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**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL
COMMITTEE AND THE COMMITTEE OF THE REGIONS**

Ageing well in the Information Society

An i2010 Initiative

Action Plan on Information and Communication Technologies and Ageing

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(Text with EEA relevance)

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1. ICT FOR AGEING: A SOCIAL NECESSITY AND AN ECONOMIC OPPORTUNITY

1.1. Introduction

Europe's population is ageing: average life expectancy has increased from 55 in 1920 to over 80 today. With the retiring baby boom generation 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 economy¹. Information and communication technologies (ICT) can play an important role in dealing with these challenges.

ICT can help the older **individuals** to improve quality of life, stay healthier and live independently for longer. Innovative solutions are emerging to help counteract problems related to memory, vision, hearing, and mobility, which are more prevalent with age². ICT also enables older persons to remain active at work or in their community. Their accumulated experience and skills is a great asset, especially in the *knowledge society*.

The demand for health and social services will grow with the increase of the number of very old and frail people (the group of over 80 year olds will almost double by 2050), while the financial sustainability of such services is already of great concern³. ICT enables more efficient management and delivery of health and social care, as well as increasing opportunities for community- and self-care and service innovation. Significant benefits can be reaped for the **economy and society at large**.

Although the older population has a large buying power and ageing is becoming a global phenomenon, the **market of ICT for ageing** well in the information society is still on its nascent phase and does not yet fully ensure the availability and take-up of the necessary ICT-enabled solutions. The reasons include low awareness of the opportunities and user needs and insufficient sharing of experiences, fragmentation of reimbursement and certification schemes, lack of interoperability, and high costs of development and validation.

Therefore, the Commission has decided to launch an **action plan on ageing well in the information society**, presented in this Communication, and as announced in i2010⁴. The action plan has not only the objectives of enabling a better quality of life for older people with significant cost-savings in health and social care, but also aims to help creating a strong industrial basis in Europe for ICT and ageing. The action plan represents a first response of the European Commission to the 2006 Riga Ministerial Declaration on e-Inclusion⁵ and supports EU policy in the areas of growth and competitiveness in the revised Lisbon agenda, demographic change, employment, health, and equal opportunities⁶.

¹ COM(2005) 658; COM(2006) 57.

² 45% of those aged 75 and older are impaired in their daily living activities.

³ Spending on pensions, health and long-term care will increase by 4-8 % of GDP in coming decades. The ratio of workers (to sustain such spending) to retired persons will drop from 5:1 to 2:1 by 2050.

⁴ COM(2005) 229: i2010 flagship initiative "*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*".

⁵ Riga Ministerial Conference on ICT for an Inclusive Society and Riga Ministerial Declaration, June 2006.

⁶ Resp.COM(2005) 658, op.cit, COM(2006)3 0, COM(2005) 525, Aho Group report; Council Directive 2000/78/EC; SEC(2006) 1195; COM(2003) 650.

The Commission will also propose support to a new **research programme of European countries on “Ageing well in the Information Society”** under **Article 169** of the Treaty.

1.2. The action plan on ageing well in the information society

This 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. In particular this action plan supports the Commission Action plan 2003-2010 for people with disabilities⁷.

The action plan addresses market barriers for ICT services and tools and seeks to realise the opportunities particularly 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, adding a number of new actions to integrate, complement and reinforce existing work. Three areas of user needs are to be addressed:

Ageing well at work or ‘active ageing at work’: staying active and productive for longer, with better quality of work and work-life balance with the help of easy-to-access ICT, innovative practices for adaptable, flexible workplaces, ICT skills and competencies and ICT enhanced learning (resp. e-skills and e-learning).

Ageing well in the community: staying socially active and creative⁸, through ICT solutions for social networking, as well as access to public and commercial services, thus improving quality of life⁹ 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.

Europe’s ICT industry (including SMEs), health and social care providers can establish many of the components for delivery of services aimed at ageing customers. Private-public partnerships can engage in large-scale validation of user acceptance and cost-effectiveness of novel solutions.

If Europe responds to the challenges in time and overcomes technical, regulatory and behavioural barriers, ICT for ageing well can become a driver for jobs and growth¹⁰ and a successful *lead market for Europe*¹¹.

ICT for ageing well: a social necessity and an economic opportunity

The information society can enable older people – when and where they wish to do so – to participate fully in society and the economy, and to be active as empowered citizens; and at the same time generate benefits for businesses and for economy and society at large.

⁷ COM(2003) 650

⁸ E.g. using Internet 2.0 / Web 2.0; digital TV – provided it is accessible for all; and mobile communications.

⁹ In line with the 2007 European Year of Equal Opportunities for All.

¹⁰ Silver Economy Network.

¹¹ Aho Report, *op. cit.*.

2. OVERCOMING THE BARRIERS AND EXPLOITING THE OPPORTUNITIES

2.1. Understanding older users

The market for products and services for ICT and ageing is still in its early stages. Low market awareness and visibility, lack of standards and interoperability, uncertainty about the sustainability of business models constitute barriers for its uptake. Fragmentation leads to a diversity of expensive solutions. Ethical issues and a general lack of coordination, user-industry cooperation and common strategies delay its take-up. In addressing these barriers - and exploiting the opportunities - users **must** be at the centre. Two user characteristics are highlighted here.

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. Moreover, products and services are often not adapted to meet the specific needs of older users or are not adequately available, thus increasing their sense of frustration and dependency. Unless measures are taken this situation will also hold true for the ‘future old’ given the fast technological evolution.

In the case of health and social care, reimbursement and insurance schemes are often based on complicated procedures. If they fail at any point, the older person can feel utterly powerless.

A countervailing and important trend in ICT is **user empowerment**. Older users can be much better informed than ever before and thus increasingly take charge of their own health, fitness and independent living with the help of information on the Internet, television theme channels, and ICT-enabled daily life, personal health and fitness solutions. In addition, in several countries care and insurance systems are being revised to control costs and increase effectiveness and quality, devolving responsibilities from governments to the citizens themselves and the private sector.

2.2. Market visibility and transparency

Lack of awareness by part of the European ICT industry¹², 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.

Older users have often limited knowledge of possible solutions. 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.

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 ICT, and even of lifestyles. Companies and local authorities are

¹² 48% of persons over 50 feel that their needs are not adequately addressed by current ICT equipment and services - Senior Watch.

thus still acting on a trial-and-error basis. The **lack of a systematic approach to market development** leads to **high costs** for research and market validation. **Lack of transparency** of the applicable rules and regulations, including support schemes for innovative solutions, hampers both users and industry and leads to expensive solutions.

Market development also 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, and the lack of forward-looking deployment actions (including innovative procurement practices). The reduced scale of technological diffusion, the lack of awareness on cost-effectiveness and user acceptance of innovative services, and technology challenges (e.g. interoperability) are barriers to stepping up investment.

2.3. Regulatory barriers

The different application by Member States of the **provisions related to disability** in the Directives concerning the regulatory framework for electronic communications constitutes a barrier for disabled people - many of which are older persons - to access and use communication services and fragments the market for accessible technologies.

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.

Differences in social and health care **reimbursement schemes** within Member States and uncertainties about the **legal requirements** of medical certification for ICT-enabled services (such as tele-medicine and independent living) reduce the potential for collective insurance schemes to cover upfront costs for these services and hamper their development and implementation.

2.4. Technical barriers

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.

Technological solutions for end-users often require putting together and interconnecting a variety of services and tools in a way that is beyond the ability of most final users¹³. However, markets alone do not possess the necessary incentives to guarantee **interoperability and modularity** across different devices and services, thus increasing costs to final users, missing economies of scale, and hampering the internal market for ICT and ageing.

¹³ E.g. combining assistive technologies with mainstream technologies.

2.5. Basic access barriers and lack of adequate solutions

Older people are at particular risk of missing out on the benefits of the information society because many of them do not have **basic access** to communication networks, e.g. broadband, and information technologies. Only 10% of people over 65 use the Internet regularly as compared to 47% for the EU25 on average¹⁴. The reasons for limited access are most often insufficient motivation, financial means, digital competencies and convenient training.

Currently the market is not investing sufficiently in innovation for meaningful and affordable solutions for older users, such as integrated and easy-to-use independent and healthy living services. There is a need to **break the vicious cycle** of insufficient adequate solutions, awareness, economies of scale and standards, and sustainable business models, which leads again to insufficient investment in research and innovative solutions.

2.6. Other barriers

Solutions can only bring benefits if users have access to basic ICT facilities, have the appropriate education and motivation, and **ethical and psychological issues** are properly addressed. 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 intervention.

ICT for ageing experiences a pronounced lack of coordination, reflecting **demand and supply side fragmentation**. The situation may be somewhat improving in the mainstream industry (ICT, health) as new industry alliances emerge, but the assistive technologies industry remains highly fragmented. User organisations in Europe are still smaller than similar organisations in, for example, the USA and Canada, which limits their influence in partnerships with industry and authorities.

Finally, the **lack of coordination and cooperation** of market actors across the whole **service delivery chain** is one of the most important reasons for these barriers. Cooperation 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.

Illustrating the potential

- € Europeans over 65 possess wealth and revenues of over 3000 B€.
- € 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.
- € 68 million people in 2005 had several forms of age-related impairment. This will grow to 84 million in 2020.
- € Early patient discharge from hospital due to the introduction of mobile health monitoring would save €1,5 billion p.a. in Germany alone.
- € EU research projects have developed technologies for personalised route guidance; home care and remote health monitoring and advice; intelligent alarms; natural interfaces for accessible ICT.

¹⁴ Eurostat, 2006 Community survey on ICT usage in household and by individuals.

3. OBJECTIVES AND ACTIONS OF THE ACTION PLAN ON ICT AND AGEING

The action plan on ageing well in the information society sets out to accelerate the delivery of benefits to citizens, companies, and authorities in Europe:

- € for citizens – a better quality of life and better health through prolonged independent living, active ageing at work ensuring that older workers can regularly update their competencies, and increased social participation;
- € for companies – increased market size and market opportunities in the internal market for ICT and ageing in Europe, better skilled and productive workforce and a stronger position in the growing markets worldwide;
- € for authorities – cost-reductions, increased efficiencies and better overall quality in health and social care systems.

The action plan is structured around four areas:

- (1) raising awareness and establishing consensus and common strategies,
- (2) putting enabling conditions in place,
- (3) accelerating take-up of and investment in validated solutions,
- (4) coordinating efforts in preparing for the future through research and innovation.

3.1. Raising awareness and building consensus

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.

Common visions, strategies and partnerships are needed involving stakeholders: older persons 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.

An example is in achieving integrated solutions for independent living: legal, technical, financial barriers and understanding of users' needs need to be addressed through combined regulation, research, validation and deployment, and awareness-raising actions involving all actors.

In the course of 2007 the Commission will therefore facilitate efforts of business stakeholders and civil society organisations to establish an **innovation platform** for ageing well in the information society (as a forum to cooperate on strategic innovation agendas addressing research, deployment and implementation), so as to develop common roadmaps, showcasing and implementation paths across the delivery chain.

A Ministerial debate under the Portuguese Presidency of the Council of Ministers, in the second half of 2007, will advance policy proposals to promote the use of ICT for active ageing at work. Particular attention will also be given to the challenges of older women in the information society.

ICT for ageing well will be a key contribution to the European e-Inclusion Initiative in 2008 and an internet portal for ICT and ageing will be established.

3.2. Putting the enabling conditions in place

The Commission will during 2007 and 2008 launch further assessments of market barriers hindering uptake of technologies for independent living and identify recommendations for action. Given the potentials of radio frequency identification (RFID) in systems for independent living, the Commission will assess the implications and opportunities of these technologies. It will work in 2007 on a Recommendation to Member States with respect to privacy implications and promote investments in further RFID research and large scale prototypes¹⁵.

The Commission will facilitate the efforts of Member States to meet the objectives of the Riga Ministerial Declaration, in terms of identifying options, target dates and providing **guidance for removing legal and technical barriers** to the uptake of technologies for independent living (e.g. different reimbursement and certification schemes; lack of interoperability of ICT systems). In particular, the Commission will work with Member States representatives in the relevant i2010 subgroups to make available information on existing **national regulatory and organisational approaches** and to exchange practices.

Considering the correlation between disability and ageing, Member States should strengthen the implementation of current legal requirements for e-Accessibility and support standardisation in this area. The Commission will also seize the opportunity of the revision of the e-Communications regulatory framework, assessing the need for additional legislation, as announced in its 2005 e-Accessibility Communication¹⁶.

In line with the e-Health Action Plan¹⁷ the Commission will issue a **recommendation on e-Health interoperability** in 2007, addressing the core e-Health infrastructure data (patient summary, emergency data set).

Member States, business stakeholders, user organisations, regional and local authorities should promote basic access through broadband to ICT services for ageing and increase digital competencies of older people, thus reducing the gap in Internet access by half by 2010 in line with the Riga Ministerial Declaration. The Commission will facilitate the exchange of good practices and access to programmes, services, solutions and multi-stakeholder initiatives, through the internet portal that will be set up. The Commission will also review policies to support digital competencies for older groups in 2007/8, and measure progress.

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.

¹⁵ COM(2007) 96.

¹⁶ COM(2005) 425.

¹⁷ COM(2004) 356.

3.3. Promoting take-up

Lack of impact validation of potential solutions based on socio-economic assessment and validation for scaling up currently hampers large scale take-up. The Commission will **launch a set of pilot projects in the ICT part of the Competitiveness and Innovation Programme (CIP)**, led by industry, service providers, regional, local and national authorities, with an initial focus in 2007 on independent living, and chronic disease monitoring.

The Commission will also encourage benchmarking and exploration of the potentials of ICT for active ageing at work (in the CIP), and linkage to Structural Funds and innovative public procurement for ICT and ageing by local, regional and national authorities.

A **European award scheme for smart homes and independent living applications** will be established. One i2010 smart home site should be recognised in each Member State by 2008, with a significant increase by 2010, leading to a European network for exchange of experiences and good practices.

Professional associations, industry, academia and user organisations are encouraged to establish training programmes, including accessibility of websites, accessibility of mainstream ICT tools and services and universal design. The Commission will pursue synergies with ongoing EU projects to facilitate the establishment of a Masters-level programme in Design for All relying on the commitment of industrial partners and user organisations.

3.4. Preparing for the future

ICT for ageing is only at its initial phase: science and technology are developing fast and hold much promise for increasingly user-friendly, intelligent and cost-effective solutions. Leadership in innovation can be the key success factor for Europe's industry.

Accelerating and sustaining delivery of the benefits of 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 7th 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 interoperability framework for ICT solutions and services for ageing.

The Commission 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). This initiative will stimulate market oriented research on applications for independent living. It will bridge longer term research performed under the 7th Framework Programme with large scale innovation projects under the CIP. The Commission also encourages European Technology Platforms in particular to address ICT and ageing in their strategic research agendas.

4. CONCLUSION

The action plan on ageing well in the information society identifies priority areas and actions where ICT can best contribute to address the challenges and opportunities of the ageing of Europe's population. It addresses the main barriers in terms of market readiness, the adequacy

and affordability of products and services, and the sustainability of service delivery and business models. The action plan builds on enhanced cooperation among all stakeholders and aims to unlock the promising potential of ICT and ageing in Europe, and beyond.

The Commission calls upon all stakeholders in civil society, authorities and businesses to act in partnership to achieve the objectives for ageing well in the information society. Member States are invited to actively support and implement the actions. The European Parliament is invited to support strengthening the rights and opportunities of older people in the information society, in the context of legislative frameworks and EU programmes, and to thus enable the full participation of all in Europe's economy and society.