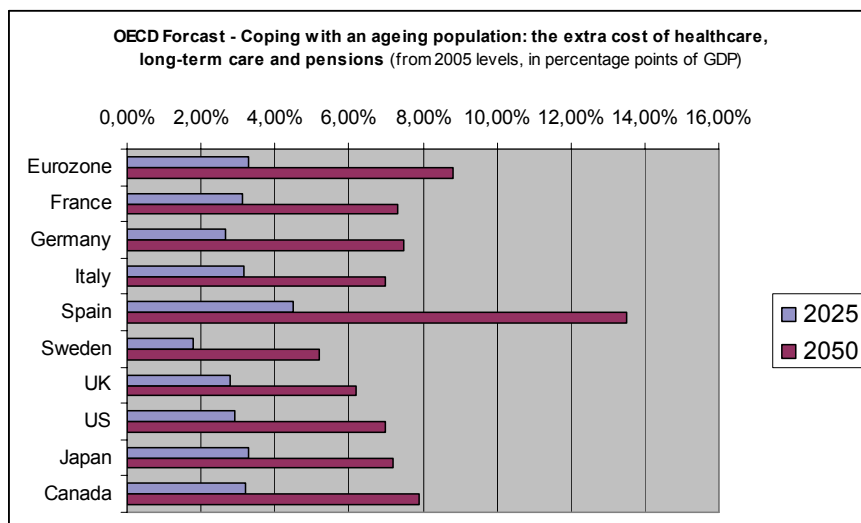


Background Information

Why is ICT for Ageing Well important?

The number of people over 50 will rise by 35% between 2005 and 2050. The number of people over 85 will triple by 2050. Recent OECD analyses forecast escalating costs as a result of ageing populations in Japan, the US and Europe. As fertility rates are also declining, the ratio between people at work and remaining population will change from 4-1 today to 2-1 by 2050 in average in Europe!!

Without a higher level of participation of the elder population in employment, and without better tailored and more effective health and social care services, these trends will put serious pressure on Europe's social models and public finances.



The total number of frail and disabled persons is likely to rise in the future because of Europe's rising ageing population. The OECD predicts for instance, that by 2020, the number of older people living in institutions will have increased by 74% in Japan, 61% in Canada, 33% in the US, 26% in Germany, 29% in France, 27% in Sweden and 18% in the UK. (Source: [OECD](#)).

The numbers of disabled people living at home are also set to grow fast. Between 2000 and 2020 they are expected to rise by 74% in Japan, 62% in Canada, 54% in France, 41% in the US and 29% in Sweden (source: Senior Watch study - www.seniorwatch.de).

Although the older age group is not a homogenous one 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, for example, found that more than 60% of persons over 50 in Europe feel that their needs are not adequately addressed by current ICT equipment and services.

What can Information and Communication Technologies contribute to Ageing Well?

ICT can help elderly individuals to improve their quality of life, stay healthier, live independently for longer, and counteract reduced capabilities which are more prevalent with age. ICT can enable them to remain active at work or in their community.

Independent living is the ability for older people to manage their life styles 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. Ageing well is also about continued active and satisfying participation in social life and work, when ageing.

In addition ICT can help to improve the working conditions for people working in the care sector and as such help to make care work more attractive in the future, where there will be much greater competition for the available workforce.

ICT Solutions address daily and independent living such as:

- Social communication: easy access to phone and video conversation, notably if enabled by broadband to stay in touch with family and friends, overcoming social isolation (in several countries over half of the 65+ are living alone)
- Daily shopping, travel, social life, public services: easy access over the internet to order goods online e.g. when reduced mobility makes physical shopping more difficult
- safety (making sure entrance doors and windows are locked/closed when leaving the house or sleeping; checking for water or gas leaks; and turning all but one light off when going to bed, etc),
- reminders (memory problems tend to be associated to ageing and thus support may be needed in taking medication and fulfilling household tasks),
- user-friendly interfaces (for all sorts of equipment in the home and outside, taking into account that many elderly people have impairments in vision, hearing, mobility or dexterity),
- telemedicine opens up new opportunities for providing medical care to the home and there are many new developments in ICT-based home care, including ways of monitoring wellbeing and providing a secure home environment,
- personal health systems include wearable and portable systems for monitoring and diagnosis, therapy, repairing/substitution of functionality and supporting treatment plans for individuals with a chronic disease – (e.g. heart disease and diabetes), complemented by telemonitoring and telecare, thus avoiding hospitalisation.
- Support for people with cognitive problems and their carers to stay at home for longer and remain active for as long as possible, e.g. through cognitive training, reminders, GPS tracking etc.
- Support for more efficient workflows in care, by integrating health and social care through sharing information, monitoring and follow-up to interventions across different organisational and physical boundaries.

Future developments in many of these areas are underpinned by some key emerging technologies. These include robotics, new materials and biosensors. In addition, the emerging concept of Ambient Intelligence offers great potential, with the possibility for the whole environment (at home, on the move, in the street, whilst driving or during transportation, in public buildings and so on) to have embedded intelligence that helps solving everyday life's needs.

ICT-enhanced equipment, processes and delivery mechanisms can help to increase the quantity, value and quality of services provided to older persons (at equal or lower costs),

especially in terms of short and medium-term health and social care, informal carers and personal assistance services.

What are the benefits for the elderly users, the society and industry overall?

Policies and initiatives aimed at promoting the conditions and technologies for ageing well in the information society, can achieve a threefold objective:

- Facilitating easy use of information society tools and services for the elderly, inter alia, removing barriers, making ICT tools easier for everyone to use, and encouraging people to make the best of them to enhance their independence in good health, to participate in work, and to be active in society;
- ICT can help to increase the efficiency and quality of social and health care delivery to a growing ageing society, and contribute to the financial sustainability of these services in the future;
- Due to the almost global phenomenon of ageing, innovating ICT products and services in ways to capture the needs of the ageing society gives the European industry, which is leading in this area, a substantial export base in global markets;

What is the market potential and benefits related to ICT for ageing well?

- It is estimated that Europeans over 65 possess wealth and revenues of over €3000 billion, thus representing a huge market potential.
- For example, the market for smart homes applications (age-related assistance in shopping, dressing, moving independently) will triple between 2005 and 2020, from 13 million people up to 37 million. This trend will be reinforced by the fact that incidence of disabilities is higher with age. It is estimated that 68 million people in 2005 had several forms of age-related impairment. This will grow to 84 million in 2020.
- Evidence also points out at the fact that ICT can improve the delivery and efficiency of health and social care systems.

Example, it was calculated that the introduction of mobile health monitoring would translate into early patient discharge from hospitals, thus saving up to €1,5 billion p.a. in Germany alone. Up to €1.5 billion/year savings through early patient discharge (Assuming 3 days less hospital stay for 20% of patients, Source: GesundheitScout 24 GmbH & Bayerisches Rotes Kreuz)

Example: Scotland Telecare Development Programme 2007/8 – 2009/10
 Based on actual operational savings analysis, these will over the period 2007-2010 be a minimum of:

- 46,500 hospital bed days saved by facilitating speedier hospital discharge
- 225,000 care home bed days saved by delaying the requirement for people to enter care homes
- 46,000 nights of sleepover care and 905,000 home check visits saved by substitution of remote monitoring arrangements

Collectively, these savings are valued at around £43 million - an anticipated benefit to programme funding cost ratio of 5:1.

Example: UK- Department of Health estimates that ICT enabled self-care could potentially reduce GP visits by 40%, outpatient visits by 17%, hospital admissions by 50%, length of hospital stay by 50% and number of days off work by 50%

What are the main challenges in deploying these technologies?

The majority of older people do not yet enjoy the benefits of the digital age - low cost communications and online services that could support some of their real needs - since only 15% use the internet. Severe vision, hearing or dexterity problems, frustrate many older peoples' efforts (21% of the over 50s) to engage in the information society.

The market of ICT for ageing well is still in a nascent phase and does not yet fully ensure the availability and take-up of the necessary ICT-enabled solutions:

- Markets do not sufficiently deliver the necessary ICT-enabled solutions. The reasons include:
 - o barriers to innovation such as insufficient awareness of market opportunities and users' needs, lacking effective public policies to stimulate innovation in the public sector.
 - o Unclear business models for industry due to fragmented reimbursement schemes related to ICT and lacking policies for sustained investments, who pays?
 - o Many legal (e.g. privacy, liability) and technological barriers (e.g. interoperability, complexity, costs) remain for ICT to deliver its benefits widely.
 - o fragmentation of innovation efforts, and high costs of technology development and validation, insufficient attention is given to the needs of older users when designing new technologies and services; approaches like inclusive design or design-for-all are not yet widespread,

For example:

- Despite the fact that the ageing population will soon constitute a mainstream market, its specific needs are not fully taken into account in the design of ICT products and services that still remain complicated to use and enjoy,
- Even when technology exists and can be effectively used, ICT systems often don't talk to each other –or are difficult to assemble- due to lack of interoperability and standardisation. Therefore, services and solutions become abnormally costly and difficult to use for the ageing society and for people with forms of disabilities.
- In many cases the public policies do not provide sufficient incentives for investments in innovation and efficiency increases, for example by allowing efficiency gains to be reinvested for a period of time. Furthermore there is often a split between health care and social care funding which creates both organisational problems and in some cases result in benefits achieved in a different area, than where the investments takes place.

The EU Action Plan for Ageing Well in the Information Society

In response to these challenges and opportunities, the Commission has launched an Action Plan for Ageing Well in the Information Society with the following measures

- **raising awareness**, and building consensus via stakeholder cooperation and the establishment of a best practice internet portal and European award scheme for smart homes and independent living applications,
- overcoming **technical and regulatory barriers to market development**, through market assessments, studies and benchmarking and by facilitating the exchange of best practice between Member States;
- **accelerating take-up** through, for example, a set of pilot projects under the Competitiveness and Innovation Programme and use of Structural Funds,
- boosting **research and innovation** by immediately supporting a joint public-private research programme dedicated to "ambient assisted living". It aims to foster the emergence of innovative, ICT-based products, services and systems for Europe's ageing population. This includes EC support to the new Ambient Assisted Living Joint Research and Innovation programme involving 24 European Countries.

Between now and 2013, the EU and Member States, and the private sector will invest more than €1 billion in research and innovation for ageing well: some €600m in the Ambient Assisted Living Joint Programme, an expected €400m in the EU's latest research framework programme and about €50m so far in the EU's ICT Policy Support Programme.

See

http://ec.europa.eu/information_society/activities/einclusion/policy/ageing/action_plan/index_en.htm for further information

Ageing Statistics in Europe (Source Eurostat 2008)

Older population

	Percentage aged 65+			Percentage aged 80+			Old age dependency ratio (%)	
	2008	2035	2060	2008	2035	2060	2008	2060
EU27	17.1	25.4	30.0	4.4	7.9	12.1	25.4	53.5
Belgium	17.0	24.2	26.5	4.7	7.4	10.2	25.8	45.8
Bulgaria	17.3	24.7	34.2	3.6	7.1	12.8	25.0	63.5
Czech Republic	14.6	24.1	33.4	3.4	7.9	13.4	20.6	61.4
Denmark	15.6	24.1	25.0	4.1	7.7	10.0	23.6	42.7
Germany	20.1	30.2	32.5	4.7	8.9	13.2	30.3	59.1
Estonia	17.2	22.8	30.7	3.6	6.8	10.7	25.2	55.6
Ireland	11.2	17.6	25.2	2.8	5.0	9.6	16.3	43.6
Greece	18.6	26.3	31.7	4.1	7.9	13.5	27.8	57.1
Spain	16.6	24.8	32.3	4.6	7.2	14.5	24.2	59.1
France ³	16.5	24.4	25.9	5.0	8.5	10.8	25.3	45.2
Italy	20.1	28.6	32.7	5.5	9.1	14.9	30.5	59.3
Cyprus	12.4	19.0	26.2	2.8	5.3	8.6	17.7	44.5
Latvia	17.3	23.7	34.4	3.6	6.7	11.9	25.0	64.5
Lithuania	15.8	24.3	34.7	3.3	6.4	12.0	23.0	65.7
Luxembourg	14.2	21.3	23.6	3.5	5.8	8.9	20.9	39.1
Hungary	16.2	23.1	31.9	3.7	7.6	12.6	23.5	57.6
Malta	13.8	24.8	32.4	3.2	8.3	11.8	19.8	59.1
Netherlands	14.7	25.9	27.3	3.8	8.0	10.9	21.8	47.2
Austria	17.2	26.1	29.0	4.6	7.2	11.4	25.4	50.6
Poland	13.5	24.2	36.2	3.0	7.7	13.1	19.0	69.0
Portugal	17.4	24.9	30.9	4.2	7.6	12.8	25.9	54.8
Romania	14.9	22.9	35.0	2.8	6.2	13.1	21.3	65.3
Slovenia	16.1	27.4	33.4	3.5	8.4	13.9	23.0	62.2
Slovakia	12.0	23.0	36.1	2.6	6.4	13.2	16.6	68.5
Finland	16.5	26.4	27.8	4.3	9.4	10.8	24.8	49.3
Sweden	17.5	23.6	26.6	5.3	8.1	10.0	26.7	46.7
United Kingdom	16.1	21.9	24.7	4.5	6.7	9.0	24.3	42.1
Norway	14.6	22.6	25.4	4.6	7.1	10.0	22.1	43.9
Switzerland	16.4	25.2	28.0	4.7	7.7	11.1	24.1	48.5