year when his children wanted to install a motion sensor system. “What convinced me was that there are no cameras,” said Mr. Fowlkes. Recognizing the commercial potential of technologies for the aging, dozens of companies, including GE Healthcare, IBM and Medtronic, two years ago formed the Continua Health Alliance to develop products to aid older people. Despite the projects, trials and commercial interest, Eric Dishman, Intel’s director of product research, said the United States was “missing in action” in aging technologies, compared with Europe. The European Union had committed $1.5 billion to developing independent-living technologies. Last year, Intel partnered with Ireland’s government to open the Technology Research for Independent Living Center, known as Tril, in Dublin, to invent and test independent-living technologies in the households of hundreds of older people.


Among other things, this report discusses the use of vignettes in ethical consideration. It defines vignettes as short, narrative accounts of a case that illustrates one or more ethical-legal issues. They may be real cases or hypothetical ones based on experience. Ideally, a vignette should be written so as to make readers understand the context (of people, tasks, IT support, organisation, cultured practices, history, etc.) in which ethical issues arise and they should have a clear focus on describing the issues. A
good vignette is described as one with ambiguity which leaves space for participants to define the situation in their own terms. Another important feature is narrativity which introduces specificity and detail, helping to understand the context in which an ethical issue arises. Both encourage and enable reflexivity and discourse. Vignettes have been used in quantitative as well as qualitative research designs to study attitudes, beliefs and norms. Vignettes can be used to unravel the complexity of ethically relevant situations, looking at them from different points of view, rather than to identify “one right answer”. Vignettes can be used as part of a focus group. Focus group research involves organised discussion with a selected group of individuals to gain information about their views and experiences of a topic. It is particularly suited for obtaining several perspectives about the same topic. Interaction in a group enables participants to ask questions of each other and to reconsider their own understanding. The potential benefits of focus group research are many. They are often used to involve participants in a particular social setting to co-operatively develop solutions to problems thereby empowering them to actively contribute. The opportunity to elicit multiple understandings of an ethically relevant situation and to have a group jointly explore solutions can be of great value.


http://www.ccsr.cse.dmu.ac.uk/resources/general/ethicol/Ecv17no6.html

http://ec.europa.eu/employment_social/social_protection/docs/working_longer_en.pdf

http://info.emeraldinsight.com/products/journals/journals.htm?id=jices#samples

This paper examines theoretical issues in the ethical assessment of technology development, with a focus on uncertainty. Although uncertainty is a fundamental feature of complex technologies, its importance has not yet been fully recognised within the field of ethics. The paper proposes a typology of uncertainty in the context of ethical theory. It argues that substantive ethical theories are inapt for the ethical assessment of complex technology development and therefore a concomitant procedural approach is necessary. The paper concludes with requirements for any future ethics of technology under uncertainty.

http://www.it-edean.ifac.cnr.it/EDEAN/_documents/db-srv-results.xsp?type=technical
In early 2004, the UK government established a Digital Inclusion Panel (DIP) of stakeholders from the public, private and voluntary sectors to:

- identify groups most at risk of digital exclusion,
- identify future actions that might encourage digital take-up, and
- make recommendations about how industry, government and the voluntary sector can work together to drive a digitally United Kingdom.

Digital inclusion is not about computers, the Internet or even technology. It is about using technology as a channel to improve skills, to enhance quality of life, to drive education, and to promote economic well-being across all elements of society. Digital inclusion is really about social inclusion, and because of this, the potential for technology to radically improve society and the way we live our lives should not be underestimated. This work has been conducted to look closely at the issues surrounding digital inclusion, and to plot a clear roadmap for future government, industry, and voluntary sector work in this area. The recommendations for industry and government clearly articulate a vision for a future society that will be able to offer digital technologies to all.

The report outlines general principles and recommendations widely viewed as a good way forward.

People most likely to be digitally unengaged are those aged 65 and over, and those with a low income. Of people who are not engaged, 65 per cent have never considered using the Internet. Cost and lack of access to technology are major barriers to Internet take-up for older people and people on low income.

The DIP discussed a framework for action which could provide the necessary conditions to develop both the supply-side digital opportunities and the demand-side capacity for people to exercise their option to become digitally engaged. The framework includes the following elements:

- commercial innovation and enterprise,
- social innovation and enterprise,
- e-government service delivery,
• lifelong learning opportunities.

The report makes three key recommendations to industry, the voluntary sector and government:
• Government should support commercial and social enterprise, delivery of e-government services, and development of strategic lifelong learning opportunities by providing key stakeholders with ongoing demand and supply market intelligence based on the Digital Engagement Framework. Trusted intermediaries that have a deep understanding of their client group are often better equipped than government to deliver services for hard-to-reach groups.
• The UK would benefit from the establishment of an industry-led body that focuses on encouraging digital take-up through social enterprise. Local, sustainable and scalable innovations work best. Such an organisation should aim to act as a broker between suppliers and customers who are currently not digitally engaged; it should exploit market intelligence to encourage rapid innovation, scaling-up and sustainability; and it should provide leadership and strategic vision to promote a digitally engaged UK. The organisation should build on the many different projects that exist regionally and locally, and should create new partnerships and joined-up initiatives within existing organisational frameworks.
• Government should encourage Intellect, the trade body, to convene a new cross-industry, representative group that focuses on the implications for digital engagement and the convergence of broadcasting, telecommunications, broadband and the Internet. This group should look at the scope for investment, innovation and enterprise to fulfil government’s objective for digital engagement. The group should focus on the opportunities for meeting the desires of content providers who seek to provide content across multiple platforms and devices. The group should also consider the content needs of all user groups.

http://www.the-sra.org.uk/ethical.htm


Vanderheiden, Gregg C., Impact of Technology Trends on e-Inclusion Policy and Practice, Trace R&D Center, University of Wisconsin, MA, 14 Nov 2007. This paper is an adaptation for the e-inclusion effort of a report titled Over the Horizon: Potential Impact of Emerging Trends in Information and Communication Technology on Disability Policy and Practice, prepared for the US National Council on Disability by the author.
The paper notes the contested assumption that contemporary ethical theories cannot capture adequately the ethical and social challenges of scientific and technological development. This assumption is rooted in the argument that classical ethical theory always addresses the issue of ethical responsibility in terms how intentional actions of individuals can be justified. Scientific and technological developments, however, often produce unintentional consequences, which are the results of collective decisions on the way we wish to organise our economies and society, rather than from individual actions. The author argues that, as a minimum, we require an ethical framework that addresses unintentional consequences and collective decisions with regard to complex societal systems. He cites four developments that illustrate the shortcomings of existing ethical theory, which is based on the fact that individuals cannot easily be held accountable for their individual role within the context of scientific technological developments. The author then argues that we have to shift our attention to an ethics of knowledge assessment in the framework of deliberative procedures.


KEY THEMES, CLUSTERS, JUNCTURES AND GAPS

From the previous sections of this report, it is possible to identify certain key themes, clusters, junctures and gaps relevant to the issues of inclusion, privacy and ethics with regard to the availability and accessibility of ICTs for senior citizens. The following sections identify these. They will provide building blocks for development of the SENIOR dialogue roadmap.

6.1 KEY THEMES

From our review of 35+ EU policy documents (see Chapter 3) and various other studies, we can boil the addressed themes down to a few key points, as follows: Europe’s ageing and shrinking working population will slow economic growth and increase welfare and other social costs dramatically. To overcome this challenge, senior citizens must be encouraged to work longer, but to achieve this goal, Europe must provide the conditions such as lifelong learning, increasing the visibility of policies aimed at ageing well in the Information Society, strengthening co-ordination among stakeholders, etc. In addition, Europe has an ethical imperative to engage its ageing population for reasons of simple social justice and social cohesion. To overcome the digital divide, new technologies must be accessible, preferably designed for all, and Europe’s senior citizens must trust the new technologies. To foster trust, Europeans’ privacy and personal data must be adequately protected.

So much for the thumbnail sketch. A more discursive summary of the key themes follows:

6.1.1 EUROPE FACES A SEVERE DEMOGRAPHIC CHALLENGE

As a percentage of the population, the number of senior citizens is growing, while the percentage of younger people is dropping. This point (theme) is repeatedly mentioned in various documents from the European Commission. The OECD and many others have also drawn attention to the fact.

Older and disabled citizens already make up around 20 per cent of Europe’s population. By 2020, 25 per cent of the EU’s population will be over 60.

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Over the next 40 years or so, the EU will experience a steep increase in the number of senior citizens in the population and a large decline in the share of the population of prime working-age. The OECD says that if there is no change in work and retirement patterns in Europe, there will be one older inactive person for every worker by 2050.80

The European Commission’s forecast is slightly different. It says that, currently, for every senior citizen, four people are at work, but by 2050, there will be only two working people to support one senior citizen. One can quibble about exact figures, but the trends are clear. Europe’s workforce will shrink from roughly 300 million people today, to approximately 250 million by 2050. The smaller workforce will act as a brake on potential growth, reducing it from 2-2.5 per cent today to half that in 40 years’ time. The costs of an ageing population (including pensions and health care) will swell, and the sustainability of current social welfare systems will come under severe strain.81

In its Communication of 12 October 2006 entitled “The demographic future of Europe – from challenge to opportunity”, the Commission underlined the fact that demographic ageing is one of the main challenges facing all countries in the European Union and that increased use of new technologies could help to control costs and improve well-being and active participation in society by senior citizens, as well as improving the competitiveness of the European economy, in support of the revised Lisbon Strategy for growth and jobs.82

The Commission said more or less the same thing in its Proposal for a Decision of the European Parliament and of the Council on the Ambient Assisted Living research programme: it also noted that Europe’s demographic change poses significant challenges to Europe's society and economy, but that ICT can play an important role in dealing with these challenges: “ICT can help older individuals to improve their quality of life, stay healthier and live independently for longer. Innovative solutions are emerging to help counteract impairments which are more prevalent with age. ICT enables older persons to remain active at work or in their community. ICT also makes it possible to provide more efficient health and social care (for which demand will rise significantly with demographic ageing), better public health management, as well as opportunities for community- and self-care and service innovation.”83

The Commission continues warning Europeans about the demographic challenges we face. In its most recent Communication on the subject, it says the implications of an ageing society are

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80 OECD, Live Longer, Work Longer: A synthesis report, Paris, 2006, p. 9. http://www.oecd.org/document/42/0,3343,en_2649_34747_36104426_1_1_1_1,00.html. This report focuses on policies to improve the employment prospects of older workers, drawing on the lessons learned from 21 country reviews. See also COM(2004) 146 final, p. 5: By 2030, there will be 110 million people over the age of 65 in the EU25, up from 71 million in 2000 and the working age population will stand at 280 million compared to 303 million today.


becoming obvious, with new health and social risks having far-reaching impacts on social protection systems. But demographic change also opens up new opportunities for the spread of innovative services, goods and technologies, for instance, for elderly care, with substantial potential for growth and jobs. From a life cycle perspective, the social and financial implications of ageing require a substantial rethink of intergenerational responsibilities and the way the associated costs are shared between generations.84

6.1.2 EUROLENEEDSTOCKEEPSENIORCITIZENSEMPLOYEDANDPRODUCTIVELONGER

The average exit age from the labour market is on the increase but, even so, among Europeans between 55 and 64 years old, 47 per cent of men and 65 per cent of women have dropped out of the labour market.85

To overcome the implications of these demographic shifts, Europe needs to keep senior citizens employed and productive longer.

This theme was the subject of a joint report in 2002 from the European Commission and the Council, entitled “Increasing labour-force participation and promoting active ageing”. The report identified three goals:

• to ensure that present and future working generations remain active as they grow older;
• to attract a substantial part of those currently inactive but able to work, particularly women, to the labour market on a lasting basis;
• to prolong the participation of today’s older workers; those over 50 being at high risk of early retirement.86

The Commission regards the low employment of older workers in Europe as a waste of individual life opportunities and societal potential. For the economy as a whole, the increase in participation and employment rates of older workers are crucial to sustain economic growth. With the ageing and coming shrinking of the working age population, older workers must be recognised for what they are: a core component of labour supply and a key factor for the sustainable development of the European Union. Member States need to develop active ageing strategies addressing access to training and lifelong learning.87

President Barroso returned to this theme in the renewed Lisbon strategy. He said Member States and the social partners must develop active ageing policies to discourage people from leaving the workforce too early.88

The Commission’s Communication “Time to move up a gear” is even starker: We cannot afford to have people drop out of the labour market when they are in their fifties. An ageing

87 European Commission, Increasing the employment of older workers and delaying the exit from the labour market, Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions, of the European Communities, COM(2004) 146 final, Brussels, 3 March 2004.
population means that European society must be ready to help more people to work, to work longer, and work in a way that uses their talents to best effect. 89

6.1.3 EUROPE NEEDS TO OVERCOME DISCRIMINATION AGAINST SENIOR CITIZENS

The joint report from the Commission and Council, referenced above, says that raising participation of older people in the labour market will not be easy, partly because it will depend on changes in cultural and socio-psychological factors, in particular attitudes to older people in employment, and partly because it will require important changes in policy instruments to achieve changes in behaviour of employers and workers. 90

Action by governments and social partners will only succeed if they are accompanied by basic changes in attitudes in enterprises and education systems to gender gaps, older workers, as well as to other disadvantaged groups, including migrant and disabled workers. 91

In this regard, we can note Article 21 of the European Charter of Fundamental Rights 92 which expressly prohibits “Any discrimination based on any ground such as … [inter alia] age”.

To give Article 21 some teeth, the European Employment Directive requires all Member States to put in place legal and regulatory frameworks and administrative provisions to “tackle age and disability discrimination”, by 2006. 93

Accordingly, to counter negative employer attitudes, countries have introduced age-discrimination legislation or information campaigns. 94

Still, discrimination remains a challenge to overcome, as the Commission pointed out in its Social Agenda. 95

6.1.4 EUROPE NEEDS LIFELONG LEARNING, DIGITAL LITERACY AND ACTIVE AGEING

In most OECD countries, the incidence of training declines with age. 96 Older workers receive

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92 http://www.europarl.europa.eu/charter/default_en.htm
94 See, for example, the Stop Discrimination website, launched 2003: http://www.stop-discrimination.info.
96 Job retention and employment levels of older workers are strongly correlated with the level of training they receive and their initial educational attainment. There is no empirical evidence that older workers are more or less productive than other age groups. Productivity potential of older workers is not impaired by age but by skills obsolescence – something that can be corrected through training, in particular in developing the skills for taking full advantage of Information and Communication Technologies. See COM(2004) 146 final, p. 10.
less training than other age groups.\textsuperscript{97} Most get little help in upgrading their skills, and many senior citizens are not motivated to take up available opportunities for training because of employers’ negative perception of older employees and because ICTs are not designed to meet their needs (and/or those with some form of disability, about 15 per cent of the population).

This situation is a problem because, as the workforce ages, it will become increasingly important to ensure that older workers have up-to-date skills, good access to employment services and better working conditions and that there is increased investment in lifelong learning at mid-career.\textsuperscript{98} Preventing the erosion of skills throughout adult working life will increase the chances of people remaining in employment longer.\textsuperscript{99}

Lifelong learning is a key element of the strategy, devised at Lisbon, to make Europe the most competitive and dynamic knowledge-based society in the world but, says the Commission, traditional policies and institutions are increasingly ill-equipped to empower citizens for dealing with the consequences of globalisation, demographic change and digital technology. Yet people, their knowledge and competences are the key to Europe’s future.

Thus, in his renewed Lisbon strategy, President Barroso said Europe needs more and better investments in education and training.\textsuperscript{100}

In the Riga Declaration, EU Ministers agreed with him. They agreed that improving the employability, working conditions and work-life balance of older workers could be achieved by the provision of training from the public, private sectors and from civil society and by making special efforts on ICT skills for older people.\textsuperscript{101} Lifelong learning need not only be the formal, classroom stuff aimed at getting a diploma or degree of some sort. In fact, it should encompass the whole spectrum of formal, non-formal and informal learning.\textsuperscript{102}

\textbf{6.1.5 \hspace{1em} EUROPE NEEDS TO OVERCOME DIGITAL DIVIDES AND ICTS MUST BE ACCESSIBLE}

Many senior citizens are at risk of missing out on the benefits of the Information Society because they do not have basic access to communication networks, notably broadband networks, and information technologies.

In the UK, one of the most advanced countries in Europe in terms of ICT use, only 28 per cent of senior citizens are connected to the Internet, compared to 57 per cent for the rest of the adult population.\textsuperscript{103} Most other European countries have a starker digital divide. Only 10 per cent of people over 65 use the Internet regularly compared to 47 per cent for the EU25 on

\textsuperscript{97} COM(2004) 146 final, p. 11.
\textsuperscript{98} OECD, 2006, p. 12.
\textsuperscript{99} European Commission and the Council, “Increasing labour-force participation and promoting active ageing”, p. 15.
\textsuperscript{101} Riga Declaration made by Ministers of European Union (EU) Member States and European Free Trade Area (EFTA) countries responsible for eInclusion policy, 11 June 2006. http://europa.eu.int/information_society/events/ict_riga_2006/index_en.htm
\textsuperscript{103} Ofcom, Consumers and the Communications Market: 2006, London, p. 32.
average. The reasons for limited access are most often insufficient motivation, financial means, digital competencies and convenient training.

Society as a whole is losing out because a significant number of people have not developed IT skills. Although the older age group is not homogenous in terms of education, income or even the types of disabilities often associated with age, older people as a group are at the greatest risk of being excluded from the benefits of the Information Society.

A recent study found that more than 60 per cent of persons over 50 in Europe feel that their needs are not adequately addressed by current ICT equipment and services.

ICTs account for around half of the productivity growth in modern economies. President Barroso said the Commission’s new initiative – i2010: European Information Society – would stimulate the take-up of ICTs by promoting an Information Society dedicated to inclusion and quality of life.

But to improve the take-up of ICTs, they need to be accessible, an issue which is addressed in the aforementioned i2010 initiative, wherein it notes that today over half of the EU population either does not reap these benefits in full or is effectively cut off from them. Thus, making ICT products and services more accessible, including in regions lagging behind, is an economic, social, ethical and political imperative. The i2010 initiative gives strong emphasis to providing all Europeans with basic digital competence.

The Commission says it will address e-accessibility through a mix of research and stimulation measures to make ICT systems easier to use for a wider range of people. It will give guidance to extend the geographical coverage of broadband in under-served areas and will review the scope of the Universal Service Directive.

In addition, the Commission intends to propose an initiative on e-inclusion in 2008, addressing issues such as equal opportunities, ICT skills and regional divides, digital literacy and research into accessible technologies. The Commission says all available instruments should be deployed to overcome the digital divides, including the Structural Funds, rural development funds, national support, regulatory intervention and research.

In the Riga Declaration, EU Ministers also addressed the accessibility issue. They said it was necessary to enhance e-accessibility and usability by

- Exploring e-accessibility standards and common approaches in public procurement for ICT products and services;
- Fostering the application of common requirements and standards, European or global, for accessible and usable ICT hardware, software and services, to be supported by appropriate user involvement, and means of demonstrating conformance, e.g. labelling;
- Facilitating accessibility and usability of ICT products and services for all, with a special

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104 Eurostat, 2006 Community survey on ICT usage in household and by individuals.
focus on people with disabilities, by accessible digital content on all platforms, interoperable assistive technologies, and mainstreaming inclusive design and design for all in the development of ICT products and services. Research, professional training, centres and networks of excellence, user involvement, labelling, conformity assessment, and other means are key. Links between mainstream ICT industry and the assistive technologies sector should be facilitated, and a European curriculum on design for all should be promoted.

Ministers also mentioned accessibility in the context of inclusive e-government where they committed themselves to “Promoting and ensuring accessibility of all public web sites by 2010, through compliance with the relevant W3C common web accessibility standards and guidelines, and by calling upon the private sector to do likewise.”

In its Ageing Well in the Information Society Action Plan, the Commission says lack of common standards and conformity assessment procedures hampers existing and new services and technologies such as smart homes, integrated health and social care ICT systems, and assistive technologies to reach mass markets and to deliver opportunities for competitiveness. It says access, accessibility and user-friendliness of devices and services are prerequisites for the inclusive delivery of advanced services for the ageing society. Mainstream ICT products and services rarely address the needs of the older population, e.g., those related to the multiple progressive impairments associated with age. Markets tend to overlook older users' needs: there are few guidelines, voluntary or mandatory standards and related regulatory frameworks.

Digital divides sometimes arise because of market barriers. Accordingly, the Commission says it will launch further assessments of market barriers hindering uptake of technologies for independent living and identify recommendations for action and provide guidance for removing legal and technical barriers (e.g., different reimbursement and certification schemes; lack of interoperability of ICT systems).

6.1.6 Europe needs to respect the privacy of its (senior) citizens

The EU has a suite of directives dealing with privacy and protection, notably the Data Protection Directive 95/46/EC, which are listed in section 3.2 above. Nevertheless, privacy

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The press release notes that “Despite repeated calls by the EU and government leaders to improve this situation, progress remains limited: by far the majority of websites fail to use universally accepted user-friendly solutions… The average age of Europe's population is increasing rapidly, with 25% of the total population expected to be aged over 65, by 2020. Older people very often face difficulties using the internet, facing issues like reading the screen with failing eyesight or using a mouse with a dexterity problem. Simple web accessibility solutions open up sites to people otherwise unable to use them, and so extend the scope for social and economic participation as a result.”


111 COM(2007) 332 final, p. 9. The EC has awarded at least two contracts for studies examining the market barriers. See sections 4.4.3 and 4.4.5 above.
and data protection are frequently mentioned in the inclusion-related policy documents as well and often in the context of senior citizens and their use of ICTs. Typically, these mentions are rather brief, so there is little exploration of the privacy theme in terms of whether and how privacy issues might be different for senior citizens compared to the rest of the population. However, if one compiles these mentions, a better picture begins to emerge with regard to these issues.

Here are some of the inclusion-related policy documents that refer to privacy:

In its Communication on the role of e-government for Europe’s future, the Commission notes that e-government requires that information is shared across departments and different levels of government (e.g., between the local and national level). However, to the extent that information involves personal data, such sharing could be a contravention of the Data Protection Directive which expressly prohibits the sharing and processing of data without the data subject’s consent. The Communication rightly says that e-government raises difficult issues, not least of which are the safeguarding of trust and confidence in online interaction with governments. It adds that public services can be offered only within an environment where trust and confidence flourish. Such environment should always guarantee secure interaction and access for citizens and businesses.

It goes on to say that “protection of personal data, authentication, and identity management are primary issues where no public service should ever fail.” No one would, of course, disagree with that, except that there have been numerous examples, especially in the UK, where government protection of personal data has failed, the most spectacular example being the Revenue and Customs department’s loss of 25 million child benefit records in October 2007.

The Communication continues by saying that public institutions should always ensure that digital transactions and communications are secure and that personal data remain protected. Citizens should always be able to control access to their personal data, and how these data have been stored, used and accessed. Failure to ensure this may, in addition to breaching the law, entail significant social and economic costs. Only data necessary for the fulfilment of a specified purpose may be collected. To this end, the use of privacy-enhancing technologies should be favoured. Data protection, network and information security, the fight against cybercrime and dependability are prerequisites for a properly functioning Information Society, and consequently core policy issues within the EU. The Commission together with the Member States has launched a comprehensive strategy on these issues.

112 A similar finding came out in a UK study (which is cited in Chapter 5 above). See Office of the Deputy Prime Minister, *Inclusion through innovation: tackling social exclusion through new technologies*, Social Exclusion Unit Final Report, UK Government, London, November 2005, wherein it is noted that essential personal information sharing around sensitive areas is often shunned as too difficult, or is wrongly considered illegal. The report sets out action to be taken across Government to develop more detailed and effective guidance and support for information sharing about excluded groups. It says a perhaps greater problem is trust and agreeing roles and responsibilities.


One of the four challenges that the Commission sees in creating a single European Information Society space is making the Internet safer from fraudsters, harmful content and technology failures to increase trust amongst investors and consumers. Trustworthy, secure and reliable ICT are crucial for a wide take-up of converging digital services. It says there is a need to raise awareness of the need for self-protection, vigilance and monitoring of threats, rapid and effective response to attacks and system failures. It says it will support research to design in security and to test identity management solutions. The Commission also says it will revise regulation, as necessary, for example, in protection of privacy, electronic signatures or discouraging illegal and harmful content.  

Member States recognise the importance of electronic identity management (e-IDM) for ensuring that by 2010 European citizens and businesses will be able to benefit from secure and convenient electronic means, issued at local, regional or national levels and complying with data protection regulations, to identify themselves to public services in their own or in any other Member State.

In its i2010 e-Government Action Plan, the Commission sets out the following e-IDM timetable:

2007 – Agree common specifications for interoperable eIDM in the EU.
2008 – Monitor large scale pilots of interoperable eIDMs in cross-border services and implementing commonly agreed specifications.
2010 – Review the take-up by the Member States of the European eIDM framework for interoperable eIDMs.

The European Parliament, in a non-legislative resolution on consumer confidence in the digital environment, adopted 21 June 2007, called on the Commission to propose a strategy for increasing consumer confidence (which it described as “low”) in the digital environment, building on experience gathered as part of the “e-confidence” initiative. The EP said that it considers that a relaunched e-confidence initiative should not only deal with consumer protection but also set out a co-ordinated approach to the issue of the digital environment as a whole, including analyses of non-market factors such as the protection of privacy, access by the general public to information technologies (e-inclusion), Internet security, and so on. It called on the Commission “to ensure that consumers are effectively protected against security and privacy attacks in the digital environment through both regulatory and technical measures.”

EU Ministers in the Riga Declaration also mentioned the importance of respecting senior citizens’ privacy when they identified the need to increase “quality of life, autonomy and safety, while respecting privacy and ethical requirements, through independent living initiatives, the promotion of assistive technologies, and ICT-enabled services for integrated social and healthcare, including personal emergency and location-based services. The ambient

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118 i2010 Action Plan, 2006, p. 9
assisted living initiative of the 7th Framework Programme is an important initiative in this respect.”120

In its Ageing well in the Information Society Action Plan, the Commission cited the potential of radio frequency identification (RFID) in systems for independent living, but said it would assess the implications and opportunities of these technologies, especially the privacy implications.121

6.1.7 **EUROPE NEEDS TO SORT OUT THE ETHICAL ISSUES RE ICT AND SENIOR CITIZENS**

While it is true that there is no specific reference point for ethics in ICT for ageing, for example, in safeguarding human dignity and autonomy where solutions require a degree of monitoring and intervention122, ethical issues have been getting an increasing amount of attention in the various policies, programmes and projects devoted to inclusion and senior citizens.

The ethical issues arising repeatedly in policies and projects dealing with senior citizens and ICT include informed consent, protection of personal data, non-invasion of the private sphere, respect for dignity and integrity of the persons.123 Ethics can be regarded as context-dependent, at least to some extent. While general ethical principals and guidelines are to be respected, researchers, industry and other stakeholders may find some difficulty in knowing how to apply them in particular situations or contexts or whether they apply at all.

Undoubtedly, the European Charter of Fundamental Rights is the key reference point. Many of its articles, starting with the first one, the right to dignity, offer an ethical baseline. Some projects have adapted Article 3 of Directive 2001/20/EC on the conduct of clinical trials on medicinal products for human use.124 The snag, however, is that there have been few policy documents, programmes or projects specifically addressing ethical issues or even identifying the ethical issues that have arisen or might arise with regard to the use (or lack thereof) of ICT by senior citizens. Few does not mean none. Most of the few such documents reviewed for this report treat ethical matters rather incidentally.

Among the key policy documents that touch on ethics, directly or implicitly, are the following.

In its i2010 initiative, the Commission proposes to launch three flagship ICT initiatives on

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124 Article 3 deals with the protection of clinical trial subjects. See section 3.3 above.
key social challenges, one of which is on the needs of the ageing society, and in particular on
caring for people in an ageing society and addressing technologies for wellbeing, independent
living and health. This would suggest there is an ethical imperative prompting the
Commission to undertake such an initiative. And that is exactly what it says in its follow-on
Communication on e-accessibility: making the benefits of ICT available to the widest possible
number of people is a social, ethical and political imperative. Furthermore, this creates
markets of increasing economic significance.

The economic and social benefits are never far away from the ethical imperative (which is an
important point) – i.e., one could say that acting ethically makes sense, not only in itself, but
from an economic and social perspective.

The Commission is not as explicit as this, but still there is an undeniable linkage. In the
Communication “Time to move up a gear”, the Commission says that globalisation and
demographic ageing call for an urgent improvement in the adaptability of workers and
enterprises, that more open and responsive labour markets should be combined with policies
to help workers to remain employed and to progress in work, but that in all of this, there
should be a strong emphasis on social justice, not reform for its own sake or simply to cut
costs.

The linkage is also evident in the i2010 Action Plan, the first objective of which is that no
citizen should be left behind: advancing inclusion through e-government so that by 2010 all
citizens benefit from trusted, innovative services and easy access for all. The fifth objective
is also relevant: Strengthening participation and democratic decision-making, which means
demonstrating, by 2010, tools for effective public debate and participation in democratic
decision-making.

With regard to what specifically the first objective means, the Commission says that inclusive
e-government presents the challenge of fighting the digital divide, countering digital
exclusion when public services are provided online. It says that ICT-enabled public services
help to consolidate social cohesion and ensure that disadvantaged people face fewer barriers
to opportunities.

Thus, we can conclude, as the Commission does, that e-inclusion is necessary for social
justice, ensuring equity in the knowledge society, but it is also necessary on economic
grounds, to fully realise the potential of the information society for productivity growth and to
reduce the cost of social and economic exclusion.

125 European Commission, “i2010 – A European Information Society for growth and employment”,
Communication from the Commission to the Council, the European Parliament, the European Economic and
126 European Commission, eAccessibility, Communication from the Commission to the Council, the European
Parliament and the European Economic and Social Committee and the Committee of the Regions, COM(2005)
127 European Commission, Time to move up a gear: The new partnership for growth and jobs, Communication
128 European Commission, i2010 eGovernment Action Plan: Accelerating eGovernment in Europe for the
Benefit of All, Communication from the Commission to the Council, the European Parliament, the European
Economic and Social Committee and the Committee of the Regions, COM(2006) 173 final, Brussels, 25 Apr
2006, p. 4.
129 European Commission, European i2010 initiative on e-Inclusion: “To be part of the information society”,
Communication from the Commission to the European Parliament, the Council, the European Economic and
In its proposal to the European Parliament and the Council for a co-decision on the AAL initiative, the Commission says that ethical issues are to be taken into account.\textsuperscript{130} Recital 22 of the proposed decision says that “It is essential that the research activities carried out under the AAL Joint Programme conform to basic ethical principles, including those reflected in Article 6 of the Treaty on European Union and in the Charter of Fundamental Rights of the European Union, and follow the principles of gender mainstreaming and gender equality.” Annex I.I says “Due account shall be taken of possible ethical and privacy issues in line with international guidelines.” Specifically which guidelines is not mentioned.

The Commission’s Ageing Well in the Information Society Action Plan is partly an ethical response – it says it has two main objectives, the first of which is “enabling a better quality of life for older people” (in line with Article 1 of the European Charter of Fundamental Rights) and the second of which is economic, i.e., it aims to achieve significant cost-savings in health and social care and to help create a strong industrial basis in Europe for ICT and ageing.\textsuperscript{131}

The three areas mentioned in the Action Plan all have an ethical basis:

- **Ageing well at work** … with better quality of work and work-life balance with the help of easy-to-access ICT… and ICT enhanced learning;
- **Ageing well in the community**: staying socially active and creative, through ICT solutions for social networking, as well as access to public and commercial services, thus improving quality of life and reducing social isolation (one of the main problems of older people in rural, scarcely populated areas, as well as urban areas with limited family support);
- **Ageing well at home**: enjoying a healthier and higher quality of daily life for longer, assisted by technology, while maintaining a high degree of independence, autonomy and dignity.

The Action Plan emphasises (in boldface) that in addressing market barriers, “users must be at the centre”.\textsuperscript{132} It says that older people, when faced with new technologies, can find themselves in a relatively weak position. This may be due to their personal situation (income, education, geographic location, health, possible impairments and gender issues), the complexity of the technologies or the mediation by professionals (doctors, rehabilitation experts, field experts on independent living and workplace adaptations), formal and informal care providers, and family members. These all suggest ethical issues to be taken into account.

Through research, analyses and pilot projects aimed at market validation, the Commission has promised its support to industry and user organisations in addressing ethical concerns and exploring opportunities to establish ethical guidance.\textsuperscript{133} In keeping with this promise, ethical issues and ICT for senior citizens were the specific focus of a workshop sponsored by DG


\textsuperscript{131} European Commission, Ageing well in the Information Society, Action Plan on Information and Communication Technologies and Ageing, A i2010 Initiative, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, COM(2007) 332 final, Brussels, 14 June 2007, p. 3. The Commission notes on the same page that 45 per cent of those aged 75 and older are impaired in their daily living activities.

\textsuperscript{132} COM(2007) 332 final, p. 5.

\textsuperscript{133} COM(2007) 332 final, p. 9.
Information Society and held in Brussels on 29 October 2007\(^{134}\) as well as of a workshop on ethics and e-inclusion, held under the Slovenian Presidency of the EU, in Bled, 12 May 2008\(^{135}\). Diverse stakeholders participated in both workshops.

Thus, while we can see that ethical concerns are frequently mentioned in EU policy documents and in some of the EC-funded projects, few directly address senior citizens, ICT, inclusion and privacy in a specific way and in particular that offer a coherent set of relevant principles, guidelines and procedures. Furthermore, there appears to be little guidance in how to apply or even whether guidelines should apply in particular situations.

### 6.1.8 EUROPE NEEDS TO RAISE THE VISIBILITY OF ITS INCLUSION POLICIES

Visibility and raising awareness is a key theme for ageing well in the Information Society, even if the Commission does not bang on that drum as much as it does about demographic change.

It says one of the reasons that the ICT market for ageing well in the Information Society is still in its nascent phase is low awareness of the opportunities and user needs and insufficient sharing of experiences.\(^{136}\) Even if services, such as e-government services, are available, it is no guarantee they will be used. Of equal importance are awareness that these services are available and a willingness to use these services. Of course, simply raising awareness and having services available is still no guarantee of success, as the Commission rightly points out: it is the delivery of real benefits that counts: how people perceive these services, how they use them, the benefits they experience, and the benefits e-government brings to the administration itself. Such usage-oriented data are currently still relatively scarce.\(^{137}\)

The Commission’s Ageing Well in the Information Society Action Plan is an effort in raising visibility. The Commission says the action plan is designed to create political and industrial momentum for a significant effort in developing and deploying user-friendly ICT tools and services, mainstreaming senior citizens’ needs and supporting other policy areas in addressing the challenges of ageing.\(^ {138}\) It says that the action plan will raise awareness as one way of addressing market barriers for ICT services. If there is to be an uptake of ICT services and products for senior citizens, low market awareness and visibility are barriers to be overcome.\(^ {139}\)

It elaborates this point still further: “**Lack of awareness** by part of the European ICT industry\(^ {140}\), intermediaries and final users of assistive technologies is a key factor in why the senior market for ICT has not so far been adequately addressed.” Industry still has limited understanding of comparative user requirements, such as socio-economic factors, gender needs and income levels that may impede access to ICT, personal attitudes and sensitivities to


\(^{135}\) http://ec.europa.eu/information_society/newsroom/cf/itemdetail.cfm?item_id=4013

\(^{136}\) COM(2007) 332 final, p. 3.


\(^{139}\) COM(2007) 332 final, p. 5.

\(^{140}\) The Commission notes that the FP5 Senior Watch project found that 48 per cent of persons over 50 feel that their needs are not adequately addressed by current ICT equipment and services.
ICT, and even of lifestyles. Companies and local authorities are thus still acting on a trial-and-error basis.

But it is not just industry that lacks awareness. Senior citizens often have limited knowledge of possible solutions to their needs. The EC says “There are scarcely any systematic overviews and comparative assessments of the technologies to inform consumers. Even the awareness of user-friendly (accessibility) features of mainstream technologies for the workplace varies substantially. Applications for telemedicine and home care support are well-proven but their take-up is still limited due to an insufficient awareness of their possibilities among potential adopters, for example, local authorities.”

There is something of a chicken-and-egg situation about this. Industry needs to be aware of user needs, but users need to be aware of the technologies that could address their needs.

A pre-condition to success is awareness of the opportunities and barriers. Awareness creation is very much a responsibility of the lead actors at national, regional and local levels. The added value at European level is in giving ICT and ageing a prominent place in EU policy.

In articulating its concern that the Riga Declaration targets will not be met, the Commission says the visibility of e-inclusion should be increased and the level of political and stakeholder commitment should be raised.

6.1.9 **EUROPE NEEDS TO ENHANCE SENIOR CITIZENS’ ACTIVE PARTICIPATION IN SOCIETY**

In the Riga Declaration, EU Ministers specifically mentioned the need to enhance senior citizens’ participation in society and the economy, through innovative ICT-enabled access to goods and services, and relevant content, to facilitate interactions with public and private entities, entertainment and social contacts.

Active participation in society and the economy will be facilitated where senior citizens have access to “relevant content”, where there are services that are relevant to their needs. For example, relevant content should support cultural diversity in relation to inclusion, an objective mentioned in the Riga Declaration.

E-participation is a theme which has been mentioned in EU policy, and it was the subject of a Preparatory Action to promote the development and use of ICT in the legislative and decision-making processes, in parliamentary and government environments, aimed at enhancing the participation of citizens and contributing to better legislation.

The Commission also addresses this theme in the Action Plan for Ageing Well in the Information Society where it says it aims to help citizens stay socially active and creative, through ICT solutions for social networking, which will help improve their quality of life and reduce social isolation (one of the main problems of older people in rural, scarcely populated

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144 Launched in 2006, the Preparatory Action enjoyed strong support from the European Parliament, which raised its budget in 2007 from € 2 to 5 million.

http://ec.europa.eu/information_society/activities/egovernment_research/eparticipation/index_en.htm
areas, as well as urban areas with limited family support).\textsuperscript{145}

6.1.10 **EUROPE NEEDS TO OVERCOME FRAGMENTATION IN E-INCLUSION EFFORTS**

Many, if not all, of the e-initiatives require partnerships of stakeholders to overcome the fragmentation in efforts, research, markets, policies and interoperability of services.

An online consultation on e-accessibility, held in early 2005, showed strong support (over 88 per cent of responses) for European institutions to take initiatives to address a situation that is perceived by a significant majority (over 74 per cent) as a lack of coherence among accessible ICT products and services in Europe.\textsuperscript{146}

The European Parliament has also called on the Commission to propose measures to stop the fragmentation of the internal market in the digital environment.\textsuperscript{147}

Fragmentation was a theme in the Riga Declaration where Ministers committed themselves to addressing the ICT needs of older workers and elderly people by addressing demand fragmentation, by promoting interoperability through standards and common specifications.\textsuperscript{148}

The assistive technologies industry remains highly fragmented, says the Commission, hence co-operation across industry, users and authorities is essential to achieve a high degree of visibility and awareness, to demonstrate wider cost-effectiveness, to increase transparency while understanding users’ needs, to find solutions for interoperability, to align regulatory frameworks, to share risks in research and innovation and, generally, to monitor progress.\textsuperscript{149}

To overcome the fragmentation, common visions, strategies and partnerships are needed involving stakeholders: senior citizens and their representatives, ministries and public authorities at national and regional levels, industry and providers, employers, public and private health insurers, researchers and academia, telecommunications and construction companies, and standardisation bodies.\textsuperscript{150} The Commission says it will support efforts of business stakeholders and civil society organisations to establish an innovation platform for ageing well in the information society (as a forum to co-operate on strategic innovation agendas addressing research, deployment and implementation), so as to develop common roadmaps, showcasing and implementation paths across the delivery chain.

The Commission has also promised to facilitate the exchange of good practices and access to


\textsuperscript{148} The European Parliament, in the above cited non-legislative resolution, said interoperability is a crucial economic factor and stressed the importance of industry-driven, accessible, interoperable standards at a technical and legal level so as to enable economies of scale, ensure non-discriminatory access to devices, services and content for consumers, promote the fast deployment of technologies and contribute to avoiding market fragmentation.

\textsuperscript{149} COM(2007) 332 final, p. 7.

\textsuperscript{150} COM(2007) 332 final, p. 7.
programmes, services, solutions and multi-stakeholder initiatives, through an Internet portal.\textsuperscript{151}

In its Communication on Making a European Area of Lifelong Learning a Reality, the Commission stipulates a partnership approach. All relevant actors, in and outside the formal systems, must collaborate for strategies to work “on the ground”. Gaining insight into the needs of the learner, or the potential learner, along with learning needs of organisations, communities, wider society and the labour market is the next step. Creating a culture of learning depends ultimately on increasing learning opportunities, raising participation levels and stimulating demand for learning.\textsuperscript{152}

In order to deepen and strengthen the e-Europe approach for leveraging good practices, a further reinforcement of exchange of good practice in e-government is necessary. Exchange of good practice has already demonstrated its usefulness. Good practices encompass technological, organisational, legal and training elements; they require long-term commitment of all key actors involved, and they illustrate tangible benefits and results. Exchange of experience and replication of best practices can bring cost-savings in moving to broad take-up. It also prepares for future interoperability and interworking between administrations. While demonstrating the state of the art, best practices often point to new requirements for regulatory frameworks, change management, organisation of work within administrations, and generally help to identify research challenges and form a contribution to establishing a European Research Area in e-government.\textsuperscript{153}

The Commission said the Social Agenda can only succeed by involving all the constituent parts of the European population. Similarly, the objectives of employment, solidarity and social inclusion cannot be separated from the globalised economy, where the competitiveness and attractiveness of Europe are at stake.\textsuperscript{154}

The Social Agenda also notes that partnership between the authorities, social partners and civil society is one of the keys to the success of European policies. In order to promote support for the reforms, the European Council of March 2004 called on the Member States to set up partnerships for change.\textsuperscript{155}

In its i2010 initiative, the Commission stresses the importance of widening and strengthening dialogue with stakeholders and says it intends to work with Member States to address these, notably through the open method of co-ordination. The Commission may, for example, promote exchange of good practice and monitor the take-up of broadband services, e-business and e-government services, investment in ICT research, social and economic disparities and digital literacy through progress reports.\textsuperscript{156}

\begin{footnotesize}
\textsuperscript{151} COM(2007) 332 final, p. 9.


\textsuperscript{155} COM(2005) 33 final, p. 5.

\end{footnotesize}
In its i2010 Action Plan, the Commission says the need for greater sharing of experience is widely recognised\textsuperscript{157}. Mechanisms have been and are put in place such as the eGovernment Good Practice Framework\textsuperscript{158}, the eGovernment Observatory\textsuperscript{159}, Your Europe portal\textsuperscript{160}, the TESTA network\textsuperscript{161} and the Single Window Customs\textsuperscript{162}.

The roadmap for inclusive e-government recognises and proposes steps to deal with fragmentation. It says “In addition to specific services and specific excluded groups, the evidence shows that eGovernment is most successful when coordinated widely across the public sector at different levels – European, national, regional, local – as well as requiring the constant commitment and synergy of the main relevant players: governments, private sector and civil society in its various forms. This results in improved cross public sector policies and coordination of social protection, care, and health systems, human capital investment and education/training systems, etc., supported by eGovernment. In appropriate contexts, this needs to be accompanied by international and cross-border eGovernment social inclusion initiatives.”\textsuperscript{163}

The Ambient Assisted Living proposal was made in part to improve co-ordination of national research programmes and that of the EC.\textsuperscript{164} The proposal says it is aimed at “Improving coherence of R&D and innovation in ICT for Ageing Well across Europe; by removing the current fragmentation of effort by developing common strategies and joint calls for proposals with critical mass.”

The Commission’s Ageing Well in the Information Society Action Plan makes a similar point, i.e., that it will co-ordinate existing efforts, because there is a need. It says market development suffers generally from a lack of exchange of practical experiences. For example, there are no reference “best of breed” implementations of smart homes for independent living or workplace adaptation. Innovative good practices often are limited to small-scale implementation due to the fragmented approaches to risk-sharing.\textsuperscript{165}

Innovation requires shared research agendas, pooling of scarce resources, and development of common platforms. The Commission has already stepped up research in ICT for ageing in the e-health and e-inclusion challenges of the Seventh Framework Programme on Information Society Technologies with increased focus on involvement of users and mainstreaming of age-friendly ICT. It will bring together EU R&D and other projects to contribute to a common

\textsuperscript{158} \url{http://egov-goodpractice.org}
\textsuperscript{159} \url{http://europa.eu.int/egovo}
\textsuperscript{160} \url{http://europa.eu.int/youreurope}
\textsuperscript{161} \url{http://europa.eu.int/idabc/en/document/2097/556}
\textsuperscript{162} \url{http://europa.eu.int/comm/taxation_customs/common/publications/com_reports/customs/index_en.htm}
\textsuperscript{165} COM(2007) 332 final, p. 6.
Benefits from e-inclusion in the EU could be in the order of €35 to €85 billion over five years, according to the Commission. Despite this, progress is still lacking and most of the Riga targets may not be achieved. Fragmentation of efforts and lack of collaboration continue to persist. Much more must be done to achieve e-inclusion and realise the Riga targets.

6.2 CLUSTERS

In this section, we consider clusters, the different types of clusters, variations of and alternatives to clusters (such as platforms, partnerships and networks) to see whether there are one or more models which could successfully advance the interests of senior citizens and ICT, reduce exclusion, and perhaps at the same time come to terms with the privacy and ethical issues that arise or could arise with regard to senior citizens’ use of ICT.

6.2.1 WHAT ARE CLUSTERS?

Michael Porter, the Harvard Business School strategic management guru, has defined clusters as “geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions in particular fields that compete but also cooperate”. The OECD more succinctly defines a cluster as a localised agglomeration of firms working in related lines of business.

A somewhat similar definition of clusters is groups of independent companies and centres of knowledge (e.g., universities, research institutes, enterprise associations and other intermediary organisations) that are

- collaborating and competing;
- geographically concentrated in one or several regions, even though the cluster may have global extensions;
- specialised in a special field, linked by common technologies and skills;
- of a critical mass, that is, the cluster actors together are able to build up momentum and establish self-supporting processes;
- either institutionalised (having a proper cluster management) or non-institutionalised.

Some governments encourage companies to cluster (or locate) in a particular geographic location (e.g., science parks) in order to stimulate employment and synergy, for example, between high tech companies. Sophia-Antipolis in the south of France is a notable example. Silicon Valley in California is probably the most famous, and has been emulated in many

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other areas around the world, such as Bangalore, India. There are lots of examples of clusters – Hollywood for films or the City of London for financial services or Detroit for cars.

Examples of successful clusters and their conditions for success have been the subject of study by industry and academics for some years. The European Commission (DG Enterprise and Industry) has provided funding for establishment of a European Cluster Observatory to monitor clusters, their dynamics and evolution, and to analyse their impact on the economic development and performance of regions.\(^\text{171}\)

One of the tools used by the Observatory and other cluster experts is **cluster mapping** in order to help policy-makers identify growing, declining or emerging business clusters in a particular region, and to help determine the strengths and weaknesses in the region for better organising economic development. Business leaders consider cluster mapping as important, as the innovativeness and competitiveness of their firms is influenced by the surrounding business environment which helps to shape skills, knowledge and infrastructure in the same geographical area. Cluster mapping is also a tool that companies can use to determine where the best business conditions exist if they are thinking of moving their business or establishing a subsidiary operation.\(^\text{172}\)

### 6.2.2 Thematic or Sectoral Clusters

In addition to the traditional geographically based clusters, the term clusters can be and is used in a somewhat different sense to mean groups of independent partners (companies, universities, etc.) working towards a common cause. These could be described as **thematic or sectoral clusters**. Examples are the EUREKA clusters, the COST programme and the European Technology Platforms (ETPs), as mentioned briefly in the following paragraphs.

**EUREKA** is a pan-European network for market-oriented, industrial R&D. Created as an intergovernmental initiative in 1985, EUREKA aims to enhance European competitiveness through its support for pan-European projects.\(^\text{173}\) EUREKA clusters are defined as long-term, strategically significant, industrial initiatives. They usually have a large number of participants, and aim to develop generic technologies of key importance for European competitiveness. The EUREKA clusters bring together large companies – very often competitors – along with SMEs, research institutes and universities, who share both the risk and benefits of innovation. Initiated by industry in close collaboration with national funding authorities, each cluster has a technological roadmap defining the most important strategic domains.

**COST** is the acronym for European Cooperation in the field of Scientific and Technical Research and it could be regarded as a thematic cluster to the extent that it provides a mechanism or framework for implementing a comprehensive approach to “Design for All”. It brings together and networks stakeholders from across Europe (scientists, service providers, universities, industry, etc.).

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171 http://www.clusterobservatory.eu/ The European Cluster Observatory is managed by the Center for Strategy and Competitiveness (CSC) at the Stockholm School of Economics. The Observatory was an outcome of the DG Enterprise “Europe INNOVA” programme which encourages innovation experts to develop, exchange and test good practices, ideas, tools and policy recommendations leading to a better understanding of innovation patterns in different industrial sectors. It encourages public-private partnerships and the improvement of governance in the fields of entrepreneurial innovation, cluster management, innovation financing and European standards.

172 http://www.europe-innova.org/index.jsp?type=page&cid=6286&lg=en

173 http://www.eureka.be/about.do
users and user organisations). It acts as a platform for co-operation with standardisation bodies and stimulates national activities and research, mainly through so-called National Reference Groups.\textsuperscript{174}

**European Technology Platforms** (ETPs), the development of which has been catalysed by the European Commission, provide a framework for stakeholders, led by industry, to define research and development priorities, timeframes and action plans on a number of strategically important issues where achieving Europe’s future growth, competitiveness and sustainability objectives is dependent upon major research and technological advances in the medium to long term.\textsuperscript{175} Currently (as of July 2008), 34 ETPs have been endorsed by the Commission.

One could identify yet another type of cluster, which could be described as a **value chain cluster**, where a number of nominally independent companies collaborate to bring a particular product or service to the market. Such value chain clusters include producers, suppliers and distributors, retail vendors, service providers and so on. They could involve many other types of companies too such as insurance companies, merchant banks, advertising and public relations companies, solicitors, etc.

DG Enterprise has sponsored some projects that aim to cluster clusters, as it were. One is called mClusters, which is networking innovation activities, entrepreneurs, clusters and leading stakeholders in the mobile ICT sector.\textsuperscript{176} Another is called NICE, the acronym for Networking ICT Clusters in Europe, and it is supporting networking, co-operation, knowledge transfer and joint projects between advanced ICT clusters and less advanced regions of the EU.\textsuperscript{177}

The **Ambient Assisted Living (AAL)** programme is, in some sense, engaged in clustering. Among its objectives is improving conditions for industrial exploitation of the relevant R&D for ageing well by providing a coherent European framework for developing common approaches and facilitating the localisation and adaptation of common solutions which are compatible with varying social preferences and regulatory aspects at national or regional levels across Europe.

Another type of thematic cluster is what the renewed Lisbon Strategy refers to as “**Innovation Poles**”, which the Commission supports and which are “designed to help regional actors bring together the best scientific and business minds with the right resources to get ideas from the lab and into the workshop”.\textsuperscript{178}

### 6.2.3 Clusters Focussed on Citizens’ Special Needs

DG Information Society and Media defined clusters as “a logical grouping of projects co-operating together for their mutual benefit, and to improve the performance of the individual projects through value-adding interaction with other projects, participants and stakeholders in the domain”.\textsuperscript{179}

\textsuperscript{174} http://www.tiresias.org/cost219ter/about.htm

\textsuperscript{175} http://cordis.europa.eu/technology-platforms/home_en.html

\textsuperscript{176} The FP6 project began in Dec 2005 and finishes in June 2008. It had a budget of just under EUR 1 million. Its website is at http://www.livinglabs-europe.com.

\textsuperscript{177} The FP6 project began in Nov 2005 and finishes in May 2008. It had a budget of €930,000.

\textsuperscript{178} COM (2005) 24, p. 9.

Elsewhere, DG INFSO explicated its notion of clusters as follows:\footnote{http://cordis.europa.eu/ist/cpt/cpcs.htm}:

- The objective of clusters is “to facilitate the synergy between projects (either RTD or take-up) that have agreed to undertake part(s) of their work in close co-operation with one another”. This means that projects may decide to co-ordinate their activities in an ongoing way, based on common objectives, because they see an added value and want to achieve tangible results.
- Clustering is done on a voluntary basis; it is up to (the participants of) projects to decide if they want to take part in a cluster or not.
- Clusters may enrich the capabilities of the group of projects because of complementary know-how and skills (e.g., between suppliers and users) and may help to improve return on investment in the projects. Co-operation is increasingly a prerequisite for capturing a global market.
- Clusters may help to achieve critical mass (e.g., in technology, standardisation and regulatory issues). Clustering may be a way for projects to create enough impact to influence European political and regulatory bodies and/or international platforms.

Research work carried out under the FP5 IST Programme in the area of “Systems and Services for the Citizen” was built around 12 clusters of projects. Two clusters of projects were those dealing with
- Intelligent Systems for Independent Living
- Intelligent Assistive Systems.
(The projects in section 4.1 of this report come from those two clusters.)

The Commission encouraged project consortia wanting to co-operate to communicate electronically and, if they so chose, to collaborate on proposals for new work. In addition, the Commission organised so-called “concertation meetings” in Brussels, once or twice a year, to foster direct communication between the project teams. During annual project reviews, external experts were asked to assess the co-operative work done by the various projects and to give some recommendations for further development of their activities.

### 6.2.4 DIFFERENCE BETWEEN CLUSTERS, PLATFORMS AND PARTNERSHIPS

There is a difference between clusters, platforms and partnerships. In clusters, organisations may be working in the same geographic or thematic areas, and they may benefit from their proximity in real or cyber space, but they do not necessarily share the same purpose or objective.

Organisations involved in a platform do, however, share the same objective, for example, to collaborate in the development and deployment of a technology or type of technologies. Those organisations may be positioned at different points in the value chain, but to succeed, they see value in collaboration with regard to developing market intelligence, identifying and sorting out regulatory hurdles, promoting standards, sharing in the task of developing the technology and bringing it to the market. Platforms collaborate in developing strategic research agendas, projects, scenarios and roadmaps, which is not something clusters typically do.

As mentioned above, there are now more than 30 European Technology Platforms (ETPs),
several of which are engaged in activities relevant to ICT and Ageing, e.g., NESSI (in the field of software and service platforms), eMobility (in the area of mobile networks and services), NEM (in the field of networked media and home platforms), ARTEMIS (in the field of embedded systems) and EPOSS (in the field of micro-nano systems). The Commission’s Staff Working Paper on Ageing Well in the Information Society says that, as these initiatives are developing a number of enabling technologies and services, active collaboration should be explored to bridge their strategic research agendas with the key objectives of ICT for Ageing and to help activate a “lead market” in this area. Linking ICT and ageing research to the ETPs is a two-way reinforcement of both the innovation capability in the industrial base in Europe and could lead to progress in finding ICT solutions for Europe’s ageing population.181

**Partnerships** typically have a more formal, legal or contractual relationship than those involved in platforms. There are different types of partnerships. For example, some organisations will come together to form partnerships or consortia to respond to EC tenders or calls for proposals. The partners may have different reasons for participating in the consortium but they see value in collaborating, for example, in leveraging their research resources. These partnerships or consortia may last only for the duration of the project, which may be anywhere from six months to several years. There is great value in such partnerships, not only in the short term – i.e., putting a consortium together, winning a contract, undertaking the research – but also in the longer term since they are conducive to forming longer term transnational relationships between different entities. Some of the same partners may come together again to respond to new proposals. These partnerships offer value too in fostering European solidarity.

Another type of partnership is the public-private partnership (PPP) where one or more public entities partner with one or more private sector entities, for example, in the privatisation of some service or infrastructure. PPPs for research are highly structured multi-actor networks that set a framework for the public and the private sectors to co-operate and join forces in areas where they have mutual or complementary interests but cannot act as efficiently alone. They are increasingly popular in research and development policy, because they fill certain gaps in innovation systems (e.g., the lack of interaction between science and industry), or increase the efficiency of government policy in addressing other market failures that affect innovation processes (e.g., sharing the cost and risk of pre-competitive research).182

Another type of partnership is the collaboration between various entities to achieve a shared objective, but where they have different motivations for achieving that objective. An example of such a partnership is the Alliance for Digital Inclusion (ADI) in the UK where private and public sector entities collaborate in reaching out to hitherto digitally marginalised groups, including senior citizens, by improving the accessibility of their products and services. The private sector, of course, wants to generate new sources of revenues, while the government and voluntary organisations want to improve the wellbeing of their constituencies.

The Commission has called upon all stakeholders in civil society, authorities and businesses to act in partnership to achieve the objectives for ageing well in the information society.183 However, one can question whether such exhortations have much impact, especially since the

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form of the partnership is not discussed with any specificity. Someone, such as the EC itself or a Member State or some company with weight, has to take the lead in drawing others together to act in partnership. The Commission itself has been rather good at doing this, but has yet to do this – with one notable exception – in the domain of senior citizens, ICT and inclusion beyond the funding of particular projects in its Framework Programmes. The one notable exception is the AAL Association, which was established under Article 169 of the Treaty, and which pools together the research and development programmes of the Commission and Member States to achieve better co-ordination of research efforts. However, the AAL Association is focused on R&D and does not cover the full range of activities about which the Commission and others have spoken where there is need for greater co-ordination, collaboration, partnership, etc. (as referenced in section 6.1.10 above).

6.2.5 NETWORKING AND CLUSTERS

Thematic clusters are somewhat like networks, where organisations (or individuals) share information or lobby for a particular cause. Networks may be institutional or more informal or ad hoc in nature. The EC’s CORDIS service is a network of sorts in that organisations can use it not only to subscribe to its news service, but to find partners or information about other projects. Networks facilitate the exchange of experiences and good practices and facilitate innovation, establishment of shared research agendas, pooling of scarce resources and development of common platforms. Networks can contribute to a common interoperability framework for ICT solutions and services for senior citizens.

Some EC projects, such as Co-operation and Support Actions (CSAs), Integrated Projects (IPs) and Networks of Excellent (NoEs), act as networks, especially where they reach out to other stakeholders beyond the partners in their own consortium. Several projects funded by the Commission have involved networking, among which were or are AALIANCE, eABILITIES, EUAIN, EDeAN, FORTUNE, D4ALLnet and CONSENSUS. See Chapter 5 above for more details of each of these networks.

Civil society organisations (CSOs) provide a networking function too. In the United States, the Center for Aging Services Technologies (CAST) is a leading player in the development and deployment of technologies that can improve the ageing experience. CAST has four focus areas:

- Driving a national vision of how technologies can improve the quality of life for seniors while reducing healthcare costs,
- Accelerating technology R&D pilots with seniors to fulfil this vision,
- Advocating the removal of barriers to the rapid commercialisation of proven solutions,
- Promoting national dialogue about standards to ensure interoperability and widespread access to technologies and services to meet the needs of senior citizens.

Established in 2003, CAST has become a national coalition of more than 400 technology companies, senior citizens’ service organisations, universities and government representatives.184

There are quite a few CSOs in Europe that undertake somewhat similar activities. A few examples are the Alliance for Digital Inclusion (mentioned above), Citizens Online185, the Association for the Advancement of Assistive Technology in Europe (AAATE), Inclusion

185 http://www.citizensonline.org.uk/
Alliance for Europe and AGE, the European Older People’s Platform, among others.

And then there is the Internet itself, that network of networks. The Internet is many things to many people, a source of information and entertainment, to be sure, but also a medium for networking individuals in new Internet-enabled groups that can challenge the influence of other, more established bases of institutional authority. It flourishes as a networking medium despite a digital divide in access. And it can be a significant force even though only a minority of users are actively producing material for the Internet.\footnote{Less than one in five [Internet users in the UK] use a distribution list for e-mail (19%), post messages on discussion boards (16%), try to set up a Web site (16%) or maintain a personal Website (15%). Dutton, William H., “Through the Network (of Networks) – the Fifth Estate”, Prepared for an Inaugural Lecture, Oxford Internet Institute, University of Oxford, 15 October 2007, p. 19. www.oi.ox.ac.uk/events/details.cfm?id=159}

The Internet can also network individuals in ways that can provide an independent source of social accountability across multiple arenas. It has been described as a Fifth Estate. A key implication of this for society at large is that the Internet can be used to increase the accountability of the other “estates”, for instance, by being used as a check on the press. It can also be deployed as an alternative source of authority and as a check on other established positions of authority, such as politicians, doctors and academics, by offering alternative sources of information, analysis and opinion to citizens, patients and students.\footnote{Dutton, William H., “Through the Network (of Networks) – the Fifth Estate”, Prepared for an Inaugural Lecture, Oxford Internet Institute, University of Oxford, 15 October 2007, p. 21. www.oi.ox.ac.uk/events/details.cfm?id=159} Anyone or any group of stakeholders engaged in networking cannot forego the Internet. The snag, and the challenge, is that while the Internet is the backbone for virtually all networks today, not everyone, as frequently mentioned above, has ready access to the Internet. Thus, those who do and who want to engage those on the other side of the digital divide must make concerted efforts to draw the excluded into their networks.

### 6.2.6 Clustering Projects

As indicated above, the Commission has taken some measures to promote clustering and especially the clustering of projects which it has supported financially. Some of those projects have made their own efforts too at clustering. In some instances, the clustering is really simply a form of co-operation or collaboration and may not involve much more than an exchange of information. Here are a few examples from the projects referenced in Chapter 5:

- The Design for All@elnclusion project grew out of the EDeAN network and collaborated with MonAMI.
- The MAPPED and ASK-IT projects organised an annual meeting of co-ordinators to exchange information and to ensure that there was no duplication of research effort. ASK-IT provided MAPPED with end-user sites, decided on 18 months after ASK-IT began. MAPPED shared the results of the evaluation of its prototypes with ASK-IT.
- SENSACTION-AAL established synergies with other projects and networks, including SOPRANO, which developed context-aware, smart services for senior citizens, OLDES, which developed an entertainment and health care platform, and NETCARITY, which investigated how technologies can be integrated cost effectively into people’s homes.
- SHARE-IT, which developed add-ons to sensor and assistive technology for senior citizens, established links with the CAALYX (Complete Ambient Assisted Living Experiment) project.
- SOPRANO established links with other European projects, including PERSONA,
NETCARIY, ASK-IT, MPOWER, SENSATION-AAL, AAL, INHOME, ALADIN, OLDES and I2HOME.

- TRANSFORM built links with other projects, including eInclusion@EU, which addressed e-inclusion and e-accessibility issues.
- USEM has links with eABILITIES and DfA@eInclusion, both FP6 projects, and the FP5 FORTUNE project.
- SILC had links with other projects, including doc@Home, SeniorWatch, TeleCARE, Confident and MobiHealth, all of which were FP5 projects.

Potentially, the biggest initiative in clustering is the AAL Article 169 initiative (the AAL Association) by which the Commission aims to collaborate with Member States in improving the co-ordination of national research programmes in ICT for ageing. This initiative will stimulate market-oriented research on applications for independent living. We say “potentially” as the AAL programme has just got underway and one will need to see how it develops and to what extent it really acts as a force for clustering.

6.2.7 HORSES FOR COURSES

There is an expression in English, “horses for courses”, which essentially means that some means of achieving a goal are better than others especially under particular conditions. This would seem to apply to clusters. Any means of bringing together stakeholders to achieve a common cause should generally be welcomed, but some structures would appear to be better than others in terms of focus and achieving a particular goal, which is not to discount the value of other structures, which may be more appropriate in certain other circumstances. The AAL initiative is undoubtedly a good one. It puts in place a structure and a structured approach to leverage market-oriented, pre-competitive research at both the European and national levels aimed especially at assisted living. However, as yet, no structure has been put in place as a vehicle for all relevant stakeholders to collaborate on the issues of inclusion, senior citizens, ICT, privacy and ethics. It is, as yet, an open question whether such an initiative should be a dedicated one or whether there is more mileage to be gained in tackling these issues as part of some other initiative, such as the AAL Joint Programme.

6.3 JUNCTURES

6.3.1 WHAT IS A JUNCTURE?

As this section deals with junctures, it is important to be clear what is meant by the word or, at least, to understand how the word is used in this report. If we turn first to the Oxford English Dictionary, we can find four slightly different definitions for juncture as follows: “(1) The action of joining together; the condition of being joined together; joining, junction. (2) The place at which, or structure by which, two things are joined; a joint, jointing, junction, (3) Something that connects two things; a connecting link; a means of connexion or union, (4) A convergence or concurrence of events or circumstances; a particular or critical posture of affairs or point of time; a crisis, conjuncture.”

Although there are differences in each of these four definitions, they are rather nuanced.

188 The legal body of the AAL Joint Programme – and responsible for its implementation – is the AAL Association, an international, non-profit association according to Belgian law with its official seat in Brussels. It was founded by 14 European nations on 19 Sept2007. http://www.aal-europe.eu/
Essentially, one can see two somewhat different meanings of the word: One is a joining together of things and the other is a critical point in time, between the past and the future. We can say the first refers to the spatial dimension while the second refers to the temporal dimension.

In the context of the SENIOR project or, even more generally, in the context of “Ageing well in the Information Society”, juncture is a rather interesting and important word, in both spatial and temporal senses.

From the preceding pages, we can see that Europe is at a critical juncture (to use the word in its temporal sense), demographically, economically, socially, politically. If Europe does not make better use of its senior citizens, if it does not meet their needs more effectively, growth in the European economy will slow dramatically and everyone will be worse off than if we had taken remedial action now. We can see from the various policy documents cited in Chapter 3 that policy-makers are well aware of this fact and have already taken steps to do something about it. As we can see in Chapter 4, the European Commission is supporting many projects aimed at improving the lot of senior citizens, particularly in terms of developing ICT products and services that are accessible and usable by them. This is a central plank in the EC’s e-inclusion programme. In today’s world where the Internet is not only a critical infrastructure, but the infrastructure upon which the Information Society depends (as do many other critical infrastructures, including banking, transport, electricity, etc.), it is essential that senior citizens are not excluded from the benefits and advantages that flow from familiarity with digital technology, that they are not afraid of it. To minimise those fears and any concerns they may have, it is similarly essential that we address the privacy and ethical issues that arise when we consider how to better employ ICT to their benefit as well as to the benefit of Europe as a whole.

From the many projects we have reviewed for this report, we can see that there is a lot of activity aimed at making ICT more inclusive, more suited and more responsive to senior citizens, even though it appears that the special privacy and ethical issues associated with ICT and senior citizens have not had that much attention.

One cannot help but wonder if we could leverage scarce resources more effectively by creating more junctures between the various projects as well as between stakeholders. In other words, are there ways in which projects and stakeholders could be “joined” together to develop synergies?

In a recent speech, Viviane Reding, the European Commissioner for the Information Society and Media, said we need to pool our resources and co-ordinate better our efforts in research. She pointed out that the Commission has put several mechanisms in place:

- The Forum of National ICT Research Directors has met twice a year since 2003 to debate common issues such as challenges for Europe from the globalisation of ICT R&D, co-ordination for a European Research Area in ICT, and possibilities for joint programming.
- The European Technology Platforms help to increase the impact of development of European, national and regional research funding and policies.
- The Joint Technology Initiatives and the Joint National Programmes create a critical mass around strategic research.\(^{189}\)

These initiatives could be regarded as junctures of a sort in the sense that they are a joining together of various efforts to achieve a common cause, so that the whole becomes greater than the sum of its parts.

Two types of junctures merit consideration: One is the joining together of projects and programmatic activities, such as those mentioned by Ms Reding. A second is more figurative, but nonetheless has tangible outputs. The second type would include the joining of efforts to achieve, for example, new standards. In the e-inclusion domain, the mission to achieve e-accessibility (“design for all”) and interoperability of services and devices could be regarded as junctures, as they involve joining together various stakeholder groups and organisations to achieve the accessibility and interoperability goals. However, factoring such missions and activities into the definition of juncture seems to be of questionable value. The term juncture is not normally applied in this way and these activities already have more common descriptors (e.g., standardisation or collaboration), so there seems little merit in coining a new definition or stretching an existing definition when more commonly used terminologies already exist.

Certainly, one could say that the AAL Joint Programme is a juncture in the sense that it joins together EC and Member State research efforts directed towards ambient assisted living. One could contemplate another juncture associated with the AAL Joint Programme, i.e., adding or joining a specific set of activities aimed at privacy and ethics as applied to the AAL Association’s mission. The snag with the AAL Association, at least as far as creating a juncture with privacy and ethics, is that the AAL Association is not really an association, at least as conventionally understood – i.e., its structure is similar to that of most other EC-created agencies. Although such agencies often have room to represent stakeholders (or, at least, some stakeholders), they have no room in which to invite all or any stakeholders who wish to join. For that reason, a platform or a network or association (as the latter term is usually understood) seem to be more interesting structures for being open to all interested stakeholders and for channelling their collective interests and efforts in ensuring that technologies are designed to be accessible to senior citizens and/or designed for all, that those technologies are extended to all no matter where they live (including in rural areas), that those technologies have designed privacy in from the outset, that projects and services involving ICT and senior citizens are sensitive to the privacy needs and concerns of those senior citizens, that if those projects or services raise ethical issues, there is a mechanism for resolving those ethical issues satisfactorily.

One could conceive of creating junctures with existing platforms such as those mentioned above (ARTEMIS, NESSI, NEM, e-Mobility), which is something the Commission seems to have had in mind, so that existing platforms take into account senior citizens’ needs and sensitivities. However, it may not be so easy to create such junctures since some platforms, such as ARTEMIS, apparently regard to regulation as a barrier to be overcome in bringing embedded technology to the market place. If, for example, ARTEMIS already had a working group dealing with privacy and ethical issues generally, then it might be possible to

190 The ARTEMIS Strategic Research Agenda stated that “In most application areas, the design, implementation and operation of Embedded Systems are constrained by European or international regulations concerning safety, security, digital trust, and the environment. These regulations have strong cost impacts on the design and engineering processes especially for software. … ARTEMIS will … forge links with the regulation authorities to overcome regulatory barriers to the introduction of the new ARTEMIS technologies.” This does not strike us as a particularly constructive approach to resolving the concerns of consumers and citizens. See ARTEMIS, Strategic Research Agenda, First Edition, March 2006, p. 29. http://www.artemis-sra.eu/sra_documents
create a juncture with that working group so that in addition to considering the public or consumer’s privacy requirements and concerns generally, it specifically addressed those of senior citizens. However, no such working group exists in the instance of ARTEMIS.

Nevertheless, juncture as a terminology, especially considering its temporal and spatial aspects, could be a useful term to apply in roadmapping exercises. In roadmapping, one could consider a juncture as a joining together of two or more different efforts to achieve, as stated above, a whole greater than the sum of the constituent parts. In roadmapping, a juncture would be more than simply a joining together of two or more activities, it would mean a joining together of those activities or projects at a point in time. Hence, the juncture would be like a milestone, but not exactly the same as a milestone. A milestone is when the authors of the roadmap or strategic research agenda or project aim to accomplish something. That something does not imply a fusion or joining together of two or more different things.

Still, a juncture in any of the above senses does not enjoy wide currency, even if it is an apt descriptor of, for example, the AAL Joint Programme, hence, the term seems to be of questionable value for the time being. This is not to say that juncture as a terminology or as a concept should be ruled out of the SENIOR project altogether. On the contrary, in order to achieve its mission, SENIOR may need to envisage creating or stimulating the creation of junctures with other projects, platforms or programmes.

6.4 GAPS

As we scan the policies, programmes, projects and studies dealing with senior citizens, ICT, inclusion, privacy and ethics – the key words in the SENIOR project – we can identify certain gaps that have hampered the inclusion of senior citizens in the digital revolution and that have raised certain concerns with regard to privacy and ethical issues. In the following pages, we set out some details of these gaps which, in due course, we hope the SENIOR roadmap will help to close.

Gaps could equate to barriers, but the term is broader, suggesting some issues may not have even been considered, for example, through a lack of awareness, rather than a barrier as such. Gaps can be detected in many ways and from different sources, not least of which is from the themes referenced above. As one example, the recurring theme about the need for lifelong learning, including the provision of training and education for senior citizens about ICTs, suggests that there is a gap or shortfall now in the training and education available to or being taken up by senior citizens, including older workers.

As we do not yet live in an ideal society, it is possible, of course, to identify many gaps, but the ones below are those that we have chosen to highlight and that have been mentioned in many policies and projects, some of which are referenced below.

6.4.1 DIGITAL DIVIDE(S)

Probably the most obvious gap is that of the so-called digital divide, i.e., the divide that excludes senior citizens from enjoying the advantages (as well as navigating the risks) that come with having the Internet at their finger tips. But the digital divide is a term that carries

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191 According to the Eurostat 2006 Community survey on ICT usage in household and by individuals, only 10 per cent of people over 65 use the Internet regularly as compared to 47 per cent for the EU25 on average.
a lot of baggage. In reality, there are many digital divides or, to put it another way, the digital divide can be characterised in many different ways. The digital divide may be geographic, i.e., those living in rural areas do not have access to broadband networks which are really necessary to enjoy the Internet today. The digital divide could also be characterised as one of competence, i.e., some people, especially senior citizens, do not know how to use a computer. The digital device could be characterised as economic in nature, i.e., some people simply do not have the financial resources necessary to buy a computer or to pay the subscription fees demanded by a service provider in order to connect them with the Internet. The digital divide could also be characterised as one of attitude – a person may live in an urban area, may have the financial resources to get connected, but even so, does not see that there are benefits in being connected or the person may be frightened or apprehensive. He has heard the stories of identity theft and is frightened that if he does connect to the cyber world, others will steal his personal data and clean out his bank accounts. Or, to take yet another example, the person may live in an urban area, have the financial resources, but may have some disability that hampers his ability to access the Internet.

The digital divide can also be seen from the perspective of the service provider or manufacturer or supplier. It may be that they do not see much additional profit from specifically tailoring their product or service to senior citizens. Or they may simply not be aware of the market potential that could be generated from senior citizens.

We examine some of these different digital divides in the following pages.

6.4.2 THE DIGITAL DIVIDE AS A STATE OF MIND: AWARENESS, ATTITUDE, APPREHENSION

Awareness

According to the Commission Staff Working Document on Ageing Well in the Information Society, a lack of awareness seems to afflict just about all stakeholders. The document says lack of awareness by the European ICT industry, intermediate and final users of assistive technologies for elderly people has been a key factor why the senior citizen market for ICT has not been so far adequately addressed.192

In an attempt to overcome this lack of awareness, the Commission is orchestrating an “e-Inclusion, be part of it” campaign through 2008 aimed at giving greater visibility to e-inclusion initiatives, events and results from across Europe. It also intends to organise a Ministerial conference on e-inclusion at the end of 2008 and to publicise a wide range of achievements in e-inclusion with an award for the best. The conference will reflect on the state of play and set new directions for the future.193

An attitude barrier

The existing lack of awareness may stem, in part, from the fact that non-users of the Internet


are not aware of the benefits of being connected, as obvious as that may seem to those who are regular users. This was an important finding of a series of interviews with non-users conducted by the UK Office of National Statistics (ONS) in July 2004. The ONS found that the reasons for and benefits of access are rarely stated or promoted, but one is disinterest: 44 per cent of the Internet non-users interviewed saw no reason or need for Internet use.194

It also found that attitude and character are the key determinants of whether or not people are connected to the Internet, rather than health, age or income.195

The ONS finding was subsequently corroborated by a study from the UK’s Office of Communications (Ofcom), which said that many older people do not view being connected to the Internet as having any relevance or benefits to them. This lack of connectivity and ICT skills is a serious matter, says Ofcom, not only because many older people are failing to take advantage of the benefits of online connection, but also because the population is ageing and an ageing population will require a suitably ICT skilled older workforce, skills that can help people engage in high quality work.196

A more recent survey showed that half of Spanish citizens don’t use the Internet because they don’t know how (38.6 percent), they don’t like it or don’t have any interest in it (31.8 per cent) or they don’t have easy access to it (11.6 per cent).197

If many older people do not view being connected as having any relevance or benefit to them, then it would seem industry and governments, especially, need to do more than simply raise awareness. An awareness campaign should focus on how being connected is, in fact, relevant and does yield benefits for senior citizens. The Commission Staff Working Document, cited above, seems to recognise this too. It says that while ageing is becoming a mainstream phenomenon, industry and providers do not yet sufficiently capture the needs of the ageing society in mainstream products and services.198

Fear and apprehension barrier – a trust gap

A somewhat complicating factor in promoting the benefits of being connected is the fact that some senior citizens are afraid of new technologies, notably those that provide access to the Internet. Their fear arises from the perceived complexity of the technology, the fear of “breaking” their computer or even “breaking” the Internet. They are afraid of identity theft and loss of personal data. They are afraid that the cost of connection might spiral out of

197 “La otra mitad de los ciudadanos que no lo usan asegura que el motivo principal es que no saben utilizarlo (38,6%), que ni les gusta ni les interesa (31,8%) o que no tienen fácil acceso (11,6%).” EFE [Spanish news agency], “La mitad de los españoles usa la Red con frecuencia”, published in El Mundo, 31 Mar 2008. http://www.elmundo.es/navegante/2008/03/31/tecnologia/1206967107.html
control.

During the Finnish presidency of the EU in 2006, the Finnish DG for Communications implicitly recognised that fear and apprehension affected some senior citizens’ willingness to use the Internet. She said senior citizens “must be provided with training and guidance so that they have the courage [italics added] to use electronic media”. 199

This suggests that training and classes for senior citizens to improve their digital literacy, to show them how the Internet can be used and what they can do to avoid identity theft and the consequences of malware are desirable, if not essential. The experience of Belgium’s Mutualité Socialiste’s “Espace Seniors” programme in training senior citizens has been very positive. Others providing training to senior citizens have had similar experience.

6.4.3 THE DIGITAL DIVIDE AS A GAP IN DIGITAL COMPETENCIES

If one considers how few senior citizens use the Internet, it comes as no surprise that there are significant gaps with regard to digital literacy levels – 59 per cent of the EU 27 average population have a minimum digital literacy level, while only 17 per cent of people older than 65 are considered to be digitally literate. 200

The gap between the skills of current and future IT workers and those sought by firms is a main concern in view of the ageing and shrinking labour force. 201

The Commission has said that authorities at all levels, together with industry and social organisations, have a major responsibility to improve digital competencies, in line with the commitments made by EU Ministers at their Riga meeting and the recommendation on lifelong learning. The Commission called upon authorities, in co-operation with industry, to step up their efforts to promote e-skills and basic digital literacy training, notably for those most at risk of exclusion. For its part, the Commission, in line with the Riga Declaration, is carrying out an EU-wide review of digital competences with advice from a Digital Literacy Expert Group, and will provide guidance on digital competences policy for vulnerable groups by the end of 2008. 202

Those who organise training and education for senior citizens must take into account the fact that many of them not only lack basic literacy skills, but also mobility, dexterity or some other disability. At the same time, governments and other service providers need to improve the usability of online information and services by those with some form of disability. 203

In addition to local authorities, industry and civil society organisations, the relatives (children particularly) of senior citizens could play a valuable role in helping those without basic digital competencies.

6.4.4 THE DIGITAL DIVIDE AS A GEOGRAPHIC AND COST BARRIER

To reap the benefits of the Information Society, it has been said that broadband with sufficient speed is necessary. In a few years (if not sooner), a minimum speed of 20 Mbit/s will be needed for services such as telemedicine that are of great importance for many people on the wrong side of the digital divide, in particular, the growing population of senior citizens.204

Yet, as mentioned above, the digital divide can be characterised as a geographic divide whereby those in rural areas and other economically challenged areas suffer from a lack of communications infrastructure and, especially, a broadband infrastructure. Even if senior citizens are within reach of the infrastructure, cost of equipment and service may be a formidable deterrent to their connecting to the Internet.205

Cost is also a factor for manufacturers, suppliers and service providers. The diffusion of ICT applications and services for senior citizens and disabled people is constrained by the high upfront costs of research and technology development as well as the roll-out of network services to sparsely populated areas. Public and private partners can only overcome these constraints by sharing innovative funding schemes and seeking synergy in their research agendas, for example, in sharing costs and seeking economies of scale.206

Lack of support

Senior citizens need the support of suitably skilled people, preferably drawn from the same age group, to teach them in a supportive, informal and familiar environment, as many of them may previously have had a bad experience of education and doubt their ability to learn new skills.207

Among the ideas for overcoming the lack of support were those put forward by Ofcom’s Consumer Panel, which recommended that the UK government should set up and manage a portal which would provide a resource for supplying information and exchanging ideas on training methods used to introduce older consumers to online working – what works and what hasn’t worked – and on funding sources. A portal holding up-to-date information on best practice in delivering training programmes would contribute towards an improved standard of programme delivery and help avoid duplication of initiatives in local areas. The portal should also hold information on funding – who is offering funds, when and to whom. This information would help maximise the efficiencies of programme funding by organisations such as the Alliance for Digital Inclusion208 or government itself.209

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207 Ofcom, Feb 2007.
208 The Alliance for Digital Inclusion (ADI) is an industry body committed to digital inclusion. It recognises that individuals and communities not making use of ICT are likely to become increasingly marginalised and that ICT can be used pro-actively to promote social inclusion and community regeneration. http://www.citizensonline.org.uk/adi/about_adi
6.4.5 THE DIGITAL DIVIDE AS A LINGUISTIC AND CONTENT BARRIER

Some senior citizens may be effectively excluded from the Internet or other new technologies because their linguistic capability is restricted to their mother tongue and not to one of the principal languages (notably English) of the Internet. And even if they can find some material in their own language, it may be irrelevant or not easily understood.

Even those whose mother tongue is English, French, Spanish, German or one of the other principal languages of the cyber world may be frustrated by the content they find for the same reason, i.e., that it is not comprehensive, not user friendly, not relevant to their interests or needs. Such may especially be the case in dealing with e-government services where the language of bureaucrats is not unlike the obscurity of many corporate privacy policies.

In the UK and elsewhere, there has been a trend towards preparing at least summaries of government policy documents “in plain English”. This recognises that at least some people are aware of the linguistic difficulties too often experienced by the layperson and offers hope that this trend will continue and go some distance in helping senior citizens too.

At the end of 2007, the Commission was of the view that there is a lack of available content in languages understandable to potential users.210

6.4.6 THE DIGITAL DIVIDE AS A GAP IN ACCESSIBILITY AND INTEROPERABILITY

A large proportion of senior citizens faces functional restrictions when using ICTs, and the severity of the reported restrictions tends to increase with age. For instance, in the EU 15 Member States, 21 per cent of people over the age of 50 are reported to be functionally restricted in manipulating a keyboard, reading small print on a screen or in their hearing.211 Industry has appeared as reluctant to factor in such impairments in their design of technologies and/or to adopt a design-for-all approach. Most appliances, mobile phones and remote controls seem designed for those who are already technologically adept rather than for new users. Thus, many senior citizens with disabilities, including cognitive disabilities, are excluded from using modern technologies, at home and in public spaces.

The accessibility (user-friendliness) of devices and services are prerequisites for the e-inclusion of senior citizens in the Information Society. Markets tend to overlook senior citizens’ needs: there are few guidelines, voluntary or mandatory standards and related regulatory frameworks.212

Others have said commitment to accessibility is widespread throughout the ICT industry, that there is a strong willingness on the part of software and hardware vendors to create accessible products, however, vendors’ ability to develop and deploy accessible products is held back by the need to comply with multiple standards. Thus, there needs to be greater convergence between the accessibility standards in force in different areas – such as Europe and the US – so that vendors can develop products that can be marketed and sold worldwide.213

213 See the statement by Oracle: “Oracle Welcomes New EU Policy on e-Inclusion”.
Tesco, the UK’s largest supermarket chain, has shown that improving accessibility can pay for itself many times over. It spent €50,000 on creating a more accessible website, which opened up an untapped new market of 1.9 million customers with a return on investment in excess of €2 million.214

Although the initiatives of some in the private sector to improve accessibility are welcome, overall, there is still a far from adequate supply of affordable, accessible ICTs.215 According to the European Commission, a lack of accessibility persists in many areas, including websites, digital television, phones, emergency services and public information terminals. New barriers to accessibility are appearing, often because of market failures, even though the markets for accessible products and services are worth many billions of euros. With 15 per cent of the EU population suffering some form of disability, they represent a mass market.

Accessibility evaluation

There appears to be a need for a methodology for evaluating the design of technologies accessible to senior citizens and the disabled. This was a finding of the COST 219ter project research on mobile phones. The project said a toolkit was needed to address this gap and to ensure that mobile phones are designed and developed to be as inclusive as possible.216 Undoubtedly, the same finding would apply to other technologies needed by senior citizens.

Accessibility standards

Stronger accessibility regulation may be justified.217

In its 2005 e-Accessibility Communication,218 the Commission said that it was considering legislation aimed at improving accessibility. It noted that surveys and a public consultation showed that progress in improving accessibility was unsatisfactory. Although several countries have adopted measures, including legislation, their impact has sometimes been limited because of implementation problems. The Commission said it was important to set clear rules and mechanisms at EU level, as called for by the European Economic and Social Committee. And this must be done now, before divergent national intervention continues to fragment the market, and before new mass-market technologies such as digital TV are massively rolled out. Legal action and non-regulatory support (pilots, research, promotion) should go together. International co-operation in e-accessibility should also be pursued.219

The ISO has agreed various standards relevant to user-centred design, notably ISO 13407:1999 (Human-centred design processes for interactive systems). Among the others are those listed in the following table:220

220 The table comes from http://www.usabilitynet.org/trump/resources/standards.htm
### Principles and recommendations

<table>
<thead>
<tr>
<th>Use in context</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISO 9241-11: Guidance on Usability</td>
<td>ISO/IEC 10741-1: Dialogue interaction - Cursor control for text editing</td>
</tr>
<tr>
<td>ISO 9241: Ergonomic requirements for office work with visual display terminals. Parts 10-17</td>
<td>ISO 13406: Ergonomic requirements for work with displays based on flat panels</td>
</tr>
<tr>
<td>ISO 11064: Ergonomic design of control centres</td>
<td>ISO 14754: Pen-based interfaces - Common Gestures for text editing with pen-based systems</td>
</tr>
<tr>
<td>ISO 14915: Software ergonomics for multimedia user interfaces</td>
<td>ISO/IEC 18021: Information Technology - User interface for mobile tools</td>
</tr>
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<td>IEC TR 61997: Guidelines for the user interfaces in multimedia equipment for general purpose use</td>
<td>ISO 16982: Usability methods supporting human centred design</td>
</tr>
<tr>
<td>ISO/IEC TR 18529: Ergonomics of human-system interaction - Human-centred lifecycle process descriptions</td>
<td>ISO 18789: Ergonomic requirements and measurement techniques for electronic visual displays</td>
</tr>
<tr>
<td>ISO/IEC 18019: Guidelines for the design and preparation of software user documentation</td>
<td>ISO/IEC 15910: Software user documentation process</td>
</tr>
<tr>
<td>ISO 10075-1: Ergonomic principles related to mental workload - General terms and definitions</td>
<td>ISO DTS 16071: Guidance on accessibility for human-computer interfaces</td>
</tr>
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</table>

Many standards are needed: for devices, protocols, messages, documents, processes, architecture, design and modelling, as well as standards for infrastructure and infrastructural services with specific emphases on safety, security and privacy services. Furthermore, standards for specifications, knowledge representation, terminologies and ontologies can be deployed for shared care through a voluntary, collaborative process that involves all the relevant stakeholders.\(^{221}\)

To put all these standards in place, the Commission said European standards development organisations should collaborate with international organisations such as Health Level 7 (HL7)\(^{222}\), SNOMED International\(^{223}\) and DICOM\(^{224}\) as well as international standards

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\(^{222}\) www.hl7.org/ehr
organisations and the ITU.

Two of the European standards development organisations, namely, CEN and CENELEC, have already produced guidelines for development of standards addressing the needs of senior citizens. The Commission said industry and users should continue their co-operation with the European standardisation organisations to pursue standardisation efforts, notably for public procurement of accessible ICT products and services. The Commission also expects their continued co-operation in order to put in place a European training programme on inclusive ICT design no later than the end of 2008.

There is, however, no single accreditation body to establish accessibility or readability standards for websites and portals. There is confusion about the interpretation of standards and specialist knowledge is required to test compliance. Central government needs to clarify accessibility and readability standards and appoint a single accreditation body.

**Interoperability**

Interoperability has many aspects – political, industrial/commercial, legal and regulatory, and technical – all of which need to be considered in setting standards, which are necessary for things to interoperate. For senior citizens (and younger citizens too, of course), interoperability should mean that devices from disparate sources can interoperate in their homes, that government services are interoperable across Europe, that health and social care can interoperate (talk to each other). Interoperability is no small challenge. It requires standardisation on a wide range of technical, service delivery and process issues.

Although some partial standards are emerging for the home environment (e.g., Universal Plug and Play, OSGI), they remain at a basic system level and do not facilitate easy development and integration of components into complete system solutions. This leads to market fragmentation and higher costs. Future independent living solutions will need to integrate a large number of devices and services, which justifies research on interoperable platforms.

Interoperability has been on the political, regulatory and standards-setting agenda for many years. The Services Directive calls for cross-border interoperable ICT solutions. Article 8.3 says the Commission will facilitate the interoperability of information systems and use of procedures by electronic means between Member States, taking into account common standards developed at Community level.

Previously, in 2004, the European Parliament and Council adopted a Decision establishing the IDABC programme. IDABC stands for “Interoperable Delivery of European e-government services to public Administrations, Businesses and Citizens”. The IDABC programme is managed within the Directorate General for Informatics. Recital 17 of the Decision says that it
is essential to maximise the use of standards or open specifications for information exchange and service integration. The Decision says pan-European e-government services should be developed in the context of specific projects of common interest and specific horizontal measures.

The IDABC programme supports the efficient interchange of information between public administrations at all levels as well as the delivery of services to businesses and citizens. It promotes good practice and is open to participation by the third countries, including EEA countries, and to international organisations in the implementation of projects of common interest. It supports the delivery of cross-border public sector services to citizens and enterprises in Europe and fosters collaboration between European public administrations.

To achieve its objectives, IDABC issues recommendations, develops solutions and provides services that enable national and European administrations to communicate electronically while offering modern public services to businesses and citizens in Europe. The programme also provides financing to projects addressing European policy requirements, thus improving co-operation between administrations across Europe and the co-ordination of national e-government policies. National public sector policy-makers are represented in the IDABC programme's management committee and in many expert groups.

From these and other initiatives, we can conclude that while there may be an interoperability gap, at least policy-makers are aware of it and have taken steps to improve interoperability. More effort will be required, but now there is a platform on which to build. In the meantime, existing methods, techniques and tools for user-centred design should be applied and enhanced as needed. In all cases, evaluation processes and criteria should be factored into interoperability initiatives and provide feedback into the design process, so as to assure that design deficiencies are corrected at an early stage, which is the intent of the ISO/IEC 14598 standard on information technology and evaluation of software products.231

6.4.7 A GAP IN CO-ORDINATION AND COLLABORATION AMONG STAKEHOLDERS

Lack of co-ordination among stakeholders

Many of the key players in the “ageing well in the information society” community have recognised and spoken of the need for better co-ordination and collaboration among stakeholders if their individual aspirations are to be met. For example, in its final report, the FP6 e-Inclusion@EU project (see section 4.2.11 above) noted that responsibility for e-inclusion and e-accessibility issues in Europe is split across policy fields ranging from telecommunications to social services and between central EU bodies, Member States and regions according to principles of subsidiarity, which presents a challenge in implementing policy co-ordination. Fragmentation of effort and inadequate co-ordination and co-operation among stakeholders across the whole service delivery chain persists as one of the most important barriers to overcoming the digital divide. Co-operation among industry, users and

231 The ISO/IEC 14598 series of standards give methods for measurement, assessment and evaluation of software product quality. ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) established a joint technical committee, ISO/IEC JTC 1 on Information technology. Subcommittee SC 7 (Software engineering) of ISO/IEC JTC 1 produced the draft standard. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 per cent of the national bodies casting a vote.
authorities is essential to achieve a high degree of visibility and awareness, to demonstrate wider cost-effectiveness, to increase transparency while understanding users’ needs, to find solutions for interoperability, to align regulatory frameworks, to share risks in research and innovation and, generally, to monitor progress.  

The Commission has therefore been encouraging the efforts of business stakeholders and civil society organisations to establish an innovation platform for ageing well in the information society (as a forum to co-operate on strategic innovation agendas addressing research, deployment and implementation), so as to develop common roadmaps.

The fragmentation of effort at the European level is replicated at the national and local levels as well. An Ofcom report in the UK has observed that various voluntary and community organisations are currently involved in designing and delivering training programmes to familiarise older consumers with IT techniques and to illustrate the benefits that being online can bring, but most of these organisations are working in isolation, developing their own programmes from scratch with little or no knowledge of what other initiatives were being launched.

For their part, academic experts have said local government needs to enhance liaison with, and use of, intermediaries to improve and extend the reach of e-government services to socially excluded groups.

Policy co-ordination gap

The European Commission believes that policy action is not sufficiently co-ordinated and effective. The 2006 Riga Ministerial Declaration prepared the ground for a comprehensive policy, identifying priorities and committing to specific targets. However, much remains to be done:

- Awareness, evidence of the impact and understanding of the link of ICT usage with social and economic participation all remain insufficient.
- E-inclusion considerations are still not common place in social, economic and technological policy agendas, and strategic approaches for stakeholders’ co-operation around common goals are often missing or insufficient.
- Activities are often fragmented, without sufficient co-ordination of public actions with the efforts of civil society and business. This is partly due to the multi-faceted nature of e-inclusion, where several ministries can be involved.
- There is a lack of effective legislative frameworks to firmly safeguard rights of users at risk of exclusion in the internal market. This is particularly visible for e-accessibility: legislation is fragmented across Europe and of a limited impact. Relevant EU provisions are implemented inconsistently or not at all, mainly due to their non-binding nature, and national approaches can diverge significantly. This hinders common e-accessibility features to the detriment of many users and of the ICT industry, which is confronted with

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236 See reports from the INCOM-COCOM group on e-Accessibility EU legal provisions, and study "Measuring e-Accessibility in Europe".
fragmented markets and diversity of requirements.\textsuperscript{237}

**Evaluation and sharing best practices**

Some of the difficulties in encouraging greater collaboration have been put down to perceived regulatory or legal constraints. For example, a UK report found that case studies demonstrated how information sharing can create considerable benefits in identifying, mapping and addressing social exclusion problems. However, it also found that problems exist because there is a considerable lack of clarity about the legality of public sector organisations sharing information about individuals. Central government must clarify and legitimise the legal basis for sharing personal information.\textsuperscript{238}

Lack of evaluation and sharing of results has constrained knowledge of what works. This perpetuates the cycle of technological uncertainty and a paucity of knowledge about the way digital transformation can enhance social inclusion. More information on what works could lead to quicker adoption and implementation of successful ideas. It’s been said that a repository should be created to share good practice and to enable access to information and services relevant to socially excluded groups. Importantly, it should act as a catalyst for the establishment of a community to develop best practice and ideas to ensure the socially excluded share the benefits of digital transformation.\textsuperscript{239}

**Need for partnerships, networks, co-ordination and a forum**

A consultation with stakeholders held in January 2006\textsuperscript{240} highlighted the following needs:

- Creating a European stakeholder **partnership** on ICT for ageing to look for innovative views on active ageing and independent living;
- Engaging users in **social networking** through e-society applications (e.g., e-voting facilities for seniors with mobility impairments; tele-consultations for health care, social e-meetings, e-leisure...),
- Establishing national programmes focusing on the introduction of ICT-based independent living services supported by informal carers,
- Continuing enhanced **co-ordination of policies** and activities of Member States under the **i2010 High Level Group**,
- Creating a European **forum** on active ageing in work with social partners, health authorities and policy makers, in order to find common frameworks to promote work involvement of older age groups.

Boldface has been added to indicate the different organisational structures indicated here. While the need for one or more of these organisational structures has been apparent for some time, someone needs to take the lead to set them up. Should it be the EC, industry or civil society organisation, or who? A UK report concluded that central government needs to take the lead if the dearth of activity linking social inclusion, e-government and digital transformation strategies in the UK is to be broken. It found that a more prescriptive approach, with clear objectives, was necessary to generate more purposeful action from local authorities that meets the needs of socially excluded groups.\textsuperscript{241}

\textsuperscript{237} COM(2007) 694 final, p. 5.
\textsuperscript{238} Foley, et al., p. 48.
\textsuperscript{239} Foley, et al. p. 52.
\textsuperscript{240} European Commission, Joint Research Centre - IPTS, 2006.
\textsuperscript{241} Foley, et al., p. 49.
This seems like sensible advice. At the European level, probably the Commission itself needs to take the initiative to set up some appropriate mechanism, such as a platform and as it has done in the case of the European Technology Platforms (ETPs), to draw together the various stakeholders. The Commission has successfully stick-handled the setting up of the AAL Association, but the question is this: Is that enough? Probably the Commission itself would say no. Given the highly fragmentated nature of the “ageing well in the information society” community, probably the only organisation with the clout to set up some wide-ranging partnership, platform, network or other vehicle that would draw together these stakeholders is the Commission.

6.4.8 ETHICAL ISSUES RELATED TO AGEING IN THE INFORMATION SOCIETY

One can make a distinction between an ethical justification for e-inclusion and ethics as an element to be taken into account in developing policies, programmes and projects.

With regard to the first point – the ethical justification for e-inclusion – one can say that inclusion is a core value of how we define Europe as a social and political reality. As Europeans, we are morally obliged to ensure that no segment of the population is excluded from the opportunities and benefits of e-inclusion. The converse of this – to ignore the exclusion of senior citizens or of any segment, for that matter – is not only morally indefensible, but is a slippery slope towards a dysfunctional, classist society which is at odds with democracy. Our freedom and liberty are dependent upon our not allowing any segment to fall by the wayside. If we ignore exclusion, we create risks stemming from resentment and social divisions that chip away at and ultimately undermine our freedom, unity and solidarity. Hence, it is in our own self-interest to develop and implement policies aimed at ensuring the inclusion of all. The Commission has repeatedly made a linkage between the social and economic benefits of inclusion, in effect, saying that we need to ensure senior citizens are able to contribute to and benefit from ICT for both social and economic reasons. The “cost” of doing nothing can be viewed in both economic and social terms. We cannot afford the financial costs of having a huge segment of the population dependent on the welfare of a dwindling percentage of younger people. At the same time, the cost of doing nothing has a social aspect too, i.e., the cost to European democracy.

With regard to the second point – ethics as an element to be taken into account in developing policies, programmes and projects – one can and must pay attention to various key documents, starting with the European Charter of Fundamental Rights and including the Commission’s ethical guidelines in preparing project proposals under FP7. It is useful to note a further distinction between ethical principles (such as those reflected in the Charter) and guidelines (such as those in the FP7 documentation). Currently, there is a hotchpotch of documents dealing with a wide range of ethical issues and principles, only bits of which are actually relevant to senior citizens, ICT and inclusion.

Of the 67 projects reviewed for this report, only a few dealt with ethics in a substantive way. Of those that did, points of interest and references are briefly listed here (for more details, see the projects and references in Chapter 4):

- FORTUNE formulated a series of principles for user participation in a project.
• Bullinger, Dr. Alex, et al., Template on ethical and legal issues, Deliverable No. D5.6.1, ASK-IT, undated.

• One of the eABILITIES deliverables has some sections dealing with privacy and ethical issues in involving users in research activities. See Radek, Christian, Helmut Heck and Karel Van Isacker, *Guidelines for the Involvement of Users in RTD Activities*, eABILITIES Deliverable D3.2, April 2007.

• The MAPPED website has a prominently displayed webpage on ethical issues, and is interesting (and unusual among all projects reviewed) in stating up front that it “certifies” that it complies with various pieces of legislation.


Those developing inclusion policies and projects could benefit from a kind of ethical checklist and ethics review mechanism as were put forward in the LOCOMOTION, PERSONA and ASK-IT projects. Although the LOCOMOTION, PERSONA, ASK-IT deliverables and others cited above are very useful references, since they deal with all of these elements, undoubtedly there is benefit to be gained by the SENIOR project (if not the Commission itself) in building on those deliverables and developing an ethical roadmap (the “dialogue roadmap”) with more specific and more precise applicability to the five dimensions of senior citizens, ICT, inclusion, privacy and ethics.

One could also envisage something like an ethical impact assessment manual, something along the lines of the privacy impact assessment guidelines developed by the UK Information Commissioner’s Office (ICO) that would draw together and elaborate as necessary the key points from the rather long list of documents dealing with ethical issues. The existing rather general guidelines that exist for FP7 now could benefit from such a manual that contextualised general principles with some example situations that would make clear to researchers and any other stakeholder what is expected of them. The aforementioned LOCOMOTION deliverable (see also section 5.1.10) has been constructed somewhat along these lines.

An ethics impact assessment manual, with some brief scenarios raising ethical issues, would contribute to awareness-raising, which is fundamental to the promotion of ethics in technology research and deployment. All stakeholders should be informed of what issues exist and why.

**6.4.9 GAP IN UNDERSTANDING THE PRIVACY IMPACTS OF ICT ON SENIOR CITIZENS**

Privacy has been recognised as an important issue for quite some time in the emerging e-inclusion community.

The Riga Declaration stressed the importance of realising increased quality of life, autonomy and safety, while respecting privacy and ethical requirements.
Many of the projects reviewed recognise that privacy and ethical issues need to be taken into account. In 2005, one of the partners in EDeAN, an FP5 project, commented, “As technology becomes embedded in everyday objects and in the environment, functional and interaction aspects of technological artefacts may become subordinated to other personal factors of choice. The most important ethical issue in this respect concerns privacy and anonymity and the effective protection of personal data that is collected through the continuous monitoring of people. In this respect, new challenges arise concerning how a person will be able to know when and what type of information is recorded, by whom, and for what use in a technological environment where personal information is continuously collected by numerous invisible receptors.”

Others have commented that tracking the location of senior citizens poses service providers with the challenge of responsibly handling their privacy. Some tracking services, like Wherifone, a US location-tracking service for senior citizens and children, continuously monitor and log the user’s location. Such services raise many privacy concerns. However, the EC-sponsored CAALYX project follows a different approach to location information privacy. CAALYX is an extensible health monitoring platform that uses GPS to support health monitoring and for emergency handling. It does not continuously track older people. Location information is only sent in an emergency or when an alarm is raised. Thus, people will not feel as if their every move is being monitored.

Still others involve providing location-based services, such as MAPPED and ASK-IT. On its website, MAPPED professed that it would “manage users’ accounts and preferences in the most secure and ethically-correct way”, while noting that the way information is collected, maintained and disclosed is provided by the data protection legislation of the countries involved in the project.

Quite a few of the projects involve some form of user recognition and/or personalised services. For example, the INHOME project aims to foster standardised practices for user recognition on the INHOME terminal based on the user’s phonetic or biological characteristics. The ASK-IT project is developing a user interface offering service personalisation according to user profile, habits, preferences and context of use. MonAMI is another such project which involves monitoring the user.

The EMERGE project is using sensors to monitor senior citizens in order to detect anomalies in behaviour that could indicate an emergency. Such monitoring raises possible privacy concerns.

The EC said in its 2007 Action Plan for Ageing Well in the Information Society that it would work on a Recommendation to Member States with respect to privacy implications.

It is also important to raise awareness of the risks involved in processing personal data through ICT networks and educate users in this field, e.g., risks of identity theft.

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244 http://services.txt.it/MAPPED/project.html
discriminatory profiling or continuous surveillance.\textsuperscript{245}

Privacy impact assessments (PIAs) could help. The UK Information Commissioner’s Office (ICO) has published detailed guidelines on PIAs.\textsuperscript{246}

\subsection*{6.4.10 Promoting Internet Use to Those Yet to Be Digitally Engaged}

A UK report recommended that more needs to be done to identify and promote the advantages of Internet use and e-government services to Internet non-users who see no reason or need to use the Internet.\textsuperscript{247} We would second that recommendation and add: by all available means.

Socio-economic research is needed to better assess the benefits of ICT for the ageing society in terms of cost containment for service delivery and increased quality of life. Such research is being undertaken under the EC’s Seventh Framework Programme and will allow for better understanding of the benefits of, and user requirements for, ICT designed around the needs of senior citizens. Some of the FP7-funded projects will assess ethical issues and the needs and opportunities for work environments to introduce accessible ICT, assistive technologies and innovative e-learning concepts.\textsuperscript{248}

Other socio-economic research requirements appeared from an Ofcom study\textsuperscript{249} including the following:

- the effects of existing policy initiatives,
- the most important determinants of ICT access and use,
- how ICT engagement develops over time,
- what excluded groups themselves want from ICT,
- what the future holds in terms of ICT development and service provision, and the implications for social inclusion.

We would also support these findings, especially as they could help in convincing senior citizens of the benefits of ICT use as mentioned above.

\subsection*{6.4.11 Visibility of Member State Projects and Studies}

The EC’s CORDIS service makes it relatively straightforward to identify EC-supported projects and studies dealing with ICT, senior citizens, inclusion, privacy and related ethical issues. It is rather more problematic to identify studies and projects dealing with such issues at the Member State level.

The study on ICT-enabled independent living for senior citizens (see section 4.4.1),

\begin{footnotesize}
\textsuperscript{245} European Commission, European i2010 initiative on e-Inclusion: “To be part of the information society”, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, COM(2007) 694 final, Brussels, 8 Nov 2007, p. 6. See also the Communication on Privacy Enhancing Technologies (COM (2007) 228).
\textsuperscript{248} SEC(2007) 811, p. 75. See also eUser Project: www.euser-eu.org/
\textsuperscript{249} Ofcom, Social inclusion and communications: a review of the literature, Nov 2007, p. 53. http://www.ofcomconsumerpanel.org.uk/information/research-policy.htm#Older
\end{footnotesize}
undertaken by VDI/VDE Innovation + Technik, compiled a database of relevant ICT-based RTD projects, many of which were funded by or in Member States (i.e., not by the EC). However, this study is virtually the only such project.\textsuperscript{250}

This is unfortunate since undoubtedly there is valuable experience and knowledge to be gained from review of what has been done and is being done in projects funded in or by the Member States. In addition to being able to learn lessons and share good practice, there would be value in identifying the key stakeholders which would help foster trans-European partnerships, co-operation and co-ordination.

\textbf{6.4.12 \textit{European Good Practices in the Development and Use of ICT}}

The Commission Staff Working Document identified a useful action to collect and exchange good practices in ICT and ageing into an observatory and national reporting, with contributions by Member States at the national, regional and local level during 2007/2008.\textsuperscript{251}

Clearly, this is a useful thing to do. Some thought needs to be given to the scope of these good practices, their themes, the issues they cover, their length, the visibility given to them and so on. It would be desirable to have examples of good practices from all Member States. It would also be desirable to have a kind of annual report of good practices. Some reporting structure would need to be instigated. The stakeholders who could report on these good practices would need to be identified.

SENIOR would naturally like to see good practices along all five dimensions of interest to our project – i.e., good practices dealing with senior citizens, ICT, inclusion, ethics and privacy – and, more particularly covering the themes referenced in this report – e.g., in overcoming the various digital divides, improving accessibility, effective training, demonstrations of the cost-benefits flowing from inclusion of senior citizens in mainstream European society as a result of their becoming users of ICT, good examples of the ethical use of ICT for senior citizens, involving senior citizens at an early stage in the development of projects and/or services and/or product design and so on.

The utility of the good practices will be a function of the visibility they are given, the extent to which these good practices are promoted and promulgated across the Union.

In due course, an analysis of good practices could be made to distil some essential lessons or guidelines in the design, development and deployment of ICT for senior citizens.

\textsuperscript{250} Although it is not the same thing, Empirica et al. did produce for the MeAC study an inventory of information on policies of relevance for e-accessibility covering 28 countries (the EU25 Member States plus Australia, Canada and the US). See section 4.4.3 above. The ASK-IT website has many good examples of best practice in design for all. http://www.ask-it.org/design_for_all.php

\textsuperscript{251} SEC(2007) 811, p.64.
7  TOWARDS A COMPREHENSIVE MAP OF TOPICS

The environmental scanning report serves three main purposes:
• First, to describe existing resources in the field of ethics and privacy and to review existing policies, projects and studies on ICT for senior citizens and social inclusion,
• Second to identify key themes, clusters, junctures and gaps,
• Third, to draw a comprehensive map of topics and the way in which other projects have dealt with them.

The comprehensive map necessarily draws on the first and second points. Implicit, however, in drawing a map is that the map should show us how to get to where we want to go. That function, however, assumes we know where we want to go. In other words, the end point is built on some objectives.

In the case of SENIOR, the end point, simply stated, is the construction of a dialogue roadmap. But what is a dialogue roadmap? A dialogue roadmap implies one that has emerged from stakeholders talking and listening to each other, one that has emerged from consensus, one that can be reviewed and updated because stakeholders keep talking to each other, one with an objective of getting stakeholders to talk to each other.

7.1  DESIGNING A DIALOGUE ROADMAP

A roadmap is somewhat like a strategic plan: both set out what needs to be done in order to achieve a set of objectives.

In developing a roadmap, as in developing a strategic plan, we need to consider and agree what elements should be included and the level of detail that should be shown in the map. Here are some elements that could be included:
• Needs to be served by the roadmap
• Objectives, which could be refined over time
• Drivers – the factors that drive development of the map
• Trends – the political, social, economic, technological developments that affect the outcomes of the map
• Scenarios, which can help clarify objectives and help make them “real”
• Actions and milestones, which specify which things need to be done by when and by whom
• Topics (issues, challenges), gaps – to be addressed by the map
• Externalities, which are not easily predictable “x” factors or events that could affect the outcomes of the roadmaps
• Stakeholders
• Success criteria or indicators.

Steps in constructing a roadmap

These steps, which mirror the above referenced elements to a great extent, are not always or necessarily sequential, with one following logically from another. The order of what is to be
done can vary. Many of the steps are iterative. After one step is made, a previous element may be revisited and refined.

- Identifying a problem
- Formulating a vision
- Developing (measurable) objectives
- Collecting data (environmental scanning)
- Identifying key issues and stakeholders
- Engaging stakeholders
- Developing criteria for a successful roadmap, e.g., stakeholders are engaged, committed and collaborate in reaching a commonly agreed set of measurable objectives
- Developing scenarios – to help identify drivers, issues, desired futures and futures to avoid
- Creating the roadmap
- Formulating a strategic research agenda with milestones
- Establishing a platform, association, partnership
- Undertaking projects and actions
- Monitoring and evaluating actions against success factors or criteria or indicators

In putting together the dialogue roadmap, SENIOR partners and interested stakeholders should consider roadmaps developed by others, especially those dealing with themes close to our own hearts. Among other relevant roadmaps are the following (most of which have been produced by projects listed in Chapter 4):

  [252](http://ec.europa.eu/information_society/activities/egovernment/docs/inclusive_egovernment_roadmap.pdf)
- CAPSIL roadmap for EU research to achieve effective and sustainable solutions to independent living
- eABILITIES is mapping current and possible future technological developments in ICT accessibility, and identifying needs, breakthroughs and bottlenecks.
- eInclusion@EU produced e-inclusion policy roadmaps
  http://www.technologyprogramme.org.uk/site/IP/ALIP/default.cfm
  http://www.jrc.es/home/report/english/articles/vol73/MET2E736.htm

### 7.2 Identifying Where We Want to Go (Objectives)

One of the first steps in designing a roadmap is developing and agreeing a set of objectives.

In the instance of SENIOR, we can develop a set of objectives based on our review of existing resources, policies, projects and studies, and our identification of key themes, clusters, junctures and gaps. Or to put it differently, our environmental scan can help us identify needs

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that have been articulated by stakeholders which can then form the basis for defining a set of objectives.

From our review of policy documents, projects and studies as well as from our identification of key themes, clusters, junctures and gaps, we can identify a rather long list of objectives and topics to be covered by our dialogue roadmap such as the following:

- To minimise, if not overcome the various digital divides separating senior citizens from mainstream European society and its economy
- To foster the engagement of senior citizens in mainstream European society and economy through the use of ICT in a way that is ethically defensible
- To understand and identify senior citizens’ needs that can be met by ICT (in whole or in part)
- To encourage European industry to design ICT products and services accessible to senior citizens
- To encourage industry to design privacy and data protection into its products and services and to similarly encourage researchers to be sensitive to the privacy and data protection of senior citizens
- To formulate a set of ethical principles and guidelines applicable to the use of ICT by and for senior citizens
- To establish a mechanism – a platform, network, association, clustering or set of junctures – conducive to overcoming the fragmentation of efforts by the wide variety of stakeholders with an interest in the digital wellbeing of senior citizens and to sharing good practices in the use of ICT for and by senior citizens (and the mechanism should be open to all who wish to participate)
- To raise the awareness of all stakeholders, including the public, with regard to the ageing of European society and the measures to be taken to ensure that, through the use of ICT, senior citizens remain productive and engaged participants in the European society and economy
- To encourage lifelong learning and in particular in providing senior citizens with the training and education they need to use ICT so that they do become active participants in European society and its economy.
- To identify the resources and measures (including new legislative or regulatory initiatives, as appropriate) necessary for implementing the roadmap.

The above list of objectives is purely tentative, perhaps the basis for discussion with relevant stakeholders. Stakeholder commitment to the roadmap objectives will most likely be stronger if those stakeholders have participated in the formulation and/or review of the objectives.

Any such list of objectives needs to be subjected to at least four filters:

- The objectives should take into account our nexus of senior citizens, ICT, inclusion, ethics and privacy.
- The roadmap and its implementation should be seen as congruent with and not at variance with other relevant initiatives taken by policy-makers. We should avoid duplicating the efforts of others, particularly the AAL Association.
- The objectives should be deemed worthy of pursuit by as wide a range of relevant stakeholders as possible, e.g., the design and implementation of the roadmap should be such that industry is motivated to participate and contribute to its success.
- The objectives should be measurable (see the section below on monitoring progress).
7.3 INVITING OTHERS TO GO WITH US

In order to go from point A to point B, we need to invite some stakeholders to go along with us. A wide range of stakeholders should be invited to participate in construction of and validating the roadmap, a point made in the roadmap for inclusive e-government: “Stakeholder involvement and dialogue, wider than the EC and MS, is key, and efforts must be made to include ICT industry, academics and researchers, user groups and representatives, civil and community organisations, and media and marketing networks.”

In preparing its AAL proposal to the European Parliament and Council, the Commission says it consulted with a broad range of stakeholders, including public administrations, research institutes, universities, large companies, SMEs, associations, international organisations and interested individuals as well as Member States. Consultation with such a wide group of stakeholders suggests that the support of these stakeholders is important to ensure the success of the AAL Joint Programme certainly as well as any other similarly important initiative addressing senior citizens, ICT, inclusion, privacy and ethics.

It’s clear that SENIOR must follow in these footsteps. A dialogue roadmap, as SENIOR aspires to construct, must be built with the collaboration and invited input of a wide range of stakeholders, including senior citizens and/or their representative groups. Key stakeholders in the SENIOR case will come from several different sectors as the review of resources, policies, projects and studies have shown us. Stakeholders must include those at EU level as well as Member State and local level. Stakeholder groups should include policy-makers, regulators, industry, standards bodies, civil society organisations, academia and so on (see Appendix 2). To benefit as much as possible from the work done in other e-inclusion projects, SENIOR also needs to invite the partners in relevant projects, especially those summarised in Chapter 4.

Inviting as many stakeholders as possible – a list of relevant stakeholders numbers easily in the hundreds if not the thousands – while desirable, brings some complications, notably how to organise such participation.

As the number of potential stakeholders is rather large, we also need some means of communicating with them, of raising their awareness and stimulating their participation in our undertaking.

The SENIOR project already includes various methods for stimulating participation by a variety of stakeholders. The project has already (as of July 2008) convened two workshops involving different stakeholders, and expert meetings, involving more, are planned for the second half of 2008.

The project has its own website (http://www.seniorproject.eu) and has already engaged in

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some one-on-one interactions with still other stakeholders. It has planned various dissemination activities, including the preparation of policy papers and articles for peer-reviewed journals.

It will also be making available or known its deliverables by e-mailing those on its extensive contact list.

Still other outreach activities are planned, and as it proceeds with its information-gathering phase, the project will be seeking input from stakeholders on the construction of the dialogue roadmap and different vehicles or mechanisms for overcoming fragmentation of effort, optimising co-ordination of efforts and implementing the roadmap.

7.4 CONVERTING OBJECTIVES INTO ACTIONS

Once the objectives have been agreed, they will need to be converted into actions, who will do what by when. Dialogue with stakeholders will be no less important at this stage than in formulating the objectives themselves. If objectives are to be achieved, stakeholders will need to agree to undertake the actions to achieve them.

The actions associated with each objective can be listed rather simply, as in table like that which follows:

<table>
<thead>
<tr>
<th>Overview of actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action</td>
</tr>
<tr>
<td>---------</td>
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<tr>
<td></td>
</tr>
</tbody>
</table>

Such action tables are rather common and typical. As an example, see the comparable table in the Commission’s e-Health Action Plan.255

7.5 CONSIDERING ALTERNATE ROUTES AND THE BEST VEHICLE TO GET THERE

To continue with the map analogy, the roadmap should show us the terrain we have to cross to get to where we want to. In other words, we must recognise the barriers or difficulties that lie in our path and to have some ideas about how to overcome those barriers and difficulties.

To go from point A to point B, we also need to consider our means of transport. More specifically, we need to consider whether, for example, a platform or network or association or some form of partnership might be the best vehicle to reach our objectives. Any one of these or other possible vehicles can have varying degrees of structure. For example, a network could be very loose, almost ad hoc, not much more than a mailing list, or it can be highly structured, where some agreement has been reached among the “nodes” or stakeholders in the network about who will be responsible for doing what.

The SENIOR partners will be considering the vehicles or mechanisms that have been put forward as ways to achieve the objectives agreed with stakeholders. Among the possibilities are the following:

**A federating platform**

In this regard, one interesting model is the thematic platform, like that in which the EC seems interested for RFID. In its Draft ICT PSP Work Programme 2008\(^{256}\), the Commission says that it intends to support a federating platform for all key European stakeholders in the development and use of RFID technology and applications. Stakeholders should include Member States, industry, RFID advocacy groups and civil society. The platform would foster ongoing RFID stakeholder and expert consultations with a particular focus on:

- **identifying the requirements** for a Europe-wide co-ordinated and harmonised initiative on RFID technology application deployment – federating existing initiatives,
- **developing and maintaining a roadmap** pertaining to the evolution of the relevant technologies, their applications and potential privacy and security threats,
- creating the environment for progress in related European **standardisation** and critical infrastructure governance issues,
- monitoring and, where appropriate, **linking to RFID policy initiatives in other regions** of the world, notably in the US and Asia,
- **identifying best practices** for achieving progress towards a single market for RFID applications by raising awareness of the multiple benefits of RFID technology for the economy and the society, and **removing technical barriers** and non-technical impediments to its effective, secure and privacy-friendly deployment.

The information gathered and the activities of the platform should be the basis for **awareness raising and education directed at both the stakeholders and the general public** and taking into consideration the international context. [Boldface has been added to highlight the functions of the federating platform.]

**An association**

In the instance of the AAL Association, the Commission proposed to the European Parliament and Council and they agreed the AAL Joint Programme and the AAL Association. The Commission obviously believed that implementation of the joint R&D programme required establishment of a dedicated implementation structure. The AAL Association is governed by a General Assembly, which appoints the members of the Board of Directors and supervises the implementation of the AAL Joint Programme. The AAL Board of Directors – consisting of a Director and two Vice-Directors – is elected by the General Assembly to undertake the specific management responsibilities such as budget planning, staffing and contracting. It legally represents the Association and reports to the General Assembly. An Advisory Board with representatives from industry and other stakeholders will provide recommendations for priorities and topics to be addressed in the calls for proposals of the AAL Joint Programme.

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A forum

In the case of its e-health action plan, the Commission said a high level e-health forum should be established, the role of which would be to support the Commission services. The forum was to involve all “necessary” stakeholders, including those at national, regional, or local hospital authority levels. The forum’s task would be to follow up the various roadmaps, and to identify further actions including a strong evidence basis for the case for e-Health. The Commission also speaks of the need to share and widely disseminate best practices and experience in the use and impact of e-health applications, and approaches to ensuring the interoperability of diverse systems and services across the Union.257 [Boldface added.]

As yet, it is too early to say what the shape of the SENIOR roadmap will look like or, indeed, the vehicle for travelling from here to there. The outcomes will depend in good measure on the extent to which stakeholders are engaged and how their views are assimilated. Suffice it to say, the desirability of engaging stakeholders early on in the process of constructing the roadmap is well recognised by the SENIOR partners.

In the meantime, it is useful to note that, in the instance of the EC roadmap for inclusive e-government roadmap258, EU Ministers invited the European Commission to facilitate the its implementation (somebody has to take the lead).259 Ministers also said the EC should define future “support mechanisms” (what does this mean – a programme or an organisational structure?) to explore and exploit the benefits of e-participation, identify good practice cases and stimulate the exchange of experiences gained by Member States.

7.6 MONITORING PROGRESS

Many of the objectives, at least as stated above, may be rather difficult to measure. We should identify a set of criteria or indicators that would serve to indicate to what extent the objectives are being achieved.

<table>
<thead>
<tr>
<th>Indicators</th>
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</thead>
<tbody>
<tr>
<td>Indicators are assessment tools, indirect measures of broad concepts which cannot be measured directly. They quantify phenomena in order to help to understand complex realities and to facilitate the planning and development process of policies. Indicators may be quantitative or qualitative parameters. Indicators represent data that have been collected by a variety of agencies using different collection methods. An indicator may provide evidence that a certain condition exists or does not exist. An indicator can be an instrument for descriptive characterisation of a situation. Other indicators are used to provide evidence that</td>
</tr>
</tbody>
</table>

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certain results have or have not been achieved. Indicators are also widely used to determine, over time, the performance of a political process or achievement of a defined outcome. They are used to illustrate progress of a country in meeting a range of economic, social and environmental goals. Indicators enable decision-makers to assess progress towards the achievement of intended outputs, outcomes, goals and objectives. Indicators of policy measures – such as regulations, subsidies, projects, programmes or actions – should qualify and quantify the efficiency, effectiveness, impact and sustainability of the respective field of activity.\textsuperscript{260}

Examples of indicators relevant to the SENIOR project’s interests in senior citizens, ICT, inclusion, privacy and ethics can be found in the Riga Declaration, wherein Ministers set a target “to convincingly address eInclusion, the differences in Internet usage between current average use by the EU population and use by older people, people with disabilities, women, lower education groups, unemployed and ‘less-developed’ regions should be reduced to a half, from 2005 to 2010”.\textsuperscript{261} Ministers also set a target for improving digital literacy and competences: “The current gaps of digital literacy and competence between groups at risk of exclusion and the average population should be halved by 2010.”

The exact criteria for measuring progress in the implementation of the roadmap and the indicators of its success (or lack thereof, for that matter) are to be determined, but clearly should be factored into the construction of the roadmap and the attendant objectives which should be formulated in such a way as to be measurable. If it seems impossible to prepare criteria or indicators for an objective, then we may need to to revise it in such a way that it can be measured.

7.7 THE NEXT STEPS

At this point, six months since the SENIOR project began in January 2008, the partners need to concentrate on identifying and contacting stakeholders, to communicate with them with a view to maximising their contributions towards defining objectives for the dialogue roadmap and an appropriate mechanism for constructing and implementing the roadmap. The key will be to stimulate dialogue between, among and with stakeholders. We will need to provide them with copies of our deliverables, to encourage their comments on those deliverables and to synthesise those comments. Constructing a roadmap with “buy-in” from all relevant stakeholders is a formidable challenge, but there is only one way to achieve that, and that’s through dialogue. That process has already started and will intensify in the months to come. We look forward to it.


\textsuperscript{261} Riga Declaration made by Ministers of European Union (EU) Member States and European Free Trade Area (EFTA) countries responsible for eInclusion policy, 11 June 2006. http://europa.eu.int/information_society/events/ict_riga_2006/index_en.htm
8 APPENDIX 1 SHORT GLOSSARY

This is a short glossary of some of the key terms used in this report. Generally, the definitions of these key terms have been extracted from one or more sources. Some terms have been defined or explicated at greater length than others. However, one should not infer anything from the length of these definitions, certainly not the importance of one term compared to another.

In addition to this glossary, one can find other glossaries relevant to the nexus of two or more elements involving senior citizens, ICT, inclusion, ethics and privacy. For example, CEN, the European standards organisation has a useful and interesting glossary that can be found at http://www.cen.eu/boss/glossary.asp
The eUSER project produced a useful glossary and it can be found at http://www.euser-eu.org/Glossary.asp?MenuID=3

Accessibility

Supports the inclusive participation (user acceptance), awareness and learning of users. Aspects of accessibility embrace equal rights and opportunities, usability (vs. complexity), training, education and dependability.\(^\text{262}\) See also e-accessibility below.

Active ageing

Active ageing is the process of optimising opportunities for health, participation and security in order to enhance the quality of life as people age.\(^\text{263}\)

Adaptability

The capacity to adapt to new technologies, new market conditions and new work patterns of both enterprises and of those employed in enterprises.\(^\text{264}\)

Assistive technologies

Assistive technologies are products designed to compensate for motor, sensory and cognitive difficulties frequently experienced by senior citizens. They can be distinguished from monitoring technologies.

Benchmarks

Benchmarking is not just one specific well-defined method, and there can be several types of

benchmarks:

a) *Performance benchmarks*, which include efficiency metrics and effectiveness metrics (efficiency compares output with input, effectiveness compares a certain level of performance against a benchmark which is well defined and often ideal)

b) *Guidelines and standards* which involve qualitative assessments to determine the degree to which certain criteria are met, or to which degree a process or product adheres to and complies with recommendations of a standard (official or de facto)

c) *Other types*, e.g. customer satisfaction, which seek to determine factors which will impact on product/service adoption.

When performing a benchmark, one needs to use a tool or instrument in order to collect the data (and perhaps to process and/or interpret the data). This could involve, e.g., the use of periodic surveys or questionnaires as well as interviews; it could also mean the use of software packages that facilitate measuring (which is automated and quantitative).265

The eEurope Benchmarking Report states that: “Benchmarking works within a political context... It must be designed in a way to be relevant to policy decisions. Benchmarking is not an end in itself and is not a purely statistical exercise.”266

Benchmarking criteria and indicators may be used to assess the level of success of e-inclusion policies. The EC Communication: eEurope 2005: Benchmarking Indicators (COM(2002) 655 final), published in 2002, proposed a set of indicators to monitor progress of the eEurope 2005 Action Plan towards an Information Society for All. These included a number of policy, statistical and other supplementary indicators assessing:

- Citizens’ access to and use of the Internet
- Enterprises’ access to and use of ICTs
- Internet access costs
- Number and kinds of e-government services available
- Availability of e-learning services, courses, etc
- Availability and access to e-health services
- e-business readiness
- Use of ICT by business
- Internet users’ experience and usage regarding ICT-security
- Broadband penetration.

The first version of the i2010 Benchmarking Framework267 was published by the i2010 High Level Group and set out a number of indicators to monitor progress in achieving the i2010 priorities, including:

- Digital literacy and ICT skills
- e-inclusion

265 DfA@eInclusion, Overview of European benchmarking activities, Deliverable D2.3, p. 8 et seq. http://www.dfaei.org/index.html
• Use of public services on line
• Take-up of advanced services
• Use of broadband
• Access and use of ICT in European schools
• Availability of online public services
• Broadband coverage in Europe.

Civil society organisation (CSO)

A CSO is a legal entity that is non-governmental, not-for-profit, not representing commercial interests, and pursuing a common purpose in the public interest.

Clusters

Clusters are typically groups of companies which are located in the same geographic area which may or may not have some common aspirations. Whether they do or not, their proximity generally benefits all of them in numerous different ways. In addition to the traditional geographically based clusters, the term clusters can be and is used in a somewhat different sense to mean groups of independent partners (companies, universities, etc.) working towards a common cause. These could be described as thematic or sectoral clusters. See section 7.2 above

COST

European Cooperation in the field of Scientific and Technical Research

Design for all

“Design for all” is an approach to the design of products, services and environments to be usable by as many people as possible regardless of age, ability or situation. It links directly to the political concept of an inclusive society and its importance is well recognised by governments, business and industry. A design-for-all approach to product or service development should benefit everyone, not just people with disabilities.\(^{268}\)

The ASK-IT project (see Chapter 4) describes design-for-all as a European term closely related to universal design in emphasis and goal. The ASK-IT project cites potential advantages for companies that adopt the design-for-all approach, as follows:

• It supports a company’s compliance with national and international legislation, such as the UK Disability Discrimination Act (DDA) and Section 508 of the Rehabilitation Act (USA).
• It can trigger an increase in the number of potential customers, by opening up the market to new, previously untargeted consumer groups (e.g., visually impaired users, hearing impaired users, senior citizens, etc.).
• It contributes to the satisfaction of users’ and consumers’ needs and thereby improves their loyalty to the company.
• It helps to improve the company’s reputation and public image.

The ASK-IT project says there are several good reasons to design for all:

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• Life expectancy continues to increase across Europe and as the population gets older, there are an increasing number of people who have impairments but wish to live as independently as possible.
• There is also a change in attitudes: Mobility impaired people are starting to expect the same opportunities as the general population.
• There is a general change in society that a more inclusive approach should be taken which is reflected in the introduction of legislation.

Innovative design-for-all approaches can become examples of best practice, to which other companies should aspire. The ASK-IT website has many good examples of best practice in design for all.269

The Center for Universal Design270 has formulated the following principles of universal design (“the seven commandments”):

**Equitable Use**: The design is useful and marketable to any group of users.

**Flexibility in use**: The design accommodates a wide range of individual preferences and abilities.

**Simple and intuitive**: Use of the design is easy to understand, regardless of the user’s experience, knowledge, language skills or concentration level.

**Perceivable information**: The design communicates necessary information effectively to the user, regardless of ambient conditions or the user’s sensory abilities.

**Tolerance for error**: The design minimises hazards and the adverse consequences of accidental or unintended actions.

**Low physical effort**: The design can be used efficiently and comfortably and with a minimum of fatigue.

**Size and space for approach and use**: Appropriate size and space is provided for approach, reach, manipulation and use regardless of the user’s body size, posture or mobility.

**Digital divide**

The gap between those who can access and use information and communication technologies (ICT) effectively, and those who cannot.271 There are many types of digital divide, which may be geographic, financial, economic, social, political, demographic, linguistic, attitudinal, etc.

**Digital engagement**

Access to digital technology to enable people to communicate in new ways, access interactive content or transact electronically.272

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269 http://www.ask-it.org/design_for_all.php
270 http://design.ncsu.edu/cud/
Digital literacy

The ability to use ICT proficiently.\textsuperscript{273}

E-accessibility

Electronic accessibility encompasses activities related to the achievement of an accessible Information Society, in particular for persons with disabilities and senior citizens. Approaches are essentially based on mainstreaming accessibility in ICT tools and services through the design-for-all principle and availability of adequate assistive technology.\textsuperscript{274}

In its Communication of the same title, the European Commission says e-accessibility means overcoming the technical barriers and difficulties that people with disabilities and others experience when trying to participate on equal terms in the Information Society. It is part of the broader e-inclusion concept, which also addresses other types of barriers, such as financial, geographical or educational.\textsuperscript{275}

E-accessibility concerns the design of ICT products and services so that they can be used by people with disabilities, whether of a permanent or temporary nature, and by older people with age-related changes in functional capacities. For people with visual impairments, hearing impairments and other disabilities, e-accessibility is a sine qua non as ICT products and services become essential elements of everyday social and economic life. It will become even more important as the European population ages. E-accessibility can be beneficial to everyone, by making ICTs more usable in general and facilitating their usage in a wide variety of situations (e.g., hands-free usage, in noisy or poor lighting environments, and so on).\textsuperscript{276}

E-government

The use of information and communication technologies in public administrations combined with organisational change and new skills in order to improve public services and democratic processes and strengthen support for public policies.\textsuperscript{277}

E-health

Describes the application of information and communications technologies across the whole range of functions that affect the health sector.\textsuperscript{278}

\textsuperscript{274} SEC(2007) 811, p. 16.
\textsuperscript{276} Cullen, Kevin, Lutz Kubitschke and Ingo Meyer, Assessment of the Status of eAccessibility in Europe, Main Report, MeAC study, October 2007, p. i.
\textsuperscript{278} European Commission, e-Health – making healthcare better for European citizens: An action plan for a European e-Health Area, Communication from the Commission to the Council, the European Parliament, the
**E-inclusion**

Refers to the actions to realise an inclusive Information Society, that is, an Information Society for all. The aim is to enable every person who so wishes to fully participate in the Information Society, despite individual or social disadvantages. E-inclusion is necessary for social justice and ensuring equity in the knowledge society. It is also necessary on economic grounds, to fully realise the potential of the Information Society for productivity growth and reduce the cost of social and economic exclusion.\(^{279}\) The goal of e-inclusion is to bridge the digital availability, accessibility, affordability and ability gaps.

E-inclusion means both inclusive ICT and the use of ICT to achieve wider inclusion objectives. It focuses on participation of all individuals and communities in all aspects of the Information Society. E-inclusion policy, therefore, aims at reducing gaps in ICT usage and promoting the use of ICT to overcome exclusion, and improve economic performance, employment opportunities, quality of life, social participation and cohesion.\(^{280}\)

DG Information Society and Media says that e-inclusion (the “e” stands for electronic) aims to ensure that disadvantaged people are not excluded due to their lack of digital literacy or Internet access. E-inclusion also means taking advantage of new opportunities offered by digital and technical services for the inclusion of socially disadvantaged people and less-favoured areas.\(^{281}\)

**Ethics**

Dr Ken Boddy defines ethics as discourse aimed at answering normative questions or dilemmas (right and wrong, good and bad) by referencing moral philosophy and where possible identifying rules and standards helpful in answering similar questions. Morality and ethics (used synonymously here) are always about questions of degree and balance… In health and social care, ethical discourse has the practical aim of guiding intervention decisions: it is a non-trivial discourse, precisely because it affects people’s lives.\(^{282}\) For this and other reasons, the degree of universality of ethical rules and standards is highly contested and changes over time and space… Given changing technologies and variation in morés, it would be remarkable if any set of principles were universally applicable.

Some ethical judgements are codified in law, some in professional codes of conduct and yet others are embedded in best-practice guidelines and/or are part of the situated ethical and service quality concerns that fall within the ambit of every day carer activities and cost benefit choices… Judgements may be exercised differently between cultures (and EU Member States).\(^{283}\)

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\(^{281}\) http://ec.europa.eu/information_society/activities/einclusion/index_en.htm


Practical or applied ethics link philosophical principles to everyday questions of right and wrong, good and bad. It does this by examining what are the justifiable qualifications to general ethical principles necessary to resolve concrete dilemmas and issues. The process of applying ethics, as Torbjörn Tännsjö shows, is one of identifying a moral principle, accounting for the relevant facts facing actors taking an ethical decision and then reaching a practical conclusion… The domain of ethics is too finely textured for simple top-down or bottom-up decision models.

Virtue ethics focuses on the virtues informing an agent’s moral decision… It is thus differentiated from other ethical frameworks that concentrate on the correctness of normative decisions… Virtue supports effective functioning: an important aspect of all virtue ethical discourse is to consider what are the moral goals in each circumstance. The process of applying virtue ethics is then a process of understanding the social setting in which an ethical decision is taken and appreciating those virtues that will support the ethically defensible decision. Virtue theory is a framework approach, which invites synthesis with other ethical frameworks. For example, Pellegrino and Thomasma argue that moral events are composed of four elements: the agent, the act, the circumstances and the consequences. Ethical judgements must take account of all of these elements by drawing upon relevant facts and values.

**Ethics committee**

An independent body in a Member State, consisting of healthcare professionals and non-medical members, whose responsibility it is to protect the rights, safety and wellbeing of human subjects involved in a trial and to provide public assurance of that protection by, among other things, expressing an opinion on the trial protocol, the suitability of the investigators and the adequacy of facilities, and on the methods and documents to be used to inform trial subjects and obtain their informed consent.

**Independent living**

Independent living is the ability of older people to manage their lifestyles in their preferred environment, maintaining a high degree of independence and autonomy, enhancing their mobility and quality of life, improving their access to age-friendly ICTs and personalised integrated social and health care services.

The SEN@ER project describes “independent living” as a crucial prerequisite to allow for “active ageing” and “ageing well”.

“Independent living” can vary conceptually from “fully autonomous living” to specific forms of “assisted living” that enable older people to lead a self-determined life in their home

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environment for as long as possible.

In Europe, the notion of independent living is congruent with the idea of “integration” of all citizens. Integration rather than accommodation became recognised as the key to the inclusion of people with disabilities. Member States are seeking to identify and remove barriers to equal opportunities and to promote full participation of disabled people in all aspects of life. For senior citizens, this means enabling them – fit or frail – to be as independent, self-reliant and socially integrated as possible.

A specific policy concept in this field is “ageing in place”. Such policies and practices are dedicated to maintaining and supporting independent living as long as possible. The model encourages a host of community services and resources (including traditional services such as “Meals on Wheels” and home health services as well as new technology-based services such as alarming services, telemonitoring, and telemedicine) to support senior citizens living in their own homes and to support seniors in independent living. The “ageing in place” model has led to new ways of conceptualising long-term care, respecting and taking full account of the needs of senior citizens. Senior citizens are provided care when the need arises, thereby avoiding painful separations from familiar environments. In some countries, traditional nursing homes have embraced the ageing in place idea and are striving to create personal and homelike environments for residents.

The concept of independent living has changed over time. It is no longer a question of helping frail senior citizens to cope with daily life. It is increasingly about enhancing their quality of life by enabling them to take part in social, economic and cultural activities, thereby addressing challenges to independent living that come with the ageing process.

The constituents and shaping factors of independent living are differentiated according to the different types of needs of an individual. The different levels of needs are described as

- Basic and physical needs
- Psycho-social needs and
- Participatory and self-fulfilment needs.

While the first group of needs focuses on the basic and physical needs of an individual such as medical treatment, health care, personal hygiene, mobility at home, etc., the second addresses those closely related to social contacts and support (e.g., partnership, familial support). Finally, there are those needs that allow for participation in an individual’s different spheres (private, public, working sphere) in society and that lead to self-fulfilment.

These needs vary from individual to individual and are determined by factors such as an individual’s health, socio-economic background and lifecycle experiences, self-perception and aspirations. Also role expectations – which differ according to age, gender, health, etc. – play an important role in relation to the needs of individuals.

**Information security**

The preservation of confidentiality, integrity and availability of information.

**Informed consent**

A decision, which must be written, dated and signed, to take part in a clinical trial, taken
freely after being duly informed of its nature, significance, implications and risks and appropriately documented, by any person capable of giving consent or, where the person is not capable of giving consent, by his or her legal representative; if the person concerned is unable to write, oral consent in the presence of at least one witness may be given in exceptional cases, as provided for in national legislation.\textsuperscript{290}

\textbf{Innovation platform}

In the specific context of ageing well in the Information Society, the Commission envisions an innovation platform as a forum by means of which stakeholders can co-operate on strategic innovation agendas addressing research, deployment and implementation, so as to develop common roadmaps, showcasing and implementation paths across the delivery chain.\textsuperscript{291}

\textbf{Interoperability}

Interoperability means the ability of information and communication technology (ICT) systems and of the business processes they support to exchange data and to enable information and knowledge to be shared.\textsuperscript{292}

Interoperability problems concern both the general field of interoperability between assistive technologies and mainstream technologies. Lack of interoperability gives rise to sub-optimal dimensions of the market which results in higher prices for users and lower profits for suppliers and service providers. Without proper market incentives, companies do not tend to tackle the issue of interoperability by themselves.\textsuperscript{293}

An interoperability framework can be defined as a set of standards and guidelines that describes the way in which organisations have agreed, or should agree, to interact with each other. An interoperability framework is, therefore, not static and may have to be adapted over time as technologies, standards and administrative requirements change.\textsuperscript{294}

See also the EC Communication on Interoperability.\textsuperscript{295}

\textsuperscript{293} SEC(2007) 811, p. 44.
Junctures

See section 7.3 above.

Lifelong learning

All learning activity undertaken throughout life, with the aim of improving knowledge, skills and competences within a personal, civic, social and/or employment-related perspective. 296

Mainstreaming

Mainstreaming refers to bringing the specialised requirements of senior citizens or those with disabilities into general purpose products and services. Mainstreaming has important implications for e-accessibility: responding to the needs of an ageing society entails a shift in the design philosophy of the ICT industry for mainstream products, insofar as the needs of senior citizens and persons with disabilities are or will need to be incorporated upfront into the design of products and services. 297

Monitoring

Any activity carried out for the purpose of detecting, observing, copying or recording the location, movement, activities, image, text, voice, sound or state of an individual. 298

Ontology

Defines the terms used to describe and represent an area of knowledge, and are used by people, databases and applications that need to share domain information (a domain is a specific subject area, such as health or medicine). 299

Open method of co-ordination

Designed to help Member States develop progressively their own policies, and involves fixing guidelines, establishing quantitative and qualitative benchmarks, translating European guidelines into national and regional policies, and monitoring, evaluation and peer review. 300

Social inclusion

When people can participate fully in economic, social and civil life, when their access to income and other resources (personal, family, social and cultural) is sufficient to enable them to enjoy a standard of living and quality of life that is regarded as acceptable by the society in which they live and when they are able fully to access their fundamental rights. 301

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298 This definition comes from the EC’s Draft Recommendation on RFID. http://ec.europa.eu/yourvoice/ipm/forms/dispacht?form=RFIDRec
299 See http://www.w3.org/TR/2002/WD-webont-req-20020307/
Usability

Promotes system design according to a user-centric approach. Better usability will then support easy learning (i.e., learning by observation), user control and efficiency, thus increasing satisfaction and, consequently, user acceptance. \(^{302}\)

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9 APPENDIX 2 KEY STAKEHOLDERS

This list of key stakeholders dealing with inclusion, privacy and/or ethical issues must be regarded as indicative only. It is not intended to be comprehensive and probably some equally important stakeholders are not listed. Such, however, is the hazard in compiling even a purely indicative list. For the stakeholders, we provide the stakeholder’s name and website and, in most instances, some brief text about their mission and/or references to any publications they have produced relevant to SENIOR’s interests.

9.1 EC, MEMBER STATES, ADVISORY BODIES AND AGENCIES

AAL Association
http://www.aal-europe.eu/

The AAL Joint Programme is a new joint research and development (R&D) funding activity implemented by 20 European Member States and three Associated States with the financial support of the European Community based on Article 169 of the EC Treaty. The legal body of the AAL Joint Programme – and responsible for its implementation – is the AAL Association, an international, non-profit association, set up under Belgian law. The AAL Association is based in Brussels. It was founded by 14 European nations on 19 September 2007.

Full membership in the AAL Association is open to organisations representing EU Member States and countries associated with the Seventh Framework Programme. Each participating Partner State nominates at least one organisation which is endorsed to represent the state.

The overall objective of the programme is to enhance the quality of life of older people and strengthen the industrial base in Europe through the use of ICT. Its most important activity is the regular publication of calls for proposals for R&D projects.

The AAL Joint Programme is initially a six-year funding programme (2008 – 2013), with a planned total budget of more than €600 million, of which half is public funding and half is private funding from the participating organisations. The public funding consists of contributions from the national programmes of the AAL Partner States and that of the European Community. The EC financial contribution amounts to a maximum of €150 million for the duration of the AAL Joint Programme.

Organisationally, the AAL Association is structured as follows:

The AAL Association is responsible for all the activities of the AAL Joint Programme. The AAL Association’s tasks include contract and budget management, the development of the annual work programmes, organisation of the calls for proposals, handling of the evaluation and ranking of projects. In addition, it supervises project monitoring and transfers the associated payments of the Community contributions to nominated national programme agencies. It also organises dissemination activities.

The AAL Association is governed by the General Assembly. The General Assembly, which is the decision-taking body of the AAL Joint Programme, appoints the members of the Executive Board and supervises the implementation of the AAL Joint Programme, including
approval of annual work programmes, allocation of national funding to projects and applications for new membership. It will work on the basis of a one-country one-vote principle. Decisions are taken by simple majority, except for decisions on succession, admission or exclusion of members or dissolution of the Association, for which specific voting requirements may be set out in the statutes of the Association. The Commission has observer status in the meetings of the General Assembly.

The AAL Executive Board – consisting at least of a President, a vice-President and a treasurer – is elected by the General Assembly to undertake the specific management responsibilities such as budget planning, staffing and contracting. It legally represents the Association and reports to the General Assembly.

An Advisory Board with representatives from industry and other stakeholders, including representatives of people of different generations, will provide recommendations for priorities and topics to be addressed in the calls for proposals of the AAL Joint Programme.303

From 1 Sept 2004 to 31 Dec 2006, the preparatory activities for the new AAL Joint Programme were funded as part of the Ambient Assisted Living project (see section 4.2.1 above), a Specific Support Action under the IST priority within the Sixth Framework Programme.

Article 29 Data Protection Working Party
http://ec.europa.eu/justice_home/fsj/privacy/workinggroup/index_en.htm

The Art.29 Data Protection Working Party was established by Article 29 of the Data Protection Directive (95/46/EC). It comprises representatives from the Member States’ data protection authorities. Its objectives are as follows:

- To provide expert opinion from Member State level to the Commission on questions of data protection.
- To promote the uniform application of the general principles of the Directive in all Member States through co-operation between data protection supervisory authorities.
- To advise the Commission on any Community measures affecting the rights and freedoms of natural persons with regard to the processing of personal data and privacy.
- To make recommendations to the public at large, and in particular to Community institutions on matters relating to the protection of persons with regard to the processing of personal data and privacy in the European Community.

The Chairman of the Working Party is elected to a two-year term. The Working Party’s secretariat is provided by the European Commission (specifically, the Data Protection Unit of DG Justice, Freedom and Security).

303 See Annex II of the European Parliament legislative resolution of 13 March 2008 on the proposal for a decision of the European Parliament and of the Council on the participation by the Community in a research and development programme aimed at enhancing the quality of life of older people through the use of new Information and Communication Technologies (ICT), undertaken by several Member States.


CREST

CREST stands for the Comité de la recherche scientifique et technique (Scientific and Technical Research Committee). It is an advisory body whose function is to assist the European Commission and the Council of the European Union in performing the tasks incumbent on these institutions in the sphere of research and technological development.

European Agency for Fundamental Rights

The European Union Agency for Fundamental Rights (FRA) is a body of the European Union, established through Council Regulation (EC) No 168/2007 of 15 February 2007. It is based in Vienna and is being built on the European Monitoring Centre on Racism and Xenophobia (EUMC). FRA carries out its tasks independently. It co-operates with national and international bodies and organisations, in particular with the Council of Europe. It also works closely with civil society organisations. The Agency provides the relevant institutions and authorities of the Community and its Member States when implementing Community law with assistance and expertise relating to fundamental rights.

European Centre for the Development of Vocational Training (Cedefop)
www.cedefop.eu.int

Cedefop is the European agency promoting the development of vocational education and training (VET) in the European Union. Cedefop was established by Council Regulation 337/75 as a non-profit independent body to assist the European Commission in promoting development of vocational education and training. Article 150 of the Treaty establishing the European Community provides that: “The Community shall implement a vocational training policy which shall support and supplement the action of the Member States, while fully respecting the responsibility of the Member States for the content and organisation of vocational training.”

European Data Protection Supervisor

The EDPS is an independent supervisory authority, created by a Decision of the European Parliament and Council. It is devoted to protecting personal data and privacy and promoting good practice in the EU institutions and bodies. It monitors the EU administration’s processing of personal data; advises on policies and legislation that affect privacy; co-operates with similar authorities to ensure consistent data protection. Peter Hustinx, the EDPS, was appointed to a five-year term, as of January 2004.304

European Foundation for the Improvement of Living and Working Conditions
http://www.eurofound.europa.eu/

The Foundation was set up by the European Council (Council Regulation (EEC) No. 1365/75 of 26 May 1975), to contribute to the planning and design of better living and working conditions in Europe. It provides information, advice and expertise – on living and working conditions, industrial relations and managing change in Europe – for key actors in the field of EU social policy on the basis of comparative information, research and analysis. The key actors are employers, policy-makers, governments and trade unions.

**European Training Foundation (ETF)**


The ETF is an agency of the European Union based in Turin. It was established by Council Regulation No. 1360 in 1990 to contribute to the development of the education and training systems of the EU partner countries. It became operational in 1994. Its mission is to help transition and developing countries to harness the potential of their human resources through the reform of education, training and labour market systems in the context of the EU’s external relations policy. As an instrument of the EU's external relations policy, the ETF bases its work on the conviction that human resources development in a lifelong learning perspective can make a fundamental contribution to increasing prosperity, creating sustainable growth and encouraging social inclusion in transition economies.

**i2010 High Level Group**


The Commission set up a High Level Group of Member States' representatives to advise the Commission on the implementation and development of the i2010 strategy. The group reviews the effectiveness of i2010 and gives advice on possible improvements and adjustments, using benchmarking to monitor i2010 implementation and policy evolution. It also offers a forum for exchanging experience on issues relevant to i2010 which are covered by the Lisbon National Reform Programmes. The High Level Group is composed of one representative per Member State at Director General level. It is chaired by the Commission and meets up to three times per year. It is open to observers from candidate and EEA countries.

The i2010 e-Inclusion Subgroup comprises representatives from the Member States. The subgroup provides advice to the i2010 High-Level Group and helps the Commission to implement the Riga Declaration on e-Inclusion. The subgroup has done a lot of work on preparing the 2008 European Initiative on e-Inclusion, focusing especially on policies for ICT for ageing well and e-accessibility. In 2008, the subgroup is supporting the e-inclusion initiative by providing the impetus for activities and best practices at local and national level. The group also contributes to the exchange of know-how on e-inclusion policies through national reporting schemes.\(^{305}\)

**INCOM**

http://ec.europa.eu/information_society/activities/einclusion/groups/index_en.htm

INCOM is the Inclusive Communications subgroup of the eCommunications Framework Committee (COCOM).\(^{306}\) It has issued two reports on the access to and use of electronic

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\(^{305}\) These reports are available at: http://www.epractice.eu/einclusion

\(^{306}\) COCOM was established by the Framework Directive. INCOM is a subgroup of COCOM. For further information: http://europa.eu.int/information_society/policy/accessibility/regulation/incom_2003/index_en.htm
communications by users with disabilities. These reports, in 2004 and 2006, identified major
problems that people with disabilities face when using electronic communications as well as
the relevant applicable legal provisions from the electronic communications package ensuring
protection of the interests of end-users. The reports found that users with disabilities,
including senior citizens, are disadvantaged in Europe in regard to the availability, choice,
quality, price and, in particular, access to electronic communications.

ISTAG
http://cordis.europa.eu/ist/istag.htm

The ISTAG (=Information Society Technologies Advisory Group) was set up to advise the
Commission on the overall strategy to be followed in carrying out the IST thematic priority
under the European framework programme for research. ISTAG also advises on the definition
and implementation of a coherent policy for research in ICT in Europe.

Institute for Prospective Technological Studies (IPTS)
http://www.jrc.es

The IPTS, based in Seville, is one of several research institutes under the European
Commission’s Joint Research Centre (DG Research). It carries out research on behalf of all
other Commission Directorates-General and the European Parliament. IPTS also partners with
others in proposals to the Commission under its Framework Programme. Among its many
reports and studies is a recent one entitled *Active Ageing and Independent Living Services:*
*The Role of Information and Communication Technology*, which is referenced (see
Malanowski et al.) in Chapter 5 above. Another is referenced there too (see Comyn et al.).

9.2 INTERNATIONAL ORGANISATIONS

Following are a few of the intergovernmental organisations that have dealt with issues relating
to senior citizens.

Council of Europe
http://www.coe.int/

Founded in 1949, and currently with 47 member countries, the Council of Europe seeks to
develop throughout Europe common and democratic principles based on the European
Convention on Human Rights and other reference texts on the protection of individuals.

International Labour Organisation

The ILO is the tripartite UN agency that brings together governments, employers and workers
of its member states in common action to promote decent work throughout the world in
conditions of freedom, equity, security and human dignity. Its main aims are to promote rights
at work, encourage decent employment opportunities, enhance social protection and
strengthen dialogue in handling work-related issues. See, for example, its Recommendation
Concerning Human Resources Development: Education, Training and Lifelong Learning,
International Labour Conference, Recommendation 195 (revision of 1975 recommendation),
Organisation for Economic Co-operation and Development (OECD)
www.oecd.org

The OECD describes itself as a unique forum where the governments of 30 democracies work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practices and co-ordinate domestic and international policies. The OECD’s Paris-based secretariat collects data, monitors trends and analyses and forecasts economic developments. It also researches social changes or evolving patterns in trade, environment, agriculture, technology, taxation and other areas.

The OECD has produced several important guidelines on privacy. The OECD Working Party on Information Security and Privacy (WPISP) develops policy options to sustain trust, information security and privacy in the global networked society.

In addition to its various reports and guidelines on privacy, data protection and transborder data flows, the OECD has produced important reports on the ageing of the work force. Notable among these is its report, *Live Longer, Work Longer: A synthesis report*, Paris, 2006.

UNESCO – Global Ethics Observatory (GEObs)

GEObs is a UNESCO system of databases with worldwide coverage in bioethics and other areas of applied ethics in science and technology such as environmental ethics, science ethics, and technology ethics.

The World Commission on the Ethics of Scientific Knowledge and Technology (COMEST) is an advisory body to UNESCO composed of 18 independent experts. COMEST delivers recommendations to the Director-General on issues tabled for its consideration by UNESCO. In 2001, a COMEST Sub-Commission produced a Report on the Ethics of the Information Society.307

UNESCO’s capacity building efforts in the area of ethics of science and technology take the form of education, network building, resource provision and technical advice.

In March 2004, UNESCO published a useful Code of Conduct and Ethical Guidelines.308

World Health Organisation
http://www.who.int/ageing/en/

The Geneva-based, UN organisation has produced many publications, documents and reports dealing with ageing. See the website.

9.3 STANDARDISATION AND RELATED BODIES

In addition to the bodies listed below, a link with the national standards organisations in the EU can be found at: http://www.normapme.com/english/standbodies.htm. A list of international, regional and national standards organisations can also be found at: http://en.wikipedia.org/wiki/Standards_organization

**Association for advancement of Assistive Technology in Europe (AAATE)**
http://www.aaate.net/

AAATE is an interdisciplinary pan-European association devoted to all aspects of assistive technology, such as use, research, development, manufacture, supply, provision and policy. It has more than 250 members from across Europe and beyond.

**Design for All and Assistive Technologies Standardization Co-ordination Group (DATSCG)**
http://www.ictsb.org/DATSCG_home.htm

DATSCG is a subgroup of the Information and Communications Technologies Standards Board (ICTSB), formed to ensure effective co-ordination between the various ICT-related standardisation activities at European level in relation to design-for-all and assistive technologies.

**European Association for the Coordination of Consumer Representation in Standardization (ANEC)**
http://www.anec.eu/anec.asp?lang=en&ref=00-00

ANEC, the European consumer voice in standardisation, defends consumer interests in the process of standardisation and certification, also in policy and legislation related to standardisation.

**European Committee for Standardization (CEN)**
http://www.cen.eu/cenorm/homepage.htm

CEN, the European Committee for Standardization, comprises the national standards bodies in the European Economic Community and EFTA countries. CEN contributes to the objectives of the European Union and European Economic Area with voluntary technical standards which promote free trade, the safety of workers and consumers, interoperability of networks, environmental protection, exploitation of research and development programmes, and public procurement. CEN is a non-profit making technical organisation set up under Belgian law.

Among its technical committees undertaking work of interest to SENIOR are the following:

CEN TC293 produces standards on technical aids for persons with disabilities and supports the design-for-all concept.

CEN/TC 224/WG 6 is responsible for human interface issues in relation to smart cards and
terminals.

CEN has also convened workshops on design-for-all and assistive technologies for ICT, learning technologies and terminal interface for users with special needs.

**European Committee for Electrotechnical Standardisation (CENELEC)**

www.cenelec.eu

With 35,000 technical experts from 22 European countries, CENELEC develops standards for the European market in the interests of European harmonisation. It is a non-profit-making organisation under Belgian Law. It has been officially recognised as the European Standards Organisation in its field by the European Commission in Directive 83/189/EEC. CENELEC’s Technical Board (BT) co-ordinates the work of its technical bodies, which include technical committees, sub-committees, special task forces and working groups. The BT comprises one permanent delegate from each national committee, which decides on ratification, on the basis of national voting, of draft standards prepared by the technical bodies.

CENELEC/BT WG 101-5 – This working group is focused on the safety and usability of electrical products with reference to people with special needs (e.g. children, elderly and people with disabilities). It produces guidelines to ensure that design for all and assistive technologies requirements are taken into account when performing standardization work in CENELEC.

CEN and CENELEC collaborated on *Guidelines for standards developers to address the needs of older persons and persons with disabilities*, Guide 6, European Committee for Standardisation, January 2002.309

**European Computer Manufacturers Association (ECMA)**

http://www.ecma-international.org/

ECMA International is an industry association dedicated to the standardisation of information and communication systems. More than 370 ECMA standards and 90 technical reports have been published, of which more than two-thirds have also been adopted as international standards and/or technical reports.

**European Telecommunications Standards Institute (ETSI)**

http://www.etsi.org/

ETSI produces globally-applicable standards for information and communications technologies, including fixed, mobile, radio, converged, broadcast and Internet technologies. It is officially recognised by the European Commission as a European Standards Organisation. ETSI is a not-for-profit organisation with almost 700 members from 60 countries.

Among its committees working in areas of interest to SENIOR are the following:

ETSI TC HF Human Factors is the committee responsible for standards and guidelines dealing with ease of use and accessibility of telecommunication equipment and services,

including the requirements of older and disabled people.

ETSI User Group is responsible for formalising users’ views and requirements for other ETSI bodies, in order to improve standards and their relevancy.

ETSI Specialist Task Force 322 has produced guidelines for generic user interface elements for 3G mobile terminals, services and applications.

ETSI Specialist Task Force 324 focussed on extending e-inclusion to public Internet access points (PIAPs) and produced a technical specification.

ETSI Specialist Task Force 326 focussed on generic spoken command vocabulary for ICT devices and services and has produced an ETSI standard.

**Health Level Seven (HL7)**
http://www.hl7.org/

HL7 is one of several American National Standards Institute (ANSI)-accredited standards developing organisations (SDOs) operating in healthcare. Based in the US, HL7 is a not-for-profit volunteer organisation. Its members – providers, vendors, payers, consultants, government groups and others with an interest in the development and advancement of clinical and administrative standards for healthcare – develop the standards. Health Level Seven develops specifications, the most widely used of which is a messaging standard that enables disparate healthcare applications to exchange key sets of clinical and administrative data. HL7 provides standards for interoperability that improve care delivery.

“Level Seven” refers to the highest level of the ISO’s communications model for Open Systems Interconnection (OSI) – the application level. The seventh level supports such functions as security checks, participant identification, availability checks, exchange mechanism negotiations and data exchange structuring.

**International Organization for Standardisation (ISO)**
http://www.iso.org/iso/home.htm

ISO is the world's largest developer and publisher of international standards. It describes itself as a network of the national standards institutes of 157 countries, one member per country. Its secretariat in Geneva co-ordinates the system. ISO is a non-governmental organisation bridging the public and private sectors. Many of its member institutes are part of the governmental structure of their countries. Other members come from the private sector, set up by national partnerships of industry associations. ISO seeks consensus on solutions meeting the requirements of business and the broader needs of society. It has various technical committees and other groups working in areas of interest to SENIOR, one of which is the following:

ISO/IEC Joint Technical Committee One (JTC1) is a joint effort between the ISO and the International Electrotechnical Committee (IEC). JTC1 established a special working group on accessibility (JTC-1 SWG-A)\(^\text{310}\) to track all global, regional and national standards related to ICT accessibility by gathering user requirements, publishing an inventory of all known

\(^{310}\)http://www.jtc1access.org/
accessibility standards efforts and identifying areas and technologies where accessibility issues have not yet been addressed.

**NORMAPME**
http://www.normapme.com/

NORMAPME is an international non-profit association created in 1996 with the support of the European Commission, under the full name of the “European Office of Crafts, Trades and Small and Medium-Sized Enterprises for Standardisation”. NORMAPME is focused on the interests of small enterprises in the European standardisation system. Its members represent over 11 million enterprises in all European countries, including all EU and EFTA member states. The Commission supported NORMAPME during its first years of operation.

**Organisation for Structured Information Standards (OASIS)**
http://www.oasis-open.org/home/index.php

OASIS is a not-for-profit consortium that drives the development, convergence and adoption of open standards for the global Information Society. The consortium says it produces more Web services standards than any other organisation along with standards for security, e-business and standardisation efforts in the public sector and for application-specific markets. OASIS has more than 5,000 participants representing more than 600 organisations and individual members in 100 countries.

**Telecommunications and Electronic and Information Technology Advisory Committee (TEITAC)**
http://teitac.org/

TEITAC is a US advisory committee providing recommendations for updates of accessibility standards issued under section 508 of the Rehabilitation Act and guidelines under section 255 of the Telecommunications Act. TEITAC members represent more than 40 industry, disability groups, standard-setting bodies in the US and abroad, and government agencies, among others.

**World Wide Web Consortium (W3C)**
http://www.w3.org/

The W3C develops interoperable technologies (specifications, guidelines, software and tools). The W3C is a forum for information, commerce, communication and collective understanding. The European Commission says all public websites should comply with the Web Content Accessibility Guidelines\(^311\), which were developed by the W3C.\(^312\) The second version of the Web Content Accessibility Guidelines (2.0) was issued as a W3C Candidate

\(^{311}\) http://www.w3.org/TR/WAI-WEBCONTENT/

Recommendation on 30 April 2008. See also the FP6 WAI-AGE project (section 4.2 above) for further details.

9.4 CIVIL SOCIETY ORGANISATIONS

There are many CSOs dedicated to senior citizens and their needs. The following includes a selection of those as well as some others relevant to SENIOR’s interests in ICT, inclusion, ethics and privacy.

AARP (American Association of Retired Persons)
http://www.aarp.org

AARP is a non-profit membership organisation of persons 50 years and older dedicated to addressing their needs and interests.

AGE
http://www.americanaging.org/

The American Aging Association (AGE) is a non-profit, tax-exempt biogerontology organisation of scientists and lay people dedicated to biomedical ageing studies intended to slow the ageing process. The abbreviation AGE is intended to be representative of the organisation, even though it is not an acronym. Membership in AGE is open to all interested persons in the United States and abroad.

AGE, the European Older People’s Platform
http://www.age-platform.org/EN/

AGE, the European Older People’s Platform, aims to voice and promote the interests of older people in the European Union and to raise awareness of the issues that concern them most. AGE is involved in a range of policy and information activities to put older people’s issues on the EU agenda and to support networking among older people’s groups. Among its guiding principles is that a change of attitudes is needed to achieve a society for all ages, seeking solidarity between generations in a way that recognises older people’s contributions to society. AGE is committed to combating all forms of age discrimination in all areas of life and aims to monitor and influence the implementation of the various EU initiatives in this area. Membership of AGE is open to European, national and regional organisations, and to both organisations of older people and organisations for older people. Membership is open only to non-profit-making organisations. AGE is co-financed by its members and by the European Commission.

AGE Concern
http://www.ageconcern.org.uk/

AGE Concern bills itself as the UK’s largest charity working with and for older people. Its mission is “to promote the well-being of all older people and to help make later life a fulfilling and enjoyable experience”. Among its priorities, it aims to:

- Promote age equality and enable older people to make full contributions to our economy,
society and neighbourhoods.
• Maximise healthy life expectancy and promote health, independence and wellbeing for all older people.
• Achieve greater social inclusion of the most disadvantaged older people and challenge the causes of exclusion.

Association for the Advancement of Assistive Technology in Europe (AAATE)

The AAATE is an interdisciplinary pan-European association devoted to all aspects of assistive technology, such as use, research, development, manufacture, supply, provision and policy. It has more than 250 members.

Eurolink Age
http://www.eurolinkage.org/

Eurolink Age is a network of organisations and individuals that promotes good policy and practice on ageing in the interests of the 121 million older people in the European Union. They aim to influence the European Union's policies so that they adequately reflect the interests of all older people. To do this, they work closely with the EU institutions on a range of issues, such as those affecting older workers, disabled older people, older women, older consumers, housing, health, transport and mobility, the information society and education and training.

Note: The Eurolink webpage directs the user to the Age Concern website (see above).

European Association for the Education of Adults (EAEA)
www.eaea.org

The EAEA is a transnational, non-profit association whose purpose is to link and represent European organisations, which are directly involved in adult learning. Its primary focus is NGOs whose principal aim is the education of adults, and it works where possible through national co-ordinating bodies for adult learning. The EAEA’s mission is to work for the creation of a learning society. It does this by encouraging the demand for learning by individuals, organisations and communities, and in particular by women and excluded sectors of society. It equally seeks to improve the response of providers of learning opportunities and of local, national and transnational authorities and agencies.

European Disability Forum (EDF)
http://www.edf-feph.org/

The EDF is an independent European non-governmental organisation representing the interests of 50 million disabled people in the European Union. It says it is the only European platform of disabled people, which is run by disabled people or the families of disabled people unable to represent themselves. Its mission is to promote equal opportunities for disabled people and to protect their human rights, making sure that no decisions concerning disabled people are taken without disabled people.

European Federation of Older Persons (EURAG)
http://www.eurag-europe.org/
**European Forum for Primary Care**
http://www.euprimarycare.org/

Initiated in 2005, the European Forum for Primary Care aims to improve the health of the population by promoting strong primary care by exchanging information between its members.

**Fédération Internationale des Associations de Personnes Agées (Fiapa)**
http://www.fiapa.org

FIAPA, based in Paris, is an international non-governmental organisation, with a consultative status at the UN. It works with UNESCO and WHO especially. At the European level, FIAPA was a founder of AGE, the European Older People’s Platform.

**Foundation for Assistive Technology (FAST)**
http://www.fastuk.org/

As a small, independent organisation, FAST relies on working collaboratively with other members of the assistive technology community, across statutory, voluntary and private sectors to bring innovative products to market and to improve services for disabled and older people. FAST is a charity governed by a Board of Trustees.

**Global Action on Aging**
http://www.globalaging.org/

Global Action on Aging, based in New York at the United Nations, reports on older people's needs and potential within the global economy. It advocates by, with and for older persons worldwide. It is a non-profit organisation with special consultative status with the United Nations Economic and Social Council. It carries out research on ageing policy and programs, both in the US and worldwide, including on topics such as income support, health access and human rights. It monitors United Nation activity on ageing.

**HelpAge International**
http://www.helpage.org/Home

HelpAge International works to improve the lives of disadvantaged older people, through a global network that spans more than 70 affiliate organisations in 50 countries. It says it is the only global network of not-for-profit organisations with a mission to improve the lives of disadvantaged older people. HelpAge International is governed by a board of trustees, which includes representatives of affiliate organisations. It has a secretariat with offices in London, Brussels and the US, five regional centres in Africa, Asia/Pacific, Latin America, the Caribbean and Eastern Europe/Central Asia, seven national programmes and a number of emergencies programmes. Its funding comes from 50 donors, including multilateral agencies, such as the European Union and United Nations, governments, trusts and foundations, non-governmental organisations (NGOs) and individuals.
Help the Aged
http://www.helptheaged.org.uk

Help the Aged, set up in 1961, says it is now the leading international charity for older people.

Inclusion Alliance for Europe (IAE)
http://www.epist.org/iae/index.php

The Inclusion Alliance for Europe is an independent non-profit network which aims to gather together all e-inclusion and e-health stakeholders to support their participation in FP7 and World Bank programmes. IAE has 410 members, distributed across Europe, representing stakeholder groups as follows: 34%, university and research centres; 15%, hospitals, user groups, associations; 47%, industry; and 4%, public administrations and governments.

International Association of Gerontology and Geriatrics

The IAGG has member organisations in more than 64 countries with a combined membership of more than 45,000 professionals, including opinion leaders in health and social services, housing and income support, research and education, public policy, administration and other area, disciplines and professions that impact older people and affect their quality of life. The IAGG has consultative status with the United Nations and is a member of the Conference of Nongovernmental Organizations in Consultative Relationship with the United Nations (CONGO).

International Federation on Ageing (IFA)

The IFA is a membership-based network of organisations, bodies and individuals with a mission to improve the quality of the lives of older people around the world through policy change, grassroots partnerships and strengthening bridges between public and private sectors concerned with ageing issues.

International Social Security Association (ISSA)
http://www.issa.int

The ISSA says it is the world’s leading international organisation in bringing together government departments, social security administrations and agencies. The ISSA membership is composed of institutions and bodies administering social security in most countries of the world, including all forms of compulsory social protection which, by virtue of national law or practice, are an integral part of national social security systems. Founded in 1927, the ISSA has its headquarters in Geneva.

International Society for Augmentative and Alternative Communication (ISAAC)
http://www.isaac-online.org/en/about/index.html

ISAAC works to improve the life of people with speech difficulties. ISAAC started in 1983 and says it has thousands of members in 50 countries. In 2006, ISAAC was granted NGO special consultative status with the Economic and Social Council of the United Nations. This means ISAAC is able to attend international conferences on disability organised by the UN
and help to influence the policy of governments around the world on meeting the needs of persons who cannot speak.

**Social Platform aka Platform of European Social NGOs**
http://www.socialplatform.org

The Social Platform comprises 40 European non-governmental organisations, federations and networks working to build an inclusive society and to promote the social dimension of the European Union. The members of the Social Platform represent associations and voluntary groups at local, regional, national and European level representing the interests of a wide range of civil society, including older people. The Social Platform channels the concerns of European citizens on issues of common interest. It also ensures a wide circulation of information on EU activities and policies to its members at the national level. The Social Platform seeks to develop and strengthen a civil dialogue between European Social NGOs and European Union institutions.

On 4 July 2008, the Social Platform sent to the Commission, the French Presidency and the European Parliament its recommendations on active inclusion. The Commission will present in September 2008 its Recommendation on the issue to be endorsed by the Council. In summary, the Social Platform believes that in order to have a successful active inclusion policy:

- Active inclusion cannot be a substitute for social inclusion, but is part of it.
- People furthest away from the labour market should participate in designing the common principles on active inclusion.
- People must have the right to an adequate minimum income irrespective of their chance to participate in the labour market.
- People must have universal access to quality services.
- People should have the right to fully participate in society and to be integrated in the labour market.
- Legislation is the most cost-effective tool to achieve social objectives.

**Solidar**
www.solidar.org

SOLIDAR is an independent European alliance of non-governmental organisations involved in social care, development, humanitarian aid and lifelong learning, which have links with the trade union and social democratic parties. Solidar member agencies are involved in more than 90 countries where they collaborate with grass root organisations and trade unions.

**9.5 INDUSTRY**

There are, of course, many companies that have developed and are developing ICT products and services aimed at senior citizens or that are accessible to senior citizens. Still more products and services that are not accessible should be. This section does not identify individual companies. Instead, it identifies some key associations of businesses. As is the case with the preceding sections on stakeholders, it is indicative only.
Environmental Scanning Report

European Information & Communications Technology Industry Association (EICTA)
http://www.eicta.org

EICTA, founded in 1999, bills itself as the voice of the European digital technology industry. It comprises 41 national digital technology associations from 29 European countries with over 59 direct company members. EICTA altogether represents more than 10,000 enterprises in Europe with more than two million employees and revenues of more than €1,000 billion. In 2001, EICTA merged with the European Association of Consumer Electronics Manufacturers (EACEM). The new joint association changed its name to the European Information, Communications and Consumer Electronics Technology Industry Association.

EICTA has an accessibility policy (a good practice) and aims to ensure that its website is accessible to users who have visual, hearing, motor or cognitive impairments. It works with others to ensure the wider accessibility of technologies and standards. EICTA has produced an eAccessibility White Paper and an i2010 ICT industry White Paper on Inclusion as well as a brochure entitled Moving Towards a Fully Inclusive Digital Europe: an EICTA Brochure on European Digital Technology industry and eAccessibility.

e-Inclusion Partnership

The Commission has promoted an e-inclusion partnership to act as a platform for dialogue for various business and civil society organisations. It aims to deliver concrete progress in areas earmarked as Commission priorities, such as e-accessibility and ICT for Ageing Well. The partnership is a key actor in the activities to be carried out for the e-inclusion initiatives. Partnership members include EICTA, which represents Europe’s digital industries, AGE, the European platform for older people, and the European Disability Forum (EDF).

Union of Industrial and Employers' Confederations of Europe (UNICE) / BUSINESSEUROPE
http://www.businesseurope.eu

In January 2007, just before its 50th birthday, the Brussels-based UNICE changed its name into BUSINESSEUROPE, the Confederation of European Business, expressing more clearly what it does and where it does it. The original aims included uniting the central industrial federations to foster solidarity between them; encouraging a Europe-wide competitive industrial policy; and acting as a spokesperson body to the European institutions. BUSINESSEUROPE continues its liaison with official institutions, studies current problems and co-ordinates responses, and always at a general “horizontal” level. As of 2008, it had 40 members from 34 countries, including the European Union countries, the European Economic Area countries, and some central and Eastern European countries. The current structure includes seven main committees, about 60 working groups, with a staff of 45 under the direction of its Secretary General.

Its Social Affairs committee has various working groups focused on education and training, equal opportunities, employment, social protection, health and safety, and corporate social responsibility.
9.6 ACADEMIA, RESEARCH INSTITUTES (EXPERTS)

As with civil society organisations and industry, there is a long list of universities and research institutes that focus on senior citizen issues. Only a few are mentioned here as representative.

**Centre for Computing and Social Responsibility**
http://www.ccsr.cse.dmu.ac.uk/

Based at De Monfort University in the UK, the Centre addresses the social and ethical impacts of information and communication technologies through research, consultancy and education. It undertakes research and provides consultancy services to communities, organisations and governments at local, national and international levels. Its director is Simon Rogerson who has served as rapporteur and prepared reports for the workshops on ethics held in Brussels in October 2007 and in Bled in May 2008 convened by the Commission’s Directorate General Information Society and Media.

**European Network of Economic Policy Research Institutes**
http://www.enepri.org

**International Center for Information Ethics (ICIE)**
http://icie.zkm.de/

The ICIE is a platform for exchanging information about worldwide teaching and research in the field of information ethics. It is based at Stuttgart Media University, Germany. It has more than 220 members from around the world. ICIE organises symposia and publishes a book series in co-operation with W. Fink Verlag, Munich-Paderborn, Germany. It also publishes the International Review of Information Ethics (IRIE, see the next section).

**Online Ethics Center (OEC) for Engineering and Science**
http://www.onlineethics.org/

The OEC became an activity of the US National Academy of Engineering (NAE) in March 2007, part of its new Center for Engineering, Ethics, and Society (CEES). The CEES started in April 2007. The CEES is appointing an advisory group and planning a conference series and other research and educational activities. The mission of the Online Ethics Center continues to be to provide engineers and engineering students with resources for understanding and addressing ethically significant problems and to serve those who are promoting learning and advancing the understanding of responsible research and practice in engineering. The OEC website provides information, case studies and references, and discussion groups on ethics in engineering and science.

**Oxford Internet Institute**
http://www.oii.ox.ac.uk/

The Oxford Internet Institute was founded as a department of the University of Oxford in 2001, as an academic centre for the study of the societal implications of the Internet. Its research faculty, academic visitors and research associates are engaged in a variety of research projects covering social, economic, political, legal, industrial, technical and ethical issues of the Internet in everyday life, governance and democracy, science and learning and
shaping the Internet.

As an example of its research, the OII led an EU-funded project on “Barriers to eGovernment”, which identified seven top barriers to success in e-government (leadership failures; financial inhibitors; digital divides; poor co-ordination; workplace and organisational inflexibility; lack of trust and poor technical design.314

9.7 JOURNALS

Ageing & Society
http://journals.cambridge.org/action/displayJournal?jid=ASO&volumeId=18&bVolume=y#loc18

Ethics
http://www.journals.uchicago.edu/toc/et/current?cookieSet=1

Ethics and Information Technology
http://www.springer.com/computer/programming/journal/10676

European Journal of ePractice
http://www.epracticejournal.eu/home

ICES Journal of Information, Communication and Ethics in Society
http://info.emeraldinsight.com/products/journals/journals.htm?PHPSESSID=odu4umv3qj6i6c34m9v1omrlb2&id=jices

International Journal of Human-Computer Studies
www.elsevier.com/locate/ijhcs

International Review of Information Ethics
[formerly the International Journal of Information Ethics]
www.i-r-i-e.net

Journal of Business Ethics
http://www.springerlink.com/content/100281/?p=65aab65561ea464e9b992af86af19c82&pi=0

Journal of the Institute for the Management of Information Systems
http://www.ccsr.cse.dmu.ac.uk/resources/general/ethicol.html

See especially ETHICOL, a regular column which discusses current issues of ethics and social responsibility in the research, development and application of information and communication technologies.

314 http://www.egovbarriers.org/?view=project_outputs