

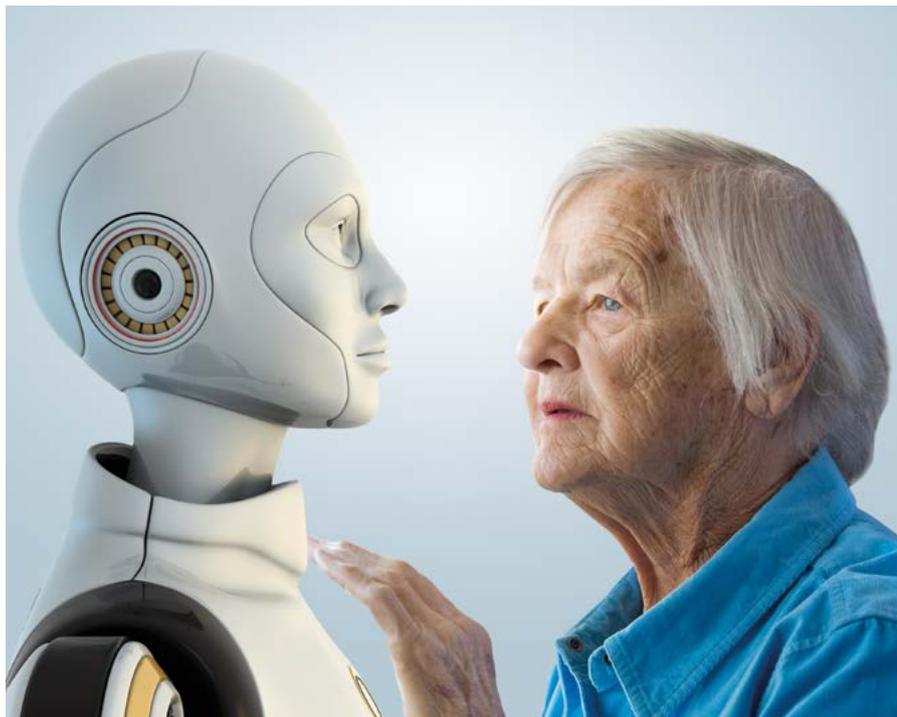


# Observatory for Sociopolitical Developments in Europe

## Technical assistance systems for the elderly in the EU

### Editorial

Technical assistance programmes for the elderly bring together new technologies and social environment with the aim of increasing the quality of life of older people. They hold great potential for both welfare state systems and economic development in Europe. However, this potential is not yet being used. At present, neither the elderly themselves nor their formal or informal carers are particularly likely to use technical assistance. Given the discrepancy between high potential and low usage, the question that must inevitably be asked is: what is it that prevents the implementation of technical assistance systems? You will also read about how other EU countries support the practical use of technical assistance systems in everyday life through political means.



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## Technical assistance systems for the elderly in the EU – an introduction

Anna Waldhausen,  
Annette Angermann

**In view of the challenges posed by demographic change, technical aids for the elderly are high on the agenda of the European Commission. Nevertheless, it should be noted that a wide range of products are concentrated on only very few EU countries. There are still a number of individual ethical issues to be considered. So far, barriers to widespread distribution are still high – partially because of a variety of technical details, and due to lack of user expertise.**

Besides the advantages of demographic change – with people living longer and healthier lives than a few decades ago – European countries also face a number of challenges, both in social and in economic terms. On the one hand, there are immediate challenges for older people and their families. And on the other, the growing number of older people is no longer adequately supported by the dwindling cohorts of younger people. Welfare technologies but also information and communication technologies (ICT) – and, more specifically, “Ambient Assisted Living” (AAL) – may be helpful here. These technological advances can enable older people to live in their home environment longer and may delay the need for nursing activities, giving them greater independence in organising their own daily lives. In addition, technical support in health and home care as well as in shopping and household work might also provide solutions for the forecast shortage of skilled workers. Mobility equipment as well as documentation and monitoring systems are designed to support professionals in their work. Along with technical progress, the market for technical domestic helpers has grown rapidly in recent years, and it now represents an economic potential that is not to be underestimated.

### Technical assistance on the agenda of the European Union

Against the backdrop of ageing societies in Europe, the issue of technical support for the elderly and for people with health impairments is being increasingly recognised and discussed at the European level. With the publication of its “European strategy in ICT for Ageing Well”<sup>1</sup> in October 2010, the European Commission presented an overview showing, among other things, that information and communication technologies can be supportive in the following areas: improvement of social communication and social environment, everyday help with shopping and travel as well as in social services, telemedicine, and support for people with memory problems. Other relevant EU information material can be found in the action plans “Ageing well in the Information Society” and “Information and Communication Technologies and Ageing”, which are part of the Commission Communication of June

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*Potential advantages of ICT: more self-determination, support for professional staff, economic benefits.*

<sup>1</sup> [http://ec.europa.eu/information\\_society/activities/einclusion/docs/ageing/overview.pdf](http://ec.europa.eu/information_society/activities/einclusion/docs/ageing/overview.pdf)

2007. This European document presents information and communication technologies as a social necessity and an economic opportunity for an ageing society and shows their inherent potential (European Commission 2007). The Digital Agenda published in 2010 by the European Commission discusses the potential of information and communication technologies in a broader context.<sup>2</sup> This is reinforced in the new 2013–2014 Digital Agenda. The issue here is, among other things, to qualify people for ICT jobs and combat unemployment by filling these positions in the European Member States.<sup>3</sup> With its 2012 Communication on the “Strategic Implementation Plan for the European Innovation Partnership on Active and Healthy Ageing”, the EU Commission advocates the creation of a support framework, both at European and at national, regional and local levels. Information and communication technologies, especially in the form of “Ambient Assisted Living”, play an important role in this context (European Commission 2012a).

The same year, a Commission staff working document (European Commission 2012b) looks at how to best take advantage of the labour market potential of information and communication technologies. The transnational “Ambient Assisted Living Joint Programme (AAL JP), which was founded in 2007 on the basis of Article 185 of the EU Treaty, is currently being implemented with the participation of 23 European countries. The goal of the six-year programme (2008–2013) is “to develop assistance systems in the context of international research projects on information and communication technologies and services”.<sup>4</sup> The interest of the European Commission in promoting ICTs is particularly evident here, as the Commission is providing significant support to the joint programme.

### A wide variety of products

For the sake of this discussion, it is important to note: the programme name “AAL” involves a wide range of products. To have a general overview, it is a good idea to classify the programme in these four areas: health and home care, supply and household, security, and social environment (Federal Ministry for Education and Research 2008).

The first group – “health and home care” – covers services ranging from telemonitoring of health conditions to providing support with electronic aids and robots. The “supply and household” field includes mainly products that can be described under the heading of “intelligent living”. Networking and control of domestic infrastructure systems such as heating and air conditioning as well as automatic ordering systems are examples from this category. The product group “security” opens up opportunities to reduce risks, for instance, by deploying networked systems that automatically turn off the stove and lock the doors when the resident goes out, but also surveillance systems that send report when patients leave their beds or their homes. “Social environment” services include – above all – communication and information tools for communication and interaction that are particularly adapted to the needs of the elderly (such as video telephony or special e-mail applications).



The service centre uses “Care-O-bot” to communicate with a patient who has fallen.

*AAL products are divided into four categories: health and home care, supply and household, security, social environment.*

<sup>2</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52010DC0245:DE:NOT>

<sup>3</sup> [http://europa.eu/rapid/press-release\\_IP-12-1389\\_de.htm](http://europa.eu/rapid/press-release_IP-12-1389_de.htm)

<sup>4</sup> <http://www.aal-deutschland.de/europa> (in German)

## Varying degree of dissemination of AAL products depending on product group and Member State

An EU-wide study conducted in 2008 (Gassner and Conrad 2010) determined that the most widely distributed products across the EU are those that offer users a higher level of security in a range of forms. The authors point to the fact that the extent of dissemination, however, says nothing about actual user needs or interests. There are a variety of reasons that can cause certain products to succeed on the market and others not (see below) (Gassner and Conrad 2010, p. 33).

The spread of technical assistance systems varies widely from country to country. There are great differences between east and west and between north and south. The economic performance of a country has an impact on the number of organisations active in the field of ICT-AAL (Gassner and Conrad 2010, p. 24ff). Nearly all of the products available on the market can be found in the “old” Member States, and more than two-thirds in the northern EU countries. Research on AAL products has a strong presence in Germany as well as in the United Kingdom, Spain and Finland (Gassner and Conrad 2010, p. 41ff). There are usually a variety of stakeholders involved: the housing industry, consulting firms, public actors (government representatives from different levels), hardware or software developers and providers of services.

### Different policy approaches to support

At the political level, there are a variety of approaches that can promote the spread of AAL products in individual countries – but with different degrees of impact. The UK is a good example in the field of national funding programmes. Kubitschke and Cullen describe the promotional programmes there as probably the most ambitious of their kind. The Dutch approach shows how financial reimbursement for the purchase of technical assistance systems can overcome the otherwise typical fragmentation of the systems. This is a particularly good incentive for the use of technical assistance. However, it is questionable whether this trend will continue (see the article about the Netherlands in this issue). Another national approach to the issue of support is the promotion of innovation in welfare technologies. This type of innovation, broadly speaking, can be taken to include all the technical innovations that contribute to social objectives and at the same time offer economic benefits for the manufacturing industry and service providers. Here, Finland is one of the first countries that have committed themselves to this field of policy. Denmark is known for greater public investment in welfare technology (see also the article about Denmark in this issue) (Kubitschke and Cullen 2010, p. 41).

### Ethical reflections about introducing AAL

Kubitschke and Cullen distinguish two levels on which ethical concerns may arise: macro- and micro-ethics. The macro level is dominated by issues of distributive justice and access. For example: is the introduction or application of an AAL product justifiable when at the same time necessary and desirable personal ben-



An elderly woman checks whether she has the required ingredients for a recipe.

*Products that reduce risks are the most popular.*

*Integration in social security systems is essential for the spread of AAL products.*

*Welfare technologies: all technical innovations that serve to social purposes.*

efits or services are being abolished? Generally speaking, the authors insist that transparency and fairness must accompany the process of introducing a product. Transparency is particularly important with regard to the distribution of costs and revenues connected with the product introduction between the state and the family (Kubitschke and Cullen 2010, p. ii). The question of equity of access is linked to the problem of how to finance the technical systems. If AAL systems are financed entirely with private funds, they remain unavailable to a large part of the population who do not have adequate financial resources. From an ethical point of view, this raises the issue of justice (Manzeschke et al. 2013, p. 12). At the level of micro-ethics, the very individual consequences of AAL products or services in the lives of the persons concerned must be considered. The German study "Ethische Fragen im Bereich Altersgerechter Assistenzsysteme" (Ethical issues in the area of age-adapted assistance systems) identifies seven dimensions that should be checked in each individual case in terms of their suitability or lack thereof (including self-determination, security, justice and privacy). In individual cases, it might be necessary to consider whether, for example, the loss of privacy resulting from technical monitoring is adequately compensated by the fact that a patient can then be cared for at home instead of moving to an old peoples' home.

*Important issues to consider are questions of access and equity.*

*In individual cases it is important to decide: does the increased security outweigh the restriction of privacy?*

### **The weak point is the implementation!**

There is a lot of support in many EU Member States both for research and development and for the dissemination of the pertinent products. And yet, AAL is not popular to the extent that one would perhaps expect. This is due to the fact that there is currently no strong purchasing power for AAL products and services. In social welfare systems, AAL products or services are not normally eligible for benefits within the scope of social welfare systems (Kubitschke and Cullen 2010, p. iii). The independent nature of the three systems – health, social care and housing – also has a share of the blame. There are no structures to ensure continuity between the systems (Kubitschke and Cullen 2010, p. iii). In addition, users' willingness to pay on a private basis is not very high among current potential users – at least in Germany. It is many times lower than the overall exploitation potential (Fachinger and Koch, 2012, p. 22). There is still a lack of business models that could take these circumstances into account (see also the two country examples in this issue).

Or simply, the problem is that products are not accepted because they do not meet the needs of the user group (Melander Wikman 2008, p. 4f). Although the need for participatory development of such products has been stressed again and again (Manzeschke et al., 2013, p. 6), inclusion of user groups in the creation process is apparently the exception rather than the rule.



Networking and control of the domestic infrastructure via smartphone.

Furthermore, new systems place potential users before significant challenges. For example, the individual learning ability of caregivers plays a crucial role in the introduction of new technologies in nursing homes and day-care institutions. But organisations must also be able to adapt work processes to new technologies – so there is a need for organisational development (Kubitschke and Cullen 2010, p. iii). Last but not least, there are still technical reasons that stand in the way of a broader implementation: for instance, not all systems are fully mature and technically compatible with each other (Melander Wikman 2008, pp. 4f).

## Bibliography:

**Federal Ministry of Education and Research (2008):** *AAL. Altersgerechte Assistenzsysteme für ein gesundes und unabhängiges Leben (Age-adapted assistance systems for a healthy and independent life)*. Available online at <http://www.aal-deutschland.de/deutschland/aal-faltblatt>, last checked on 2 May 2013.

**European Commission (2007):** *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 (COM (2007) 332 final)*. Brussels: European Commission.

**European Commission (2012a):** *Communication from the Commission to the European Parliament and the Council – Taking forward the Strategic Implementation Plan of the European Innovation Partnership on Active and Healthy Ageing (COM (2012) 83 final)*. Brussels: European Commission.

**European Commission (2012b):** *Commission Staff Working Document – Exploiting the employment potential of ICTs (SWD (2012) 96 final)*. Strasbourg: European Commission.

**Fachinger, Uwe/ Koch, Hellen et al. (2012):** *Ökonomische Potenziale altersgerechter Assistenzsysteme. Ergebnisse der "Studie zu Ökonomischen Potenzialen und neuartigen Geschäftsmodellen im Bereich Altersgerechte Assistenzsysteme" (The economic potential of age-adapted assistance systems. Results of a "Study of the economic potential and new business models in the field of age-adapted assistance systems")*. Published by the Institute of Gerontology at the University of Vechta.

**Gassner, Katrin/Conrad, Michael (2010):** *ICT enabled independent living for elderly. A status-quo analysis on products and the research landscape in the field of Ambient Assisted Living (AAL) in EU-27*. Available online at [http://www.aal-deutschland.de/deutschland/dokumente/ict\\_for\\_elderly\\_webversion.pdf](http://www.aal-deutschland.de/deutschland/dokumente/ict_for_elderly_webversion.pdf), last checked on 29 April 2013.

**Kubitschke, Lutz/Cullen, Kevin/ Rauhala, Marjo et al. (2010):** *ICT & Ageing. European Study on Users, Markets and Technologies. Final report*. Available online at [http://www.ict-ageing.eu/ict-ageing-website/wp-content/uploads/2010/D18\\_final\\_report.pdf](http://www.ict-ageing.eu/ict-ageing-website/wp-content/uploads/2010/D18_final_report.pdf), last checked on 29 April 2013.

**Manzeschke, Arne/ Weber, Karsten/ Rother, Elisabeth et al. (2013):** *Ethische Fragen im Bereich Altersgerechter Assistenzsysteme (Ethical issues in the area of age-adapted assistance systems)*. Available online (in German) at <http://www.mtidw.de/grundsatzfragen/begleitforschung/dokumente/ethische-fragen-im-bereich-altersgerechter-assistenzsysteme-1>, last checked on 21 May 2013.

**Melander Wikman, Anita (2008):** *Ageing well. Mobile ICT as a tool for empowerment of elderly people in home health care and rehabilitation*. Luleå: Department of Health Science, Luleå University of Technology (Doctoral thesis/Luleå University of Technology).

*Organisational and human resource development are the key to the sustainable integration of AAL products in every-day work.*

## Welfare technology for senior citizens in Denmark

Rikke Sølvsten Sørensen

**Ambient assisted living activities in Denmark are embedded within the scope of a broader effort to renew the Danish public system through increased use of technology. Political strategies are being developed with the help of a coordinated approach involving several governmental levels and civil society. The efforts are based on the consensus that more technology, for example in the care sector, can save resources and mean more self-empowerment for the client.**



The Danish government intends to improve conditions for elderly people and give everyone an equal opportunity to live a dignified and secure senior life with a high quality. The government feels responsible for providing equal opportunities for all people to help them master their life in old age – even in the presence of important care needs. Targeted initiatives have been launched to prevent diseases as well as the loss of functional capacity and to support senior citizens in mastering their own life as long as possible.

Like all other countries in the European Union, Denmark is confronted with significant economic and demographic challenges: the population is aging and the workforce is shrinking as more people retire than those entering the labour market. Welfare technology constitutes an important area of action to meet these challenges and to make more elderly people live independently for a longer period of time. Denmark is therefore focusing on increased deployment of welfare technology.

### The author

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## Strategy 2008–2012

In 2008, the former Danish government granted 400 million euros to a programme (2009 to 2012, then prolonged to 2015) dedicated to developing and improving public sector services through the introduction of labour-saving technologies and more cost-effective work procedures. A fund – the Danish Public Welfare Technology Fund – was established to administer the programme. The fund supports projects in the entire public sector including services provided for senior citizens.

Between 2008 and 2012, the fund supported a large number of pilot projects, and the technological solutions proposed by these projects were tested in one or several municipalities.

Ten pilot projects on welfare technology in eldercare have been completed.<sup>1</sup> The National Board of Social Services – in cooperation with the municipalities – tested and evaluated the impact of the selected technologies on the specific social service. The evaluation focused on the labour-saving effect of the technology and on its impact on service and work environment. The business cases of the projects showed both qualitative and efficiency gains resulting from the introduction of the welfare technologies concerned.

The possibility to apply for financial support for testing specific technologies and also the national and local focus on the potential of the welfare technology helped all Danish municipalities to test or deploy selected technologies in eldercare.

At the end of 2011, the National Board of Social Services completed a survey among the 98 Danish municipalities. The survey showed that welfare technology had been implemented in 61 of the 98 municipalities, that 65 had ongoing test projects and that only five municipalities had not yet introduced welfare technology. Robot vacuum cleaners, electric ceiling lifts and wash-and-dry toilets were the most commonly used technologies. Since then, several Danish municipalities have also gained experience with various forms of communication solutions and telemedicine/clinical home monitoring.

However, deployment to the level of an actual national implementation of welfare technology solutions has not happened to the extent that everyone had expected.

## Strategy 2012–2015

Right from the start, the state, municipalities, citizens and interest groups recognised that there are gains to be made in both efficiency and quality by deploying welfare technology. At the same time, success in many places has created the expectation that there are several technologies ready for national deployment. There is also a general notion that Danish society in general will be missing out on both quality and financial savings if welfare technologies are not deployed in the country.

*About two-thirds of Danish municipalities have introduced welfare technologies.*

*In Denmark there is a broad consensus about the benefits of using welfare technologies.*

<sup>1</sup> For further reading: <http://www.ffvt.dk/da/Resultater-og-overblik/Afsluttede-projekter/AEldre> (in Danish only)

In 2012, therefore, the Danish Public Welfare Technology Fund changed its focus to concentrate on major strategic initiatives and the deployment of thoroughly tested solutions and broad intersectoral areas of action. In 2013, the Danish government, Local Government Denmark and Danish regions began collaborating to develop a digital welfare strategy covering health, social services and education. The present resources of the fund are now focused on the government initiative to deploy those well-proven welfare technology solutions that have shown the greatest potential. In future, the strategy will focus on a more targeted documentation of good welfare technology solutions and subsequent efforts towards national deployment.

### Current activities

In the context of the strategy, specific initiatives regarding services provided for senior citizens have been launched in the form of analyses and business cases, testing of specific solutions on a larger scale and national implementation of already tested solutions, as for example:

- The National Board of Social Services and Local Government Denmark have been collaborating to support Danish municipalities in both technical and organisational implementation of lifting and transfer technology so that 75 % of transfers can be performed by one caregiver instead of two.
- Danish hospitals and municipalities have been cooperating on the “national deployment of telemedical wound assessment” – a solution that allows health professionals to communicate by means of text and images between the nursing home and the patient’s home, consequently saving waiting and travel time for the patient.
- A national intersectoral pilot project for clinically integrated home monitoring, where the patient monitors his or her chronic disease (e.g. chronic obstructive pulmonary disease (COPD) or diabetes) at home and pays the outpatient clinic a visit through his or her computer. If necessary, the patient can be supported by municipal home nursing services.
- The National Board of Social Services is preparing an analysis of the potential gains from a general deployment of smart home technology for people with disabilities. This project involves an analysis to determine whether there is a basis for launching a total initiative on smart home technologies.

New and well-known solutions for eldercare are being tested and used locally in Danish municipalities. Several municipalities have initiated cooperation projects with private companies on the concept and prototype development of new welfare technology solutions. Many municipalities have formulated their own local strategy for welfare technology, and have been working on all levels of management with a focus on relevant welfare technology solutions for eldercare.



Health professionals will also be able to assess patients' wounds online at their computer screens.

## Integration of ICT in the education of employees

Eldercare professionals are the key persons when it comes to spreading the use of welfare technology. They must have confidence in working in new ways, using new technologies and instructing patients in their use.

Health and social care students must therefore obtain the necessary knowledge in the field of welfare technology. They should gain experience with digital and welfare technology solutions in their education and during their trainee period. There must be a connection between employers' demand for specific skills and the training content.



Theoretical and practical know-how about welfare technology will be integrated into education and training.

Therefore, all pilot and implementation projects focus on employee training. Health and social care education institutions have included welfare technology as an area of qualification for their students. Welfare technology is included in the skills development in line with aids and tools.

## ICT for more self-determination

Present and future senior citizens are mainly positive about welfare technology. New surveys performed by Local Government Denmark (the federation of all Danish municipalities) and DaneAge (a social-humanitarian association working for the interests of the elderly) show that Danes are generally positive about the introduction of welfare technology solutions in eldercare.<sup>2</sup>

A very large proportion of respondents prefer welfare technology as a personal care assistant, so that, for instance, they are able to go to the lavatory or have a bath by themselves. The survey shows that the motivation to use welfare technology is very much based on the feeling that they will be able to maintain their dignity and control of their own lives.

## Coordinated approach and open dialogue

In Denmark, the strategy for the deployment and use of welfare technology for senior citizens is therefore based on a co-ordinated and focused effort that extends through all levels – from government level, ministries and government agencies to municipal levels of management, employees and citizens, interest groups and educational institutions.

*The desire for self-determination and autonomy predominates among senior citizens in Denmark.*

<sup>2</sup> For further reading: <http://www.kl.dk/Om-KL/Kommuner-vil-investere-i-velfardsteknologi-id109022/>  
[http://www.aeldresagen.dk/aeldresagen-mener/aeldresagenmener/Documents/12.07%20Velfardsteknologi\\_anbefalinger\\_print.pdf](http://www.aeldresagen.dk/aeldresagen-mener/aeldresagenmener/Documents/12.07%20Velfardsteknologi_anbefalinger_print.pdf)

As with any major change, there is both excitement and concern. An open debate has been a priority from the very start and the dialogue has been free and varied. There is consensus that welfare technology brings significant benefits to senior citizens and that it also forms a potential basis for great resource savings, which will help maintaining the high level of public service in Denmark – even with an aging population.

## Ambient Assisted Living in the Netherlands

Geja Langerveld

**Ambient assisted living as an important part of elderly care enjoys good starting conditions in the Netherlands, as many older people have a high affinity for the Internet and digital solutions. This article presents ways of providing political support for ICT solutions with activities that do not focus on the development of new solutions, but rather on the dissemination of already existing ones. Overcoming barriers in the daily implementation is the main challenge of ICT mainstreaming.**

In the Netherlands, conditions for the use of solutions based on ICT to improve the quality of life of seniors are quite favourable. There is a good infrastructure, with some 95 % of all households having internet access (87.5 % broadband). Roughly 42 % of the population uses a smart phone and 27 % go online with a tablet (van Deursen and van Dijk 2012).

### Seniors and the Internet<sup>1</sup>

In the last decade, use of the internet among seniors has increased substantially in the Netherlands.<sup>2</sup> In 2012, 81 % of the 65+ generation had internet access, and many seniors use it on a regular basis, mostly via PC or laptop. Their favourite online activities are: e-mailing, looking for information about products or services, health-related topics and news, online banking, travel services and public services. Almost 40 % of the users use their computers to play games. In addition, online social activities are gaining in popularity: among 50+ internet users, 50 % are active in social networks, 35 % like to chat, 32 % use Skype and 30 % participate in communities. The largest online community for older adults is [www.seniorweb.nl](http://www.seniorweb.nl), with over 135,000 members.



### The author

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<sup>1</sup> Different studies use different age categories, so the figures are not exact. They do, however, give an impression of the situation.

<sup>2</sup> CBS 2011 <http://www.cbs.nl/nl-NL/menu/themas/vrije-tijd-cultuur/publicaties/artikelen/archief/2011/2011-3537-wm.htm> and [http://route50plus.nl/files/2011/06/Cijfers-50-plussers-presentatie\\_2011-2012.pdf](http://route50plus.nl/files/2011/06/Cijfers-50-plussers-presentatie_2011-2012.pdf)

participation in the AAL Joint Programme (an EU funding scheme) is funded by the Long-Term Care department of the Ministry of Health, Welfare & Sports. AAL solutions that enhance independent living and improve the quality of life of older adults – with the support of their social/care networks – can (hopefully)



prevent or at least postpone the need for more intensive and expensive institutional care. In that sense, AAL is complementary to national programmes that promote the use of telecare, domotics and (self-)management of chronic conditions in home care and institutional elderly care.

### Overcoming barriers: Focus on application

Many projects with good results are phased out when project funding is over. In the last six years, therefore, much emphasis has been put on application and upscaling of good practices (i.e. already available ICT solutions). This trend has been encouraged by several national and regional programmes such as Care for Better, Domotics in Small-Scale Living Units, InForCare and Smart Care (in the North Brabant region)

To support the uptake of innovations in long-term care, provider organisations receive support – with money, but mainly with tools, training, coaching and advice – to combine the implementation of innovations and quality improvement measures with the necessary changes in organisation and work processes. Many of the innovations involve ICT, and a ‘Care with ICT Toolkit’<sup>3</sup> has been made available.

Several studies have identified the main barriers for upscaling ICT and e-health innovations. In addition to unfamiliarity with ICT among potential end users (older adults as well as care professionals) and organisational cultures, a prominent obstacle is the lack of appropriate business cases (which means to compare the costs/efforts and the benefits/effects of an innovation). The lack of appropriate financing and standardisation (of technical standards with interoperability for example) are also important reasons for failures in the sustainable implementation of new techniques. Furthermore, legal regulations are not yet in line with changing responsibilities between different care providers and/or informal carers and/or patients. Where ICT solutions are used, ICT suppliers are also relevant – e.g. is the doctor liable if there is no timely response to an electronic alarm signal because the system is not working properly? The fact that designing solutions for seniors is not seen as very “sexy” in the ICT sector (which is dominated by young males) is also not helpful.

<sup>3</sup> [http://www.kenniscentrumwonzorg.nl/toolkit\\_zorg\\_met\\_ict](http://www.kenniscentrumwonzorg.nl/toolkit_zorg_met_ict)

## Dissemination of ICT solutions

By far, the most widespread system in the Netherlands is the traditional personal alarm system (with a button around the neck) offered by commercial providers and home care organisations.

However – stimulated by several national/regional programmes – the use of more sophisticated ICT solutions to support independent living has been increasing substantially, especially “PAL4” (Personal Assistant for Life)<sup>4</sup> and “Viedome”<sup>5</sup>. Both systems are open platforms that enable combinations of services for comfort, safety, communication, entertainment, welfare and care. E-health services, including portals to stimulate healthy ageing and (self-)management of chronic conditions like Parkinson’s, heart/vascular diseases, diabetes and chronic obstructive pulmonary disease (COPD) can be and sometimes are already connected to these platforms. Services are accessible via touch screens, TV or PC, and recently the iPad has also been introduced as a possible access device in some organisations.

PAL4 offers additional services to prolong independent living at home for people with mild dementia and their informal carers. A preventive sensor system monitors daily life patterns and gives signals to prevent dangerous situations. The system encompasses personal alarms, door sensors, sensors to measure electricity use, bed mat, chair mat and motion sensors. Viedome offers additional services to give people with more severe dementia more freedom, for instance by raising an alarm when patients wander.

PAL4 is based on collaboration for further development and offers a new business model to facilitate telecare on a large scale. Viedome<sup>6</sup> emphasises that a sustainable business case needs to offer individual choices for a variety of attractive services that can be used on a daily basis and incorporated in individual life patterns. Central factors are the social value of a system, the fun aspect of using it and communication with family and friends. Once necessary, care services can be added, but they should not be central.

Technology can be used in small-scale living units for people with dementia. Solutions for safety and monitoring (active alarms, entrance control, camera surveillance, automatic lighting at night, motion detection) and for audio and video communication are the most popular. These domotic features help to reduce the necessity for permanent availability of several staff members and improve residents’ freedom to move around.

## Guiding and support

Four years ago, four governmental organisations<sup>7</sup> started to cooperate to overcome some of the barriers and speed up innovations in the healthcare sector. A “Care for Innovation” website<sup>8</sup> was launched in 2011 to guide innovators by providing information, answering questions and fostering networking. It is not surprising that many innovations are ICT-based. Rules, procedures and processes are streamlined and coordinated in back-office assessments.



*PAL4 and Viedome are important ICT solutions in the Netherlands.*

*Monitoring daily patterns to avoid hazards.*

<sup>4</sup> from Focus Cura

<sup>5</sup> from Mextal

<sup>6</sup> presentation at TechnoAge

<sup>7</sup> the Ministry of Health, Welfare & Sports, the Health Care Insurance Board (CVZ), the Dutch Healthcare Authority and ZonMw, the Dutch funding agency for healthcare research and development

<sup>8</sup> <http://www.zorgvoornoveren.nl/>

Telecare (screen-to-screen) has been part of the financial reimbursement system since 2012. Care organisations apply for four contact hours per month for each client included in the telecare system. “Care for Innovation” also provides information and links to the institutions responsible for compliance with quality and safety regulations (Healthcare Inspectorate) and ICT standards (Nictiz).



A financial reimbursement system for Telecare has been in place in the Netherlands since 2012.

ZonMw, the national funding agency for research and development programmes in the healthcare sector, is integrating ICT and e-health as a structural part of all funding programmes and preparing a research agenda on e-health and ICT in the care sector.

A good business case is a crucial factor for the implementation of ICT and e-health solutions. In the field of long-term care, important factors to be taken into account are the quality of life of older adults, the quality of care and the quality of work of caregivers. The independent research organisation TNO has developed a tool to build up a business case; this tool has been translated into English for the AAL community. The tool is available for free and accessible via [www.businesscase-longtermcare.com](http://www.businesscase-longtermcare.com).

## Research and development for innovation

Development of innovative ICT solutions for an ageing population is currently part of the national Top Sector Policy on Life Sciences & Health<sup>9</sup>, a public-private cooperation of ministries, companies and research partners. The programme closest to AAL is the development, evaluation and implementation of devices for extramural diagnostics, autonomous physiological and behavioural monitoring at home and training and therapy in daily life. Important topics are prevention and self-management of chronic diseases.

## Future policy

To ensure a sustainable healthcare system for the future, innovation in long-term care needs to be stimulated, including ICT for independent living and a smarter organisation of care processes. Integration of prevention, cure and care for people with chronic conditions as well as social care and welfare are important; this means a stronger role for municipalities. To meet the challenge of providing care for increasing numbers of people with dementia, a national “Dementia Delta Plan” was launched in April this year (Ministry of Health 2013). This programme aims at creating a national care portal, an information register and a research pro-

*The website “Care for Innovation” supports innovation through information and networking.*

*Prevention, self-management but also more self-responsibility are important elements of the future health and care system in the Netherlands.*

<sup>9</sup> For further reading: <http://www.government.nl/issues/entrepreneurship-and-innovation/investing-in-top-sectors/life-sciences-and-health>

gramme – the Dutch contribution to the Joint Programming Initiative on Neurodegenerative Diseases (JPND). And last but not least, older adults with sufficient means will be expected to play a bigger role in financing their own care, and more help from informal carers will be needed to close any gaps.

A customer-oriented market approach for AAL solutions will become even more important in the future as current plans for future policy foresee rather less public support than today.

### **Bibliography:**

**Ministry of Health, Welfare and Sport (2013):** *Deltaplan Dementie 2012–2020*. Available online at <http://www.neurodegenerationresearch.eu/uploads/media/rapport-deltaplan-dementie.pdf>, last checked on 03 June 2013.

**van Deursen, Alexander/van Dijk, Jan (2012):** *Tendrapport internetgebruik 2012*. Universiteit Twente/Center for e-Government Studies. Available online at [http://www.utwente.nl/ctit/cfes/docs/Rapporten/2012\\_Tendrapport\\_Internetgebruik.pdf](http://www.utwente.nl/ctit/cfes/docs/Rapporten/2012_Tendrapport_Internetgebruik.pdf), last checked on 03 June 2013.

## Background

### Background information

The following web pages will give you additional information on technical assistance programmes for the elderly.

#### European Commission

Information on Ambient Assisted Living and on the Joint Programme of the European Commission (in English)

[http://ec.europa.eu/information\\_society/activities/einclusion/docs/ageing/aal\\_overview.pdf](http://ec.europa.eu/information_society/activities/einclusion/docs/ageing/aal_overview.pdf)

#### Ambient Assisted Living Joint Programme (AAL-JP)

Information on the AAL-JP transnational funding programme (2008–2013). The goal of the programme is to encourage international research projects involved in the development of information and communication technologies and services for assistance systems (in English).

<http://www.aal-europe.eu/>

#### German Federal Ministry of Education and Research

The ministry's website on AAL (in German)

<http://www.aal-deutschland.de/>

#### Deutsche Gesellschaft für Gerontotechnik

Current product catalogue of the German Society for Gerontotechnology (in German)

<http://www.komfort-und-qualitaet.de/2013/>

#### Fraunhofer-Gesellschaft

Website of the "AAL Alliance", an alliance of 13 Fraunhofer institutes working together on AAL and "personal health" system solutions (in English).

<http://www.inhaus.fraunhofer.de/en/Business-units/Health-and-Care.html>

#### VDE (Association for Electrical, Electronic & Information Technologies)

Innovation partnership with the German Federal Ministry of Education and Research for R&D as well as market and product development with the goal of allowing early exchanges and transfers of knowledge between stakeholders and interest groups (in German).

<http://partner.vde.com/bmbf-aal/Pages/Startseite.aspx>

#### AALIANCE2 Project (European Next Generation Ambient Assisted Living Innovation Alliance)

The objective of this project is to bring together and coordinate measures and stakeholders in the field of AAL (in English).

<http://www.aaliance.eu/public/>

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