Study on Information Portals in AAL field

Final report

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About Ambient Assisted Living Association:

The Ambient Assisted Living Association (AALA) is organizing the Ambient Assisted Living Joint Programme (AAL JP). The AAL JP aims at enhancing the quality of life of older people and strengthening the industrial base in Europe through the use of Information and Communication Technologies (ICT). Therefore, the AAL JP is an activity that operates in the field of services and actions to enable the active ageing among the population.

The programme is financed by the European Commission and the 22 countries that constitute the Partner States of this Joint Programme.

See more at: http://www.aal-europe.eu/

The information and views set out in this report are those of the author(s) and do not necessarily reflect the official opinion of the AALA. The AALA does not guarantee the accuracy of the data included in this study. Neither the AALA nor any person acting on the AALA's behalf may be held responsible for the use which may be made of the information contained therein.

Contents

Executive summary

In September 2013, the AAL Association sent out a call for tenders for a study on existing Information portals in the Ambient Assisted Living field.

This study has the aim of serving as a basis for the decision on a planned support action of the AAL JP to establish a portal for the exchange of information on ICT and Ageing Well at EU, national and regional level. The portal must be self-sustainable after 2-3 years.

In accordance with the research questions, the study focused on two topics:
1. Existing websites and web portals
   - overview of the relevant websites and web portals (Appendix A)
   - features of relevant websites concerning information management and business model (table 5, p16 and table 6, p.18)
   - overview of the information needs of relevant stakeholders (table 7, p.23)
   - match between information needs and available information (table 8, p.25)
2. Recommendations for features and business aspects of future web portal (chapter 6)
   - information features, content, presentation
   - structure, accessibility, availability
   - content management model
   - business model
   - development approach: priorities, costs, collaborations

To identify relevant existing web portals, the following methods were used:
   - Web searches for relevant initiatives and information
   - Online web survey among stakeholders and experts
   - Direct (mail) communication with experts and web managers

The first result was a selection of 100 websites of which over 80 were scanned on their relevance for this initiative (more information can be found in Appendix A).

Thirteen websites with portal functionality were selected for further analysis. These websites were taken as examples for the support action and for future collaboration. The detailed analyses showed a variety in ownership, a focus on 2 or more stakeholders, wide range of topics and links related to ICT and Ageing Well, and different information structures. The funding of the websites often came from a single source, regularly a government party or was based in a (research) project. In those cases, funding was often temporary and when it stopped, the maintenance of the website ended. In other cases, the business model contained multiple income sources: membership fees, advertising and commercial activities. The information management was mostly the responsibility of a coordinator or small group with input from multiple sources.

The initial selection of websites was almost exclusively limited to European and North American websites. Therefore an additional search was done and experts were contacted to start an inventory of relevant initiatives beyond Europe. Based on this search we concluded that the present study did not exclude any essential information.

Second, five stakeholder parties were distinguished: End User Organisation, Large Enterprise, SME, Research and Investor. We presented an initial set of information needs for each stakeholder party in a consultation of stakeholders and experts. The stakeholders confirmed these needs and also indicated that this information was often hard to find on the Internet.

Based on our study, we recommend that a new EU portal on ICT and Ageing Well, linking existing initiatives, should make the relevant information for the five stakeholder groups identified available at one central point. The thirteen portals studied in detail can be taken as a starting point when designing this new EU portal. While developing the portal, its main stakeholders should be involved to guarantee a solid basis as well as a content fitting the information needs of all parties.

To ensure self-sustainability of the website after 2-3 years, a solid content management model and business model is crucial. Essential elements of this model are an active community of stakeholders and funding from multiple sources. More detailed recommendations can be found in chapter 6.

Finally, the strategy to a successful development of a new web portal will have to start with a clear vision on expected value for its different target groups, then define the target groups and outline the portal's requirements for content and presentation. When the contour of the website is defined this way, the right parties can be involved for collaboration. Suggestions for all these steps are given in this report.

1   Introduction

1.1   ICT and ageing well

Background
The Ambient Assisted Living Joint Programme (AAL JP) aims at enhancing the quality of life of older people and strengthen the industrial base in Europe through the use of Information and Communication Technology (ICT).

In order to support the community around the AAL JP several supporting actions are initiated. At present AAL JP wants to help the broad community of stakeholders to get better information on existing solutions in the field of "ICT and ageing well". In the long term AAL JP wishes to create a self-sustainable information portal with up-to-date information about solutions for "ICT and ageing well".

Stakeholders
Stakeholders are all the parties looking for information related to ICT and Ageing well, and wanting to use the information portal to gain more knowledge on existing solutions and research outcomes, and to finding partners in development and financing. The stakeholders can be divided into several interrelated groups (see figure below) each with their own information needs and specific angle of approach towards the information. For the search conducted in this study this means that search queries will contain terms related to the specific information needs of each stakeholder. For the entries of the AAL portal this means that different entries are to be made for the various stakeholders, leading to relevant information from their points of view.
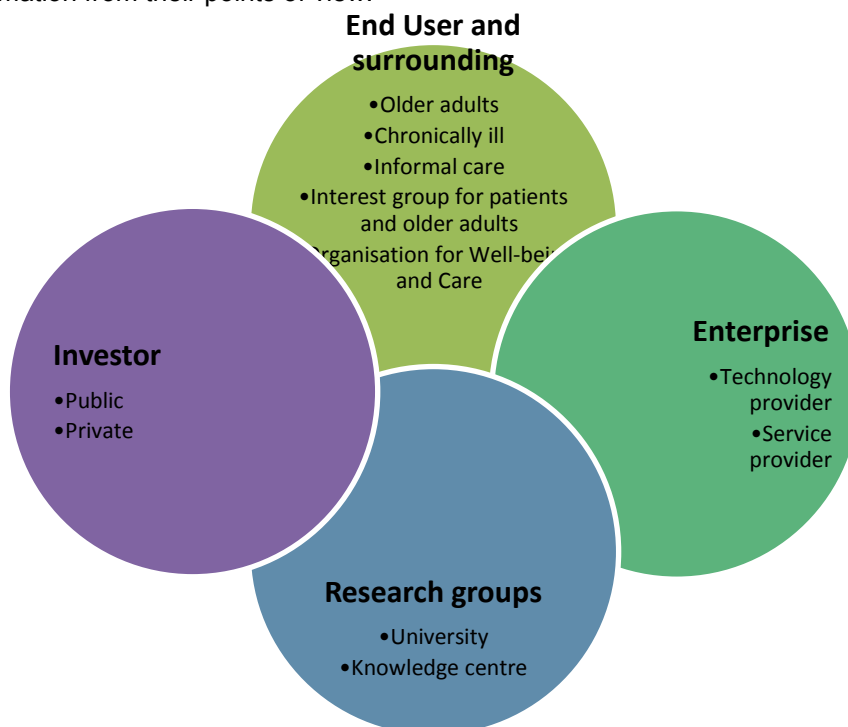

Figure 1: Stakeholders

Through the AAL portal stakeholders may not only be able to find necessary information to increase the success of their innovation initiatives, but also find other stakeholders with whom they can cooperate in order to undertake the challenges of innovation.

1.2 Final Report

In this report the findings of the research on *Information portals in AAL field* are given.

In chapter 2 the objectives and research questions of this project can be found.

Chapter 3 describes the method and steps that were taken to find relevant websites and portals. It also describes the expert consultation and the online survey. And the additional initiative that was taken to find information on web portals outside Europe and the US and additional information on the way the information is managed and what the business models of the websites are.

In chapter 4 the results are described concerning the analysis of most relevant websites, the online survey, the match between information needs and available information and possible entrances to find more information on portals on ICT and Ageing Well in Asia, Australia, Africa and South America.

Conclusions on the information found and the search process can be found in chapter 5.

Finally chapter 6 gives recommendations on the structure and content of a new web portal and how a web portal may be most sustainable. A strategy is outlined stating priorities for collaboration and the development process for a new portal.

Acronyms used in this report related to Ambient Assisted Living:

AALA	Ambient Assisted Living Association, Brussels
AB	AAL Advisory Board
AHA	Active and Healthy Ageing
AT	Assistive Technology
CMS	Content Management System
CMU	Central Management Unit of the AAL Association
EU	European Union
FP7	EU Seventh Framework Programme
GPS	Global Positioning System
ICT	Information and Communication Technology
MEP	Member of European Parliament
NCP	AAL National Contact Person
SME	Small or Medium Enterprise
URL	Uniform Resource Locator

2 Objectives of this study

2.1 Objectives

Regarding the topics related to "ICT and ageing well" a wide range of information sources can be found through the internet. However this information is spread over a variety of websites such as consumers oriented, business information and research initiatives. This study aims to show the potential of existing portals and information sources and critically evaluate the opportunities for a Portal for ICT and Ageing Well, fitting the needs for information of the different stakeholder groups.

In making the inventory of the relevant existing portals and information sources, the research questions formulated in the tender text were the following:
1. Which existing portals and information sources are relevant in the context of AAL and ICT and Ageing well?
2. How accessible are the existing portals and information sources suitable to the various stakeholders?
3. For which stakeholder are the existing portals and information sources most suitable and interesting?
4. Do the existing portals and information sources help a stakeholder to find other stakeholders if necessary?
5. Which aspects of the existing portals and information sources provide guidance for the recommendations of the future "ICT and Ageing Well" information portal?

The answers to these questions will serve as the basis for AALA (AAL Association) to make a decision on establishing their own portal on ICT and Ageing Well. This portal would enable exchange of relevant and up-to-date information between the AAL stakeholders in an efficient way.

2.2 Important questions from AALA

One important recurrent question was: which are the most relevant web portals, what is available and how does it fit the information needs of the various stakeholders. This will be answered in the core of the study. The most relevant websites were selected, analysed and matched with the stakeholder needs.

The second important question concerned sustainability of the web portal. On one hand this concerns the financial model that is behind a portal. On the other hand this concerns the information management model: how to keep information up-to-date and how to control the quality of the information. An additional mail and telephone enquiry was conducted to find out about the sustainability models behind the most relevant websites.

2.3 Results

Related to the questions above, the results of this study focus on two topics:

1. Existing websites and web portals
   › overview of the relevant websites and web portals (Appendix A.)
   › features of relevant websites concerning information management and business model (table 5, p.16 and table 6, p.18)
   › overview of the information needs of relevant stakeholders (table 7, p.23)
   › match between information needs and available information (table 8, p.25)
2. Recommendations for features and business aspects of future web portal (chapter 6)
   › information features, content, presentation
   › structure, accessibility, availability
   › content management model
   › business model
   › development approach: priorities, costs, collaborations.

3   Research method

This chapter describes the steps taken to identify to search for websites and portals, identify the relevant ones, and analyse the information they contain.

Web searches: A set of generic keywords was used to initiate a first search round of queries. This yielded some results, but because many relevant websites could not be found with generic search queries such as "ageing well" the search queries were gradually refined. To do this, a list was devised of potential stakeholders and their needs in order to refine the keywords and queries.

Furthermore, keywords mentioned by respondents of our expert consultation were used in a second search round of queries, yielding a final set of selected web portals. The web portals were classified by importance based on a set of assessment criteria. The selection of portals was analysed further to form a basis for the recommendations

Online survey: Parallel to the internet search, an expert consultation was carried out via an online survey. The survey was sent out once the main groups of stakeholders and the topics / information relevant per stakeholder were identified. Results from the survey served to obtain possible other relevant web portals and extra information regarding information needs of various stakeholders. When response stayed below expectations additional networks of experts were approached.

Sustainability aspects: During the assessment of the most important portals, it was found that the business model behind the websites was not always clear. Furthermore, for most websites the way information was updated and moderated was not obvious. Additional effort was needed to contact the owners of those portals first through mails and also directly with a telephone survey to obtain this information.

Beyond Europe: Since the results concentrated mainly on Europe and USA an additional preliminary search into Asian initiatives was conducted with the help of experts from our network and specific search terms and some information on Africa, South America and Australia was gathered.

The figure below is a schematic representation of the information gathering process. Input from several sources was combined in the searches.

Preparation:
- formulate information needs
- inventory keywords
- design queries

Experts input (mailing):
- additional keywords
- information needs
- relevant websites

Search round 1:
- generic queries

Experts input (network):
- input for queries

Stakeholder definition:
- additional information needs

Online survey:
- stakeholder info needs
- additional websites and portals
- suggestions for search

NCP's input:
- relevant websites / portals
- local initiatives

Search round 2:
- more specific queries

AAL CMU input

Assessment of results:
- relevance
- quality
- completeness

Search round 3:
- beyond Europe

Analysis of websites
- quality
- information
- sustainability

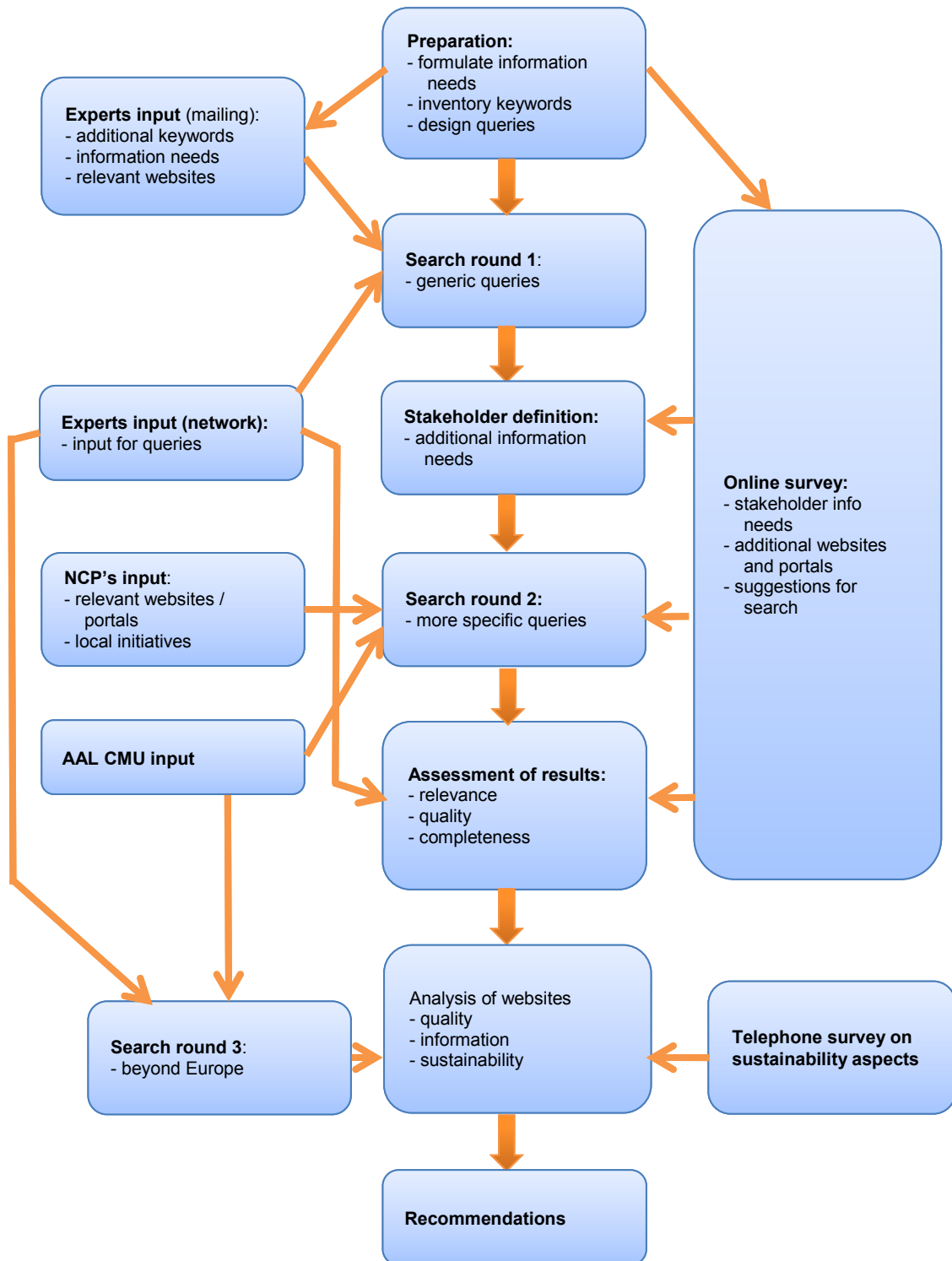**Telephone survey on sustainability aspects**

Recommendations

Figure 2: Information gathering process

3.1 Web search rounds 1 and 2

3.1.1 Keywords

Basic general English keywords in the area of ICT and Ageing Well were used to start our first round of web search.

Table 1: Generic keywords

Target group	Technology
Elderly, senior(s)	ICT
Older people / persons	(Assistive) Technology
Ageing well	Ambient assisted (living)
Chronic condition/ chronically ill	Ambient Intelligence
Health	Smart Technology
Successful ageing	Smart Home
Well-being	Domotica
Independence	Portal, portals
Participation	

In the second round more specific keywords were added, based on domains and applicable technologies and research areas and linked to information needs of the stakeholders.

Table 2: Additional keywords related to information needs

Domains	Stakeholder	keywords
Mobility	End User Organisation	Mobility aid Walking aid Walking constraint/mobility constraint Mobile at home and outdoors Mobile apps Fall prevention
	Research Group	Usability research, Acceptability research, Acceptance of technology
	Enterprise	Walking aids available Elderly and technology market
	Technology	GPS, Assistive technology, AT, Smart phone, apps, mHealth
Safety	End User Organisation	Fall prevention Safety at home Safety outdoors
	Research Group	
	Enterprise	
	Technology	Fall detector Safety button Alarm system
Health	End User Organisation	Health prevention Chronic condition / chronic care Self-management Dementia Access to healthcare organizations Nutrition Organization of health care, Empowerment, Self management, self efficacy
	Research Group	The aging process (epidemiology) Behavioural changes interventions
	Enterprise	eHealth tools for self-monitoring or for self-management
	Technology	Medical device,

		Monitoring system, eHealth, mHealth, ICT based intervention
Well-being	End User Organisation	Healthy life style Informing about physical/ sport activities Mental fit Health promotion programs
	Research Group	Development of life style Interventions Behavioural changes interventions
	Enterprise	
	Technology	Domotics, Domotica
Work	End User Organisation	Paid work & rights Voluntary work
	Research Group	Working employment senior employee Working conditions senior employee Depression and work
	Enterprise	Tools to help with information load, stress at work, unemployment
	Technology	
Leisure	End User Organisation	Sport activities Cultural activities Smart homes
	Research Group	Attitude to aging and leisure time
	Enterprise	Tools for planning and booking leisure activities
	Technology	Games, smart home
Social life	End User Organisation	Information over Social media ICT courses available Interaction aids
	Research Group	How do the elderly use social media and why
	Enterprise	Tools for supporting the seniors to use social media
	Technology	Social media,
Organization (of daily life)	End User Organisation	Meals, nutrition
	Research Group	
	Enterprise	
	Technology	Agenda, attention signal Smart Home

3.1.2 Search queries

The following basic queries were carried out:

Table 3: Basic queries

Simple query	Combined queries	Initial scope of results
"ageing well"	"ageing well" AND ICT	Yield some links to information portals and EU pages on the subject
	"ageing well" AND "chronic conditions" AND technology OR ICT OR "ambient intelligence"	Yield a lot of "meta-information" in the form of articles\ papers\ documents with analysis and research, as well as EU policy pages
	"ageing well" mobility AND ICT OR technology	

Specific information needs and use preferences of the identified stakeholders were used in order to find more specific information such as products in development by commercial companies or possible investors for companies. This extra information was used to devise more specific keywords to build queries.

The more advanced queries of the second and third search rounds included also specific technologies such as *"fall prevention"*, *domotics* and "like" queries: *like: http://ict-ageingwell.net/.* Variations in spelling and phrasing were taken into account (ageing/aging, domotics/domotica, elderly/older people/senior etc.)

3.1.3 Use search results to enhance further search

During the search, various websites were also found through link sections on other websites. This iterative process leading to new potentially interesting web portals was also still going on during the analysis of the most relevant websites.

3.2 Expert consultation first round

Experts were approached in the field of Ageing and ICT to find additional initiatives. Also those outside Europe were approached, especially in the US, to find information on initiatives abroad. The following three questions were raised:

› *Question #1: Which websites do you know in the field of ICT /technology and aging well?*
› *Question #2: Which top 10 keywords would you use to search for information on the internet in the field of technology and aging well?*
› *Question #3: When designing a EU web portal on ICT and Aging well, which information would you like to find and which information would be useful to you?*

3.3 Expert consultation Web survey among stakeholders

Parallel to the internet search, an expert consultation was carried out via an online survey among stakeholder parties and other experts. The survey was sent out once the the main groups of stakeholders and the topics / information relevant per stakeholder was identified. Representatives from all five stakeholder parties were included. Results were used to find other relevant web portals and extra information regarding information needs of various stakeholders.

Experts were contacted to find the answers to three of the research questions from the field of ICT and Ageing Well and invited them to fill out an online questionnaire using SurveyMonkey. The research questions to be answered by the survey are:

› How accessible are the existing portals and information sources suitable to the various stakeholders?
› For which stakeholder are the existing portals and information sources most suitable and interesting?
› Do the existing portals and information sources help a stakeholder to find other stakeholders if necessary?

Questionnaire

As an introduction participants were asked to state their perspective: End User Organisation, Large or Small Enterprise, Research Group or Investor. From their perspective they were asked to answer questions on their information need: which information they thought useful and which information they advised to include in a (new) EU portal on ICT an Ageing Well. Dependent on their perspective they could choose from predefined categories, or add their own. Next they were for the names of the five most important web portals in their opinion. Also they were asked which information they now think is hard to find on the internet right now, and finally to come up with recommendations and success or fail factors for a (new) EU portal on ICT an Ageing Well. In total there were 13 questions. The complete questionnaire can be found in a separate document: *Online Expert Consultation: European Web portal ICT and Ageing Well.*

Stakeholders, experts and other interested parties

Based on our own knowledge and expertise, the following list was made of possible stakeholders and interested parties:

› Academics, Research Institutions, Think Tanks
› Medical Professionals, Professional care providers, Care homes
› Policy Makers, MEPs (Member of European Parliament), AAL network
› Health Care Providers, Users, End User Organisation
› Civil Society organisations
› Media
› Industry, Large/Medium Small Enterprises

The preliminary list of experts presented in the inception report was then complemented with other experts taking into account there would be representatives from the various stakeholders and a good regional spread. Also AAL CMU added experts from their network.

At a later stage a call to fill out the questionnaire (with a direct link) was also spread through the social network of the EIP AHA (European Innovation Partnership on Active and Healthy Ageing).

3.4 Search for local initiatives

To make an inventory of local initiatives, local websites and portals additional local keywords the AAL network of National Contact Persons (NCPs) were approached.

They were asked to react to the following questions:

› *Question #1: Which local portals do you know in the field of ICT /technology and aging well?*
› *Question #2: Which keywords would you use to search for information on the internet in the field of technology and aging well?*

3.5 Additional information on initiatives "beyond Europe"

To get to information on initiatives outside Europe and US, a search was conducted to explore the possibilities to find information from Asia. Specific country tags were added and the local search engine Baidu was used. Also some locally knowledgeable experts on this were contacted.

For Africa, South America and Australia a few known websites were examined for relevant initiatives in those regions.

3.6 Additional information on sustainability of relevant portals

The information concerning sustainability consists of two components:
› Business model: how is the web portal financed?
› Information management model: who contributes to new information, is there a moderator, how is the information kept up-to-date and how is the quality of the information controlled?

Information concerning the financing of the websites could often be found on the website, however the way the information management was regulated was mostly unclear.
Therefore the webmaster or contact person of the website wase contacted both by mail and telephone.

They were asked to react to the following questions:
› *Question #1: What is the financial model behind the website?(i.e. governmental support, subscription, advertising, private funding, etc.)*
› *Question #2: Is there a moderator for information exchange e.g. for a forum, blogs?*
› *Question #3: How is the quality of information controlled?*
› *Question #4: How and who assesses new information which is posted?*
› *Question #5: Who contribute to new information posted on the website?*

3.6.1 Assessment and Selection criteria for inclusion

All found websites were scanned and judged on their relevance for this research by two researchers separately.

› **Is it a simple website or one with a lot of portal functionality?** To be judged by the variety of topics and links and the ambition stated by the owner. Only websites with extended portal functionality were selected for further analysis.
› **Is the website up to date?** To be judged by dated items on blogs or event calendar. This was not used as a selection criterion at this stage.
› **Which of the stakeholder groups are addressed?** To be judged by the sort and variety of information needs covered and the ambition stated by the owner. Only portals focusing on two or more stakeholders were selected.
› **What is the relevance of the information?** To be judged on, type of information trustworthiness, interesting/relevant topics, information management. Only web portals containing relevant information were selected.

After the pre selection, a further analysis of the remaining web portals was made using the format from table 4.

Table 4: Format for the portal analysis of the selected web portals

URL		
Owner		
Target groups	*Business / Research / End User Organisation / Investor*	
Content\information needs?	Businesses: Investment Opportunities	*Description of information*
	Research	*Description of information*
	End user organization: Possibilities of ICT for older adults	*Description of information*
	Investor	*Description of information*
	Other	
Business model	*Funding parties and funding model*	
Quality of information	*Type of information, up-to-date, special topics, info management*	
Taxonomy(ies)		

4 Results of search and expert consultation

4.1 Web searches

The method used to find keywords was an iterative process. Starting with elementary keywords like "*ICT*" and "*Ageing*" already led to some results. Further specification into information needs, domains and technologies did lead to large amounts of hits but also this led to websites that were too narrowly focused either in relation to target group or topic.
However by working this way one can be sure to have hit upon the most relevant web portals.
The distinction between website and web portal was done later in the search and assessment process, and led to a further focus for inclusion.

NCP's suggested most relevant local and national initiatives, however the response was limited and at first mainly from Northern and Middle Europe. An additional reminder also brought some reactions from Southern Europe. The selection of national initiatives can be seen as an example to gather and select relevant ones to link to an EU-wide portal.

In Appendix A. the list can be found of over 80 websites and web portals gathered in the searches or indicated by experts.

4.2 Expert consultation Web survey

Respondents
The online survey was sent out to 73 experts all over Europe and the link was disseminated through social networks. The questionnaire was returned by 27 of the approached experts and additional 9 respondents directly through the link. The group can be characterized as follows:

n=27	#
Questionnaire:	
completed	18
partially completed*	18
Stakeholders:	
End User organisation	3 (8.3%)
Large Enterprise	1 (2.8%)
SME	7 (19.4%)
Research group	11 (30.6%)
Investor	3 (8.3%)
Other**	13 (36,1%)
Regional spread:	
North Europe (no, se, fi, dk)	6
Middle Europe (be, ch, de, fr, lu, nl)	18
Southern Europe (gr, it, pt, sp)	9
Eastern Europe (si, bu)	2
unknown	1

* Partially completed may mean that a stakeholder did not fill out parts relevant for other stakeholders (questions 3-8), or that certain open questions were skipped (9-13).
**Among the other stakeholders were: (research) funding agency, public administration or national agency and a representative for a technology park with 90 companies.

Information needs

The predefined information needs differ per stakeholder, but in general most of the information categories were checked as useful by most of the representatives from the stakeholder group.

Stakeholder	Information need	useful (yes)
End User Organisation (n=10)	• Availability of technological solutions/products • Ways to obtain or purchase products • Financial aspects of purchase (reimbursement) • Best practices / tips • Contact with other End User Organisations • Find solutions for problems of elderly (efficient, useable, sustainable) • Stay up-to-date with research results • Available research results • End Users' feedback (added by 1 respondent) • Business models around Ambient Assisted Living where public investment and private one are put together and both benefit	100% 90% 100% 90% 100% 100% 90% 90% * added by respondent * added by respondent
Large Enterprise (n=6)	• Competitive products, competitors • Market opportunities • Finding investors for innovation • Other possibilities for collaboration • Availability of solutions, like sensors, etc. • Characteristics of the target group, • Market size, market opportunities • Other popular product for target group • Return on investment	83,3% 83,3% 50% 50% 66,7% 83,3% 83,3% 50% 66,7%
SME (n=11)	• Competitive products, competitors • Market opportunities • Finding investors for innovation • Possibilities for collaboration with other SMEs • Availability of solutions, like sensors, etc. • Characteristics of the target group, • Return on investment • Information on intellectual property rights	100% 100% 90,9% 81,8% 80% 100% 90% * added by respondent
Research group (n=12)	• Other comparable research groups • Other comparable research results • Opportunities to link Research and SME • Possibilities for collaboration • Proven technology that helps (effective, useable, sustainable) • Information on intellectual property rights	91,7% 91,7% 100% 91,7% 91,7% * added by respondent
Investor (n=6)	• Find investment opportunities • Other investors initiatives • Best practices • Insurance (healthcare) opportunities • Financial opportunities, rules, restrictions • Financial risks and chances	100% 100% 66,7% 100% 83,3% 83,3%

Three other respondents added additional information needs:

› Up-to-date collection of (inter)national AAL networks and programmes, including best practices and information on on-going and finished AAL projects.
› Healthy ageing main data policies from different country or regional EU members.
› Best practices, implementation, availability of technical solutions and products or systems.

Favourite web portals

Twelve respondents indicated web portals as being their favourites for covering news on EU projects, programmes, research, industry information, events and collaboration opportunities:

Content related	General
www.aal-europe.eu www.aalforum.eu www.ageinplacetech.com www.braidproject.eu www.domoticawonenzorg.nl ec.europa.eu/digital-agenda/event www.eunaapa.org www.healthcare.orange.com (telesante) www.hesticare.com www.hi.se www.ict-ageing.eu www.ict-ageingwell.net www.imerso.es www.kcwz.nl (toolkit) www.smarthomes.nl	www.linkedin.com (find specific interest groups) A.1.1. www.socialstryrelsen.se (aldre) www.sbu.se www.vilans.nl

Information gaps

Fifteen respondents indicated the following information hard to find:

Information	(n=15, multiple answers allowed)
for End User Organisation	10
for Large Enterprise	2
for SME	12
for Research Group	2
for Investor	8
Other missing or hard to find information: - information for end users, especially to start initiatives, - links to the top-initiatives in Europe - information on the EU legal framework - funds on ageing - local and national initiatives	3
Another remark concerned the need to bundle the scattered information into an overarching system and thus make hard to find information accessible.	

Recommendations, do's and don'ts

The experts made the following suggestions:

› Collaborate with existing portals (mentioned above), make an "overarching" platform unlocking good functioning websites/portals with high quality information
› Involve end-users, to ensure the web portal meets their needs and offers real solutions
› Make a practical, concrete and informative portal leading to best practices and best-fitting products and user experiences, standards and interoperability
› Enable exchange between stakeholders through the web portal

According to the experts a successful web portal should be well-structured, user-friendly, contain lots of information on existing and future products and services and should address various stakeholders. The web portal must give access to best practices, which can be transferred to other countries.

The success of the web portal could be undermined if information and links appear to be out-dated, it lacks focus or if the information is too commercial. Collaboration of the key existing websites is crucial when aiming at an initiative which links existing portals and websites. A strict policy is needed to ensure filtering of information and keep focus.

4.3   Example portals

4.3.1   Selection of relevant portals

All the websites were scanned for a first impression on their relevance for this research. This means that an assessment was made whether a web portal could be model for the new AAL portal in structure or content or any other way.

At this stage the main reasons for exclusion were:

› No or hardly any portal functionality
› The scope of the web portal is to narrow
› Dubious quality of information, untrustworthy

There appear to be many websites with a very narrow scope, concerning either only one technical solution, or with information for only a limited group of stakeholders. Also in many cases it concerns a web site with some links and not a portal.

At the moment of selection of the portals for analysis, still new suggestions for relevant portals were coming in through the internet survey and through suggestions from experts. Those websites were also scanned in the same way and if relevant added to the list to be analysed.

This led to the inclusion of thirteen websites marked to be most relevant as examples for a new website on ICT and Ageing Well. Those thirteen websites are listed in the table below:

Table 5: Selected web portals for analysis

List of analysed portals
1. http://www.aaliance2.eu/
2. http://www.ageingwellnetwork.com/
3. http://www.ageinplacetech.com/
4. http://www.agingtech.org
5. http://www.braidproject.eu/
6. http://www.domoticawonenzorg.nl/
7. http://www.ehealthnews.eu/

List of analysed portals	
8.	http://www.flanderscare.be/
9.	http://www.healthcommunity.be/
10.	http://www.ict-ageing.eu/
11.	http://ict-ageingwell.net
12.	www.sbfi.admin.ch/aal-e
13.	http://www.techandaging.org/

4.3.2   Selected portals analysed

The selected portals were analysed according to the format as described in table 4 in chapter 3.6.1. The main results are given in table 6 below.

The ownership of the portals varies, but most are an initiative of a cooperation of several organisations in the field. In some cases the cooperation is related to a project like www.ageingwellnetwork.com, and the web portal is no longer kept up-to-date after the end of the project. In other cases the ownership is private and can be related to a research institute, or a company. Some portals are owned and supported by local or national government or EU.

The selected websites are mostly directed to a combination of two or three of the relevant target groups. Most common combinations in this selection are Investors - Enterprises, Enterprise – Research, Research – End User Organisation, Enterprise - End User Organization. Most involved stakeholder and is Research and less involved stakeholder is Investor.

The business model behind the portals also varies often. In relation to the ownership various "business models" or "funding models" for the web portals were identified:
- government funded,
- privately funded,
- cooperations between for- and non-profit healthcare organisations, i.e. hospital, homecare organisation, private clinic, etc.
- Further income may also be generated from services rendered, i.e. contract research, advice or consultancy by the owner of from membership fees and donations.

From the portal structures not many "taxonomies" as such could be derived, but the information was often arranged in an interesting way, namely according to the type of information (not its contents) such as: Blogs, Info-graphics (media), Services, Resources, Publications or Testimonials. Most of what came closest to a content-taxonomy is tailored to the kind of activities\initiatives\information types the website has. Most analysed portals are not 'general' enough to need a 'general taxonomy'. Thus there is no standard way found to order the information on a web portal related to ICT and Ageing Well. An elaborate taxonomy like the one that was made for BRAID (see www.braidproject.eu for more information on the project) can be integrated with the taxonomy for the web portal.

In the next table the analysis results of the selected websites can be found. In table 6, part 1 the website identifiers can be found: URL, owner and country of origin. Also aspects of the quality and type of the information are described and rated. In table 6, part 2 is described how the information management is organised and what the business model consists of.

Table 6: Analysis of selected web portals

Part 1: Owner, country, stakeholders, quality of information

* Columns Stakeholders: Information on the website is fitting the known information needs of the stakeholder (yes (+)/somewhat (±)/not really (-))

URL	Owner	Country	Large Enterprise*	SME*	Research*	End user organisation*	Investor*	Information Type	Up-to-date
http://www.aaliance2.eu/	Aaliance consortium of seven partners from Italy (co-ordinator), Germany, UK, Spain, Belgium, NL	Italy	±	±	+	±	±	Newsletter / Event Calendar Deliverables of project (to be) Network information; Activities	yes, started 2013
http://www.ageingwellnetwork.com/	AgeingWell network The network is an independent group of leaders, heads of organisations and strategic thinkers.	Ireland	-	-	+	±	-	Research results, Programmes and Services for older people, News alerts/event agenda, Publications in Knowledge Centre, Policy documents	partly, last news alert Feb2012
http://www.ageinplacetech.com/	Private: Copyright Laurie M. Orlov 2009-2016 All Rights Reserved	USA	+	+	+	+	+	Opion blog, resources, testimonials, Industry trends, Research reports, Newsletter, Calendar	yes
http://www.agingtech.org	Links to LeadingAge.org an Association of 6000 members in the field of Aging Services	Washington D.C., USA	±	±	+	+	±	Buyers' Guide, Newsletter, Toolkits, Event calendar, Networking tools, lots of relevant information, member login section.	yes
http://www.braidproject.eu/	EU, Project partners from UK, Germany, NL, Ireland Australia, Italy, Portugal,	UK	-	-	+	-	-	Newsletter, Reports, Wiki, Discussion Forum, full list of publications	no, stopped at end of project 2012
http://www.domoticawonenzorg.nl/	Vilans	Netherlands	-	-	+	+	-	News, Newsletter, Blogs Best practices in member section, with implementation tools and advice.	yes
http://www.ehealthnews.eu/	DAVID eHealth & Pharma UG	Germany	+	+	+	+	±	eHealth News Port, information on FP6 en FP7 projects, separate sections for Research/ Development and Business/ Industry, links with many parties	yes
http://www.flanderscare.be/	Cooperation of 55 care organisations	Belgium	+	+	-	+	±	News and events, support measures, demonstration projects, Investment	yes

URL	Owner	Country	Large Enterprise*	SME*	Research*	End user organisation*	Investor*	Information Type	Up-to-date
								fund	
http://www.healthcommunity.be/	Cooperation between for-profit and non-profit organisations, around 100 members: VOKA Health community	Belgium	+	+	+	±	-	Networking events for businesses to find each other, Business teams related to certain topics, Results of practical research, Newsletter, events, Knowledge items/ examples of best practices.	yes
http://www.ict-ageing.eu/	Private: Empirica GmbH, Bonn	Germany	+	+	+	-	+	Blogs, Testimonials, Infographics, Resources, Newsletter, Calendar	no, stopped at end of project 2010
http://ict-ageingwell.net	Group of 17 founding members, coordination Inova-Portugal, partners from: France, Spain, Italy, Romania, Bulgaria, Poland, Belgium, Cyprus, Latvia, Greece	Portugal	±	±	+	-	±	Newsletter/events Knowledge centre Member	yes
www.sbfi.admin.ch/aal-e	State Secretariat for Education, Research and Innovation, SERI	Switzerland	+	+	+	-	-	Information on AAL programme, AAL partner search, events, info on ageing	yes
http://www.techandaging.org/	Independent organisation related to University of California	USA	-	-	+	+	-	Research results, toolkit for implementation for End User Organisations available, news/ blogs/ newsletters	yes

* Columns Stakeholders: Information on the website is fitting the known information needs of the stakeholder (yes (+)/somewhat (±)/not really (-))

Table 6: Analysis of selected web portals

Part 2: Information management, financial model

URL	Country	Information management	Business Model
http://www.aaliance2.eu/	Italy (EU)	Restricted part for consortium partners only; Moderated by coordinator SSRA, Pisa, Italy. The quality of information is the responsibility of the coordinator;	AALIANCE2 is funded within the specific programme "Cooperation" and the research theme "ICT" of the 7th European Framework;
http://www.ageingwellnetwork.com/	Ireland	Ageing Well Network Ireland News items shared by members of the network Not maintained anymore, but network still exists.	The 75 members include CEOs and heads of units across public, private and voluntary organizations, Secretary Generals and Assistant Secretaries of the relevant government Departments, the Director of the Office for Older People and leading academics.
http://www.ageinplacetech.com/	USA	Moderated by founder/owner. He views (and accepts/deletes) all contributions and up-dates daily alerts. He also creates his own input, like: blogs, posts, news, reports or vendor info.	For profit activities are funding the website activities: consulting retainers, speech fees and sponsored research projects;
http://www.agingtech.org	USA	Extensive staff of LeadingAge, including executive, editorial services, communications, marketing and information technology dep.	Income from Exhibit opportunities, Advertising, Event connected sponsorship, Business Associate sponsorship, Memberships
http://www.braidproject.eu/	EU/ UK	Moderated by Braid project coordinator Wiki part with pre-selected contributors	EU Funded, from FP7 Support Action within the specific programme "Cooperation" and the research theme "ICT" of the 7th European Framework Programme. Stopped 2012.
http://www.domoticawonenzorg.nl/	NL	Moderated by Vilans (owner), contributions from experts, employees of Vilans and care organisations describing their best practice. Quality of information judged by moderator and his team.	Moderator and technical support paid for by owner, organisation supported by government funds. Additional income from cooperation of care organisations and membership fee for information on closed section.
http://www.ehealthnews.eu/	Germany	Input from all kinds of organisations on events and news items. Moderated by DAVID eHealth & Pharma. The portal administrator makes the decisions on what to include: advertising, content, events etc.	Financed by owner and supported by many sponsor and advertisement income. Editorial content and process are always clearly separated from advertising (banners).
http://www.flanderscare.be/	Belgium	Moderated by two persons from Flanders Care, with help of a communication bureau for lay-out and design. Information input supported by an extensive network for news, best practices, innovations. Stakeholders that offer information can be: enterprises, knowledge institutes, etc.	100% government funding
http://www.healthcommunity.be/	Belgium	Voka Health Network. Moderated by a small team of experts and four staff members. Information comes from open sources and from the members. Part of the portal is for members only. Most of the information is accessible on the open part. Members	Income from activities, membership fees, and other unknown funding

URL	Country	Information management	Business Model
		can join in activities and innovation projects.	
A.1.2. http://www.ict-ageing.eu/	Germany	Moderator from project team. Stopped at end of project. Quality of the information was assessed by the project team. Web portal still in the air but not updated.	Funded from EU project, stopped 2010
http://ict-ageingwell.net	Portugal	Open and member part. Becoming member is free. Small group of 16 founding members experts in the field, have started this initiative. A larger group of Associate Member are involved in generating interesting information.	There is a small community of sponsors. The webportal is co-funded by EU – DG Information Society & Media under the FP7 programme.
A.1.3. www.sbfi.admin.ch/aal-e		Very active NCP for AAL and SERI department staff specialized staff.	Governmental webportal
http://www.techandaging.org/	USA	CTA staff members keep the web portal up to date.	The Center receives funding from multiple sources, including federal and state grants, contracts, corporate donations, grants, and philanthropy.

The information on the portals is classified by its relevance in relation to the expressed needs by the experts. In chapter 4.4 the results of this relationship is given in table 7. Analysing the type of information showed that all web portals have some kind of news section, an event calendar or a newsletter you can subscribe to. Almost always the portals are linked to the social media like Twitter, Hyves, LinkedIn or Facebook. In some cases a "knowledge-centre" section provides relevant publications. Others also present examples of research results, projects or best practices on the portal. Vision and ambition are often stated somewhere on the portal and in some cases blogs from experts concern newest developments and policy issues. A few web portals actively try to bring parties together and stimulate networking.

Mostly the information seems to be up-to-date. In a few cases updating stopped abruptly when the project, the web portal is related to, ended and the project funding stopped. This was seen best by finding the latest entry in an event calendar or latest newsletter. Important to the quality and trustworthiness of the information is the way it is managed, this concerns whom is allowed to contribute to the content and how the web portal is moderated. This information was not readily available, and was obtained by contacting the webmaster or a contact person. In most cases the information comes from a group of contributors and is moderated by a small team from the coordinating organisation.

4.4   Information needs

An inventory was made of the information found on the selected web portals, and it was categorized into ten sub categories. This can be seen in table 7 below.

The approached experts were asked to state their information need. In the online survey categories were given they could check on usefulness and appropriateness for a new EU portal. The experts that were consulted separately also came up with their own ideas of useful and relevant information. In the third column of the table below you find the expressed needs by our respondent-experts. In the last columns is indicated which stakeholder expressed this need. Note that certain types of information are indicated useful by one stakeholder and non-useful by another (indicated in red).

An investor indicates (personal communication) they have other ways and their own networks to decide on investment opportunities and that partners or interesting initiatives hardly ever are found through the internet.

Table 7: Information relevance per stakeholder

Information (derived from selected web portals and expert suggestions)	relevant for AAL portal (indicated in online survey (SM) or by experts)	SME	Large Enterprise	Research	End User Org.	Investor
Best practices						
Best practices and tips	yes (SM) > 60%				x	x
Being invested in (find funding for your initiative)						
List of investors	-					
Advice on presenting business plan\concept to investors	-					
List of investment funds	-					
List of regional investment funds	-					
Research						
List of EU Funded projects for ICT & Ageing well	-					
List of EU Funded projects for ICT & Ageing well	-					
List of regional initiatives to stimulate research	-					
Aggregate analysis of research projects, to gain a quick overview of state of affairs	-					
relevant projects in Europe that could potentially lead to collaborations	*yes (expert)*			*x*		
Stay up-to-date with research results	yes (SM) > 62%				x	
Available research results	yes (SM) > 66%				x	
Other comparable research groups	yes (SM) > 83%			x		
Other comparable research results	yes (SM) > 83%			x		
Application for Research funding	-					
Sustainability in research	-					
Investing in Businesses (find initiatives to fund)						
List of businesses requesting investment	-					
Market opportunities	yes (SM) >83%	x	x			
Finding investors for innovation	no (SM) <17%		x			
Finding investors for innovation	yes (SM) >81%	x				
Market size, market opportunities	yes (SM) > 83%		x			
Return on investment	no (SM) <17%		x			
Return on investment	yes (SM) 70%	x				
Find investment opportunities	yes (SM) 100%					x
Other investors initiatives	yes (SM) >66%					x
Insurance (healthcare) opportunities	yes (SM) >83%					x
Financial opportunities, rules and restrictions	yes (SM) >66%					x
Financial risks and chances	yes (SM) >66%					x
Practical Knowledge						
A complete 'toolkit' with various technologies to help organisations implement IT for older adults.	-					
Practical advice for implementing ICT for ageing well	-					
Industry trends, analysis of industry trends	-					
Independent review of market solutions for domotica	-					
Assistance, workshops on implementing domotica	-					
independent review of market solutions	-					
Toolkit for help with selecting/ buying domotica	-					
Ways to obtain or purchase products	yes (SM) > 77%				x	
Financial aspects of purchase (reimbursement)	yes (SM) > 66%				x	
Find solutions for the problems older adults have	yes (SM) 100%				x	
List of companies selling ageing well ICT products	-					
Information exchange						
Forum for End User organisation	-					
Possibility for asking experts for custom advice regarding implementation of ICT for ageing well	-					
List\calendar of networking events	-					
List\calendar of regional networking events	-					
Contact with other End User Organisations	yes (SM) >88				x	
Opportunities to link with Research and SME	yes (SM) > 88%			x		

Information (derived from selected web portals and expert suggestions)	relevant for AAL portal (indicated in online survey (SM) or by experts)	SME	Large Enterprise	Research	End User Org.	Investor
Possibilities for collaboration	yes (SM) > 88%			x		
Other possibilities for collaboration	no (SM) <34%		x			
Possibilities for collaboration with other SMEs	yes (SM) > 81%	x				
End Users' feedback	yes (expert)	x	x	x	x	
Law\policies						
Healthy ageing main data policies from different country or regional EU members	-					
Promoting standards for technology\interoperability	yes (SM recommend)	x	x			
Promoting standard best practices	yes (SM recommend)				x	
Databases						
Researchers and research group/organization index with keywords	*yes (expert)*			x		
Project directory with publications	*yes (expert)*			x		
Technological innovation	-					
mHealth	-					
Industry trends	-					
Vision, of future technology paths	-					
Availability of technological solutions and products	yes (SM) 100%				x	
Proven technology that helps (effective, usable, sustainable)	yes (SM) 75%			x		
Competitive products and competitors	yes (SM) >60%	x	x			
Availability of solutions e.g.sensors	yes (SM) >50%	x	x			
Other popular products for the target group	no (SM) <34%		x			
Health and aging						
Characteristics of the target group	yes (SM) > 66%		x	x		

4.4.1 Missing Information

In table 8 below an overview is given of the finding place of information on the selected websites. This is matched with the information categories that were indicated to be relevant.

Available information: analysis of the information on the selected portals shows that a lot of information available is fitting the needs indicated by the five stakeholders. Research results and practical knowledge is most ready available.

Missing information: in most categories, however, gaps were found, with no web site or web portal providing this information. The biggest gaps concern the categories:
› information exchange,
› law/policies and vision/trend documents,
› databases concerning companies, investors, funds, networking events and regional initiatives
› available databases, like best practices, sometimes are only filled with just a few examples.

Easy finding information: from the table you can also see that the information is sometimes easy to find, because of the name and no extra navigation to deeper levels is necessary. Quite often this is not the case. Information is hidden under unclear headings and in deeper levels of the web portal.

The information is scattered over various websites as you can see from the low grade of repetition of the same website in different information categories.

Table 8: Finding place of information

Information (derived from selected web portals and expert input)	Available where? (example of web portals from the selected set)	Sections within the web portal
Best practices		
Best practices and tips	http://ict-ageingwell.net/	knowledge centre
Being invested in		
List of investors	http://ict-ageingwell.net/	knowledge centre => Searching for smart money
Advice on presenting business plan\concept to investors	http://ict-ageingwell.net/	knowledge centre => Searching for smart money
List of investment funds	http://www.flanderscare.be/	investment fund is available
List of regional investment funds	http://www.flanderscare.be/	investment fund is available
Research		
List of EU Funded projects for ICT and Ageing Well	http://ec.europa.eu/digital-agenda/en/news/	in news section: overview-eu-funded-running-projects-area-ict-ageing-well
List of EU Funded projects for ICT and Ageing Well	http://www.braidproject.eu/	Specific section: Links/past projects
List of regional initiatives to stimulate research	http://catalogs.clusters.lu/Luxembourg-capabilities-in-ICT-for-an-ageing-population/	Specific section: Ageing-well-in-Luxembourg
Aggregate analysis of research projects	http://www.techandaging.org/	Specific section: return on investment
relevant projects in Europe that could potentially lead to collaborations		
Stay up-to-date with research results	http://ict-ageingwell.net	
Available research results	http://www.capsil.org/	Specific section: Downloads
Other comparable research groups		
Other comparable research results		
Application for Research funding	http://www.nia.nih.gov	specific section: research funding
Sustainability in research	http://www.awarehome.gatech.edu	specific section: Research Sustainability
Investing in Businesses		
List of businesses requesting investment		
Market opportunities	http://www.aaliance2.eu/best-practices	Specific section: Results/Public deliverables
Finding investors for innovation		
Market size, market opportunities	http://www.ict-ageing.eu/	Specific section: Good practices/ Market
Return on investment	http://www.techandaging.org/	

Information (derived from selected web portals and expert input)	Available where? (example of web portals from the selected set)	Sections within the web portal
Find investment opportunities	http://www.techandaging.org/	
Other investors initiatives	http://www.ageinplacetech.com/	Specific section: Trends (Industry trend studies)
Insurance (healthcare) opportunities		
Financial opportunities, rules and restrictions		
Financial risks and chances		
Practical Knowledge		
'toolkit' to help organisations implement IT technologies for older adults.	http://www.techandaging.org/	access to info requires membership
Practical advice for implementing ICT for ageing well	http://www.healthcommunity.be/ http://www.techandaging.org/	
Industry trends, analysis of industry trends	**http://www.ageinplacetech.com**	
Independent review of market solutions for domotica	http://www.vilans.nl/Pub/Home/Ons-aanbod/Diensten/	Abonnement-Kenniscirkel-alles-over-domotica-voor-wonen-en-zorg.html
Assistance, workshops, guidance on implementing domotica	http://www.vilans.nl/Pub/Home/Ons-aanbod/Diensten/	Abonnement-Kenniscirkel-alles-over-domotica-voor-wonen-en-zorg.html
independent review of market solutions	http://www.sbu.se/en/	
Toolkit aanschaffen domotica (help with selecting and buying domotica)	http://www.kcwz.nl/toolkit_zorg_met_ict/stappenplan	
Ways to obtain or purchase products		
Financial aspects of purchase (reimbursement)		
Find solutions for the problems older adults have		
List of companies selling ageing well ICT products	http://catalogs.clusters.lu/Luxembourg-capabilities-in-ICT-for-an-ageing-population/	Specific section: Ageing-well-in-Luxembourg
Information exchange		
Forum for End User Organisation		
Possibility for asking experts for custom advice regarding implementation of ICT for ageing well	http://www.domoticawonenzorg.nl/	
List\calendar of networking events	available on several sites. http://ict-ageingwell.net/	events section
List\calendar of regional networking events	http://www.healthcommunity.be/	
Contact with other End User Organisations		
Opportunities to link with Research and SME		
Other possibilities for collaboration		
Possibilities for collaboration with		

Information (derived from selected web portals and expert input)	Available where? (example of web portals from the selected set)	Sections within the web portal
other SMEs		
Law\policies		
Healthy ageing main data policies from different country or regional EU members		
Promoting standards for technology\interoperability		
promoting standard best practices		
Databases		
Researchers and research group/organization index with keywords		
Project directory with publications		
Technological innovation		
mHealth		
Industry trends	http://www.ageinplacetech.com/	Specific section: Trends (Industry trend studies)
Vision, of future technology paths	http://healthcare.orange.com/eng/about-Orange-Healthcare/	Specific section: our-vision-strategy-and-value
Availability of technological solutions and products	ttp://www.ageinplacetech.com/blog/helping-seniors-get-online-whose-job-it-anyway	Specific section: Info graphics/Video
Proven technology that helps (effective, usable, sustainable)		
Competitive products and competitors		
Availability of solutions e.g. sensors		
End User feed-back		
Health and aging		
Characteristics of the target group	http://www.flanderscare.be/	Specfici section: Thema;s
	http://www.capsil.org/	Specific section: Wiki
	http://www.ageingwellnetwork.com/	Specific section: knowledge centre

4.5   Beyond Europe

4.5.1   Introduction

The search on ICT and Ageing Well, with Google queries, has at first almost exclusively led to information on initiatives within Europe and Northern America. These areas have well developed initiatives on information sharing in innovation programmes on ICT and ageing well and some good examples of portals were found.

To find initiatives beyond the boundaries of the western world, i.e.: Southern America, Africa, Asia and Australia, additional searches have to be conducted. The information might be accessible in a different way and may be differently structured as in Western Europe, but not necessarily.

In general three search strategies are advised:

> › Search per country, or even part of a country, not necessarily per continent as in Western-Europe;
> › Personal network of contact persons at universities, government or private companies; This is applicable for all in-depth research ;
> › Through business or innovation communities, like chambers of commerce, industrial cooperation initiatives, among others.

The website of the Organisation for Economic Co-operation and Development (OECD) http://www.oecd.org/ has entrances for many countries focusing on development, innovation and investment.

Some preliminary findings on Asia, Africa, Southern America and Australia suggestions for further search can be found below. Based on these primary findings a deeper search for Japan and Australia can follow. These latter countries seem to have programs on Ageing Well supported by ICT. Other countries beyond the boundaries of the western world in general do speak about eHealth / Telemedicine as support for health services organizations and hospitals. Based on this preliminary search can be concluded that for the purpose of this study no essential information was missed.

The websites mentioned in this paragraph were also analysed and results can be found in Appendix A.

4.5.2   *Some findings or contacts beyond the boundaries of the western world*

China

In China several initiatives concerning eHealth exist already since 1997. A few examples are: the Jin Wei Golden Health network using satellite communication with support of the Ministry of Health that covers national level and middle-sized hospitals in order to provide remote education and tele-consultations. (Telehealth in the developing World, p 213)

There is a collaboration network between Europe and China in order to expand the ICT services in the country in general. http://openchina-ict.eu

'The Chinese government has actively encouraged and invested in the growth of the Internet to capture the technology's vast commercial potential, while exerting state control 'E-government' in China: a Content analysis of national and provincial web sites www.onlinelibrary.wiley.com

More about the golden networks is to be found in 'E-government in China' a UN report from John Locke and John Ure. Unpan1.un.org/intradoc

Baidu, the Chinese search engine (4 times the size of Google) is comparable with Wikipedia and gives a lot of results of EU initiatives on ICT and ageing well.

Hong Kong knows a Society for the Aged (SAGE) providing diversified and professional care services for senior citizens to enhance their quality of life with a website and an elderly portal http://www.sage.org.hk/?lang=en-US focused on end user information http://www.e123.hk/en .This can be a starting point for a further search.

A website focussing on research in the area from Hong Kong that was found in the original web search is http://iaa.fhss.polyu.edu.hk/about_us.html

Two possible approaches for obtaining further information here could be:

> › Through a personal network of contact persons at universities, government or private companies;

› Through business or innovation communities like AmCham (American Chamber of Commerce), with several departments, for instance: Shanghai (www.amcham-shanghai.org) idem South China (www.amcham-southchina.org/) and South-West China (amchamsouthwest.org/).

Contacts for China:
› Bo Xie, Ph.D., Associate Professor, School of Nursing & School of Information, University of Texas at Austin boxie@utexas.edu
› Kao, Cheng-Kai [BSD] – MED ckkao@medicine.bsd.uchicago.edu
› Wenxin Wang, TNO Healthy Living, Leiden, The Netherlands wenxin.wang@tno.nl

Japan

On a general entrance portal for Japan http://www.japanportal.jp/ some information on ICT and enhancing quality of life for older people can be found.

An important research centre on the topic is situated at the Waseda University with professor Toshio Obi http://cio-japan.waseda.ac.jp/intro4.htm

At their website many links to other research groups, companies, governmental agencies and private persons can be found which all are involved with ICT for ageing well.

For a EU study 'ICT & Ageing: Users, Markets and Technologies – Preliminary Findings', © Empirica & WRC 10/2008 an inventory of Japanese initiatives was made. http://www.rcc.gov.pt/SiteCollectionDocuments/ICT-ageing_vienna_handout08.pdf

For cooperation with Japan many EU business initiatives exist. In Brussels the EU-JAPAN for Industrial Cooperation Centre is a good starting point for more information http://www.eu-japan.eu/

Each year an EU-Japan ICT regulatory Dialogue's 20th meeting is held in Brussels where common challenges and opportunities are shared. http://ec.europa.eu/digital-agenda/en/news/japan-eu-policy-forum-silver-ict-3-december-2013-brussels.

Successful Japanese organisations in FP7 ICT
› GS1 Japan (GRIFS)
› Nagoya Institute of Technology (EMIME)
› National Institute of Information and Communications Technology (KYOTO)
› National Institute of Information and Communications Technology (FUTON)
› The Institute of Physical and Chemical Research (ITALK)
› University of Tokyo (CASAGRAS)
› Waseda University (CAPSIL)
› YRP Ubiquitous Networking Lab (CASAGRAS)
› NiICT (OneLab2)
› NEC Corporation (QoSMOS)

http://eurasiapac-fp7.eu/files/2010/10/Alvis_Ancans.pdf

Contacts for Japan:
› Keiichi Sato sato@id.iit.edu
› Toshio Obi (Waseda University, Japan) Waseda ICT centre http://www.e-gov.waseda.ac.jp
› Hans van der Tang, Director Netherlands Chamber of Commerce in Japan http://www.nccj.jp
› Raquel Fernandez-Horcajada, AAL CMU raquel.fernandez-horcajada@aal-europe.eu

Singapore

An Initiative with the Infocomm Development Authority of Singapore (IDA) and the Economic development Board is now set in order to provide National Electronic communication systems between Medical doctors and their staff end patients. www.ida.gov.sg

Another governmental initiative is a training program for seniors. This is promoted through a website creating a community and including seniors into society called Silver Infocomm. http://www.ida.gov.sg/Individuals-and-Community/Tips-and-Guides-for-Consumers/IT-for-Seniors

A Singapore portal http://www.c3a.org.sg/ with focus on end user advice was found in the initial web search.

Contact for Singapore:
›   Paulien Pronk, TNO Singapore, petra.pronk@tno.nl

India

Initiatives on ICT and Ageing well are being started in the urban areas. A general programme on education and development for the third age (50+) is stimulated through a website http://u3aindia.org/. The initiative is fragmented and consists of academicians and practitioners in the field of Ageing in India. The University for the Third Age is divided into six areas of India. They aim to form a community for learning and exchange and to develop database of themes and programmes pursued by U3As in India.

Internet is regarded as the fifth network of the modern age. (The first four networks were the telegraph, the railroad, the telephone and the electric network)' In the report 'Sri Lankan Journal of Librarianship and Information Management Volume 3, No. 1(2007) pp. 1-13' The article focusses on the impact of ICT in India. The title of the article is 'Blooming society and information literacy in India'.

An example of an accessible web portal is Nai Disha. The article can be found at www.sljol.info

The Apollo chain of hospitals throughout India is very active in the developments concerning Health care and telemedicine in particular. In the India HIT Case study gives a picture of the challenges India has to encounter despite the extraordinary innovation options in ICT. http://pacifichealthsummit.org.

The EURO-India project Spirit focusses on the application of ICT services for different target groups.www.euroindiaresearch.org

Their objective for ageing and wellbeing is described in www.ictic.org (January 2011)

Contact for India:
›   Faridah Azimullah, f.azimullah@planet.nl, Secretary General NIFI

Korea

A first search on initiatives on ICT and Ageing Well in Korea led to an investment network http://www.investkorea.org/ikwork/iko/eng/main/index.jsp.

Successful Korean Organisations in FP7 ICT Calls 1-6
›   Electronics and Telecommunications Research Institute – ETRI (CASAGRAS, Global RFID-related Activities and Standardisation)

- › GS1 Korea (GRIFS, Global RFID Interoperability Forum for Standards)
- › KT Corporation (NoTube, Transformation and Unification of Broadcasts and the Internet)
- › Educational Foundation Yonsei University (GOSPEL, Governing the Speed of Light)
- › Saltlux Inc. (LarKC, Large Scale Semantic Computing Web)
- › Seoul National University (COAST)
- › Yonsei University (QUASAR)

http://eurasiapac-fp7.eu/files/2010/10/Alvis_Ancans.pdf

Africa (54 + 2) countries

Focussing on the South African government, a paper was found concerning 'potential applications of the internet of Things technologies for South Africa's Health services.'

In this paper the technologies are categorised under *ambient-assisted living* options for the aged, chronically ill, telemedicine, disease surveillance, sport and fitness, emergency services, community and home-based care, nutrition, heart disease, and diabetes management among others. www.ictforafrica.org

South America (13) countries

In South America to find ICT and Ageing Well initiatives it is important to look per country. Some countries cooperate with other countries but not necessarily in South America, it can be countries in Europe, China or the United States of America as well.

To choose one country as part of the BRIC countries is Brazil. In the article 'Taking pulse of Brazil's ICT sector' by Andrew Nusca October 26th, 2012 Nusca states: 'Brazil sees information and communications technology as a major driver of the South American country's global economic development' www.zdnet.com

In their 'A comprehensive research roadmap for ICT and Ageing' a picture is given of the studies in this regard, especially 'Collaborative ecosystems in Ageing support and Active ageing with collaborative Metworks' www.sic.ici.ro

Australia

In Australia several initiatives concerning the 10 years Living Longer Better age care reform package have been designed. Like: www.myagedcare.gov.au

The Australian government, Department of Health and Ageing provides policies, programme and services, www.health.gov.au

The Age-well Campaign aims at the improvement of the Australian aged care system. With the purpose to prepare for the ageing population for all citizens: agewellcampaign.com.au

5 Conclusions

5.1 Available portals

It was easy to find web portals and websites related to ICT and Ageing within Europe and USA with keywords and simple queries on the internet. The scanning of a large number (up to 100) of websites was time consuming, but this way it is safe to assume to have hit upon the most relevant web portals for our region.

It showed that only a few portals are available with a scope of more than one stakeholder group. Many portals available have a very narrow focus i.e. on a very specific target group or topic only (like: diabetes or fall prevention). The information on ICT and Ageing Well that is available at the moment is scattered over many (inter)national and local websites. This makes the information hard to find, moreover because it sometimes is hidden in deeper layers of the website or hidden behind login codes.

An initiative for a new EU portal on ICT and Ageing Well linking these existing initiatives and making the relevant information for all five stakeholder groups available on one central point will be a valuable addition. The selected thirteen portals can be taken as examples to learn from when designing this new EU portal on ICT and Ageing. Two websites are especially interesting with regard to the initiative of the new web portal. The www.ict-ageingwell.net is a good example for the structure and content of a web portal on ICT and Ageing Well. Another recent initiative may be also considered as a collaboration partner: www.aaliance2.eu.

The local or national initiatives are also very valuable if only it could be made centrally accessible. By including or linking relevant en good local or national portals you can benefit from work already done by those parties.

5.2 Information needs

Information needs differ per stakeholder; even so that one stakeholder finds some information very relevant while another stakeholder does not recognize it as relevant at all.
The pre-identified information needs were sustained by experts in the online survey.
Investors use their own networks, and may not think themselves to be a primary stakeholder group for a new EU portal on ICT and Ageing Well. On the other hand incorporation of these stakeholders in offering support for bringing innovation initiatives together with investors will be a valuable asset of the new portal.
User organisations, enterprises and especially the research groups expose and find their information often through the internet. Including links to disclose this information through the new portal will strengthen the initiative even further.
To be really successful with all stakeholder groups AAL is aiming at, it is best to incorporate them in the development process of the new website and make sure their information needs are met. Further recommendations on this can be found in chapter 6.

5.3   Information gaps

On the selected portals a lot of information is available that is fitting the needs of the stakeholders. When information is available it often is scattered over many websites and also hard to find within a website. There are gaps in all categories of information, i.e.
The biggest gaps concern the categories:

› information exchange,
› law/policies and vision/trend documents,
› databases concerning companies, investors, funds, networking events and regional initiatives
› available databases, like best practices, sometimes are only filled with just a few examples.

Some of this information may be available on dedicated local web sites, but then it is very hard to find. This clearly shows the need for an "overarching" platform, unlocking good functioning websites/portals with high quality information.

5.4   Taxonomies

Since there were only a few web portals aiming at more than two of the stakeholder groups no example of the taxonomy for different target groups was found on the selected portals. Each portal has its own way to arrange information

A very extensive taxonomy study of ICT and Ageing is available from the BRAID project. Such an elaborate taxonomy like the one that was made for BRAID, can be used as a basis for the much more simple taxonomy of a web portal. It must be taken into account that the taxonomy used for arranging and organizing information may be very different from the taxonomy for searching and finding information.

Taxonomy based on the ones used in the analysed websites and our interpretation of the data, led to suggestions for the arrangement of information containing categories shown in table 9 below.

On the one hand there are types of information as a starting point for arranging information on a web portal. Remarkable examples were found on the selected websites based on type of information, not on content.
On the other hand there may be this meta-level of information as a good starting point to arrange information related to content.
A third consideration is to arrange information related to stakeholder, grouping the relevant information of a stakeholder group together. Further recommendations on this point can be found in Chapter 6.

Table 9: Examples of arrangements for the web portal

Meta-level of information	Information Type	Stakeholder
About older / senior group and its diversity	Blog Opinion	End user
Health	Testimonials	End user organisation
Products	Info graphics	SME
Care services	Resources	Large Enterprise

Meta-level of information	Information Type	Stakeholder
Innovation (including IP)	Newsletters	Research
Market trends	Event Calendar	Investor
Economical information (including business cases, standards, local legal information)	Publications	Investors
Glossary contacts (names, institutes, initiatives)	Links	All
Research technology	Publications	Research
Research health and aging	Publications	Research
Practical tips and best practices	Links	End User organisation
Local versus international information	Any	All
Point of contact of the web portal	Contact information	All

5.5 Sustainability

Quite a few web portals are related to a project and support and maintenance of the portal ended when the initiatives stops as soon as project funding ends.
This shows an important bottleneck in setting up a sustainable portal.

AALA wants the new web portal to be sustainable both financially as content-wise.
Financial sustainability must be based on a sound business model. Types of income found in the analysed web portals are:
› Government funding, in this case EU, which is probably hard to obtain and only sustainable as long as your topic is safe;
› Group funding, of stakeholders, may be very sustainable as long as there are enough parties involved and new parties are found to replace those who leave the initiative, Also you need an enthusiastic leader.
› Private funding, which is very dependent on the funding party, e.g. reliability, financial stability, shifting interests, etc;
› Membership contributions, where a part of the information is exclusively for members.
A combination of funding types may give a sure basis and spreads the risks.

Content sustainability must be based on a sound information management model that ensures both the quality of the information as well as the actuality. Types of models found in the analysed web portals are:
› Information input from the owners: a consortium, a private owner, a public party
› Incorporate information from other websites by way of linking
› Moderation by a trusted independent party

More detailed recommendations concerning setting up a successful and sustainability web portal can be found in chapter 6.

6 Recommendations

6.1 Information features and other aspects for the ideal web portal for "ICT for Aging Well"

6.1.1 Information features needed for target groups

For the ideal AAL web portal for "ICT for Aging Well" we recommend a dedicated entry possibility for each of the target groups separately, to direct them to the most relevant information. The corresponding relevant information types per target group are given in the next table. The types are numbered (column #) for easy detecting overlapping information needs for the different target groups.

Target groups	Information needs per group	#
Business Public and Private Investors for large and small / medium enterprises: - Investors - Investment opportunities	**Public and Private investors information** - lists of investors - investor opportunities - advice how to present ideas for investment - list of good ideas or searched for good ideas for investment - list of investment funds	 1 2 3 4 5
	User solutions - basic list of (technical) solutions / possibilities on available ICT based ideas / systems / sensors including qualification criteria and resellers - list of best practices - list of available research results	6 7 8
Research Groups	**Research Group information** - list of EU funded projects ICT & aging well - list of regional initiatives / projects - list of research groups - new research opportunities	 9 10 11 12
	User solutions - list of available research results	 8
End Users - Organization for well-being and care services - Organizations of elderly - Public: especially elderly and informal care	**User solutions** - basic list of solutions / possibilities based on available ICT based ideas / systems including qualification criteria and resellers - list of Best Practices - list of available research results	6 7 8
	Implementation solutions - toolkit and guidelines how to implement 'ICT for aging well' for an organization / service provider	 13
Enterprises (SME or LE)	**Public and Private investors information**	

- Technology provider - Service provider - Organizations for well-being and Care	- lists of investors - investor opportunities - advice presenting ideas for investment - list of good ideas or searched for good ideas for investment - list of investment funds	1 2 3 4 5
	User solutions - basic list of (technical) solutions / possibilities on available ICT based ideas / systems / sensors including qualification criteria and resellers - list of best practices - list of available research results	6 7 8
All 4 target groups	**General aspects filtered per target group as:** - Forum - Calendar of networking events - Possibilities for collaboration - General information **General implementation tools** - Characteristics of elderly on health and aging. Global and regional statistics. - law / policies on ICT for aging well	 14 15 16 17 18 19

Table 10: Content databases for the Web Portal based on Information needs grouped per stake holder

6.1.2 General structure of web portal

The AAL web portal should have a surface layer that is generally accessible. Direct access (without log-in) to general information such as: Founding and Associate Members; Contact; News (Newsletters) & Features; Events; is important for 'first' users to get an impression of the web portal. So besides the latter information all other content information is open for registered members only. But registration is public and free. By registration you become a member of the network. This is only a slight threshold, but gives the owner of the website the knowledge on their member-stakeholders and the incentive to take into account stakeholder needs.

6.1.3 Accessibility, navigation and appearance

The web portal offers possibility to change font size and background for personal preferences and greater accessibility for people with disabilities as short-sightedness or colour blindness. Especially for elderly the web portal should not to be too flashy. Paying attention to lay-out, use of colours, pictures and formatting text can benefit aspects as reliability, user friendliness, and ergonomics. Using the international 'W3C standards' available on www.w3.org is recommended.

6.1.4 Content

The web portal contains various types of information, such as Blogs, Testimonials, Info graphics, Resources, Publications, Good Practices, Practical advice for implementing purposes, etc. This offers the opportunity to give actual information, but also a basis of knowledge that comes from research and gives weight to the content. Tweets are used to allow quick replies and messages from your network members. Change of content makes

the web portal attractive for regular visits. This is achieved by sections such as a newsletter or event calendar.

We recommend that the AAL web portal contains all these types of information to offer interesting content, both actual and fundamental. Up-to-date events and news must be part of the portal. We also recommend the use of social media (Twitter and Facebook) to be able to reach out to a greater population. Blogs give the opportunity to vent opinions that may help discussion and increase the attractiveness of the portal and can be used without harming the credibility and independence of the other content.

6.2   Sustainability of the web portal

In connection with the features mentioned above the sustainability of the web portal must be built upon two important pillars: a content management model and a financial model.

Content management model
Table 10 shows the information needs for the different target groups. For the content management model different functionalities are needed to manage the information. The portal needs a Forum function, Calendar function, some Simple Databases and a Complex Database. In the next list the necessary functionalities for the web portal are shown (the numbers # correspond with the information needs from table 10)

- **Special functions:**
    - Forum: #14.
    - Calendar of networking events: # 15.

- **Simple database structures for the information topics (14 separate ones):**
    - Public and Private Investors: # 1, 2, 3, 4, 5.
    - Research Group Information: # 9,10,11,12.
    - Possibilities for collaboration: # 16.
    - General information: # 17.
    - Implementation Tools: # 13, 18, 19.

- **More complicated 'holistic' structure with two / three layers for knowledge information for the topic (3 separate ones):**
    - User Solutions: # 6, 7, 8.

Creating a portal implicates that you have insight into:
- possibilities of where to get relevant information beforehand;
- how this information can be delivered;
- how this information is structured;
- how to judge quality of information;
- how effective the separate functionalities are to import new information and to maintain the content.

Business model
Looking at business models of web portals on related topics we recommend to seek a combination of funding types for creating the initial portal, since they all seem to have their own drawbacks and unstable factors. Combining different types of funding gives the best chances at a sustainable web portal for the future.

The next table shows a combination of central funding by the owner, funding or doing (part of) needed activities by partners in the network of all stakeholder parties and additional income from advertisers spreads the risk and may be a good model for exploitation.

Stakeholder	Fund type for initiation	Yearly maintenance	Role in web portal	Possible role change
Business: Public Investigator Private Investors	Direct investment into portal	Paying yearly maintenance fee 20 % of initial investment	- Owner and investor in portal - Only investor/ partner in portal	
Research Groups	Direct investment into portal	Paying yearly maintenance	Paying participant in portal	
	Investment from research project(s) by delivering information to the portal	Doing maintenance from research project(s) for (part of) the portal	Delivering technology or information and / or database(s)/ services	Owner of portal pays for the activities
Entreprises (SME or LE)	Direct investment	Subscription fee based on the proportion of the enterprise	Paying participant in project	
	Investment from Enterprise by delivering information to the portal	Doing maintenance by Enterprise for (part of) the portal	Delivering technology or information and / or database(s)/ services	Owner of portal pays for the activities
End Users - organizations or - well being and health / care services	Direct investment only for network organizations	Subscription fee based on the proportion of the organization	Paying participant in project	
End Users - organizations or - well being and health / care services	Investment from end user by delivering information to the portal	Doing maintenance by end user for (part of) the portal	Delivering technology or information and / or database(s)/ services	Owner of portal pays for the activities
End Users - public	No	Subscription for free	User	

Table 11: Possible financing for the initial development and the maintenance in future.

6.2.1 Estimation of activities for costs analysis

Looking at table 10 seeing the initial set up of the web portal you can make some prognoses on the costs of the whole web portal.

The first complete initial version:
- Designing technology for:
  - lay-out web portal
  - special topics as Forum and Calendar: see numbers # 14, 15 in table 10;
  - specific structure for the content management system (CMS):
    - structure of 14 databases based on a simple taxonomy
    - structure of 3 databases based on a more holistic taxonomy
  - Arranging content: as importing or linking to the initial content for databases from other parties or composed by owner or his project partner.

The cost of creating the simple databases will approximately amount to a quarter of the costs for each of the more complicated databases with a two or three layer structure.

After the first version is completed maintenance directly starts activities for:
- Web portal itself and its infrastructure;
- Content maintenance and composing additional cases. Especially having Good Practices the experience is that you need expertise for judging the quality of the

cases and for unlocking the cases based on taxonomy. This process will take at least one day per case!

The maintenance each year will be about 20 % per year for the content and about 10% for the web portal technology based on the calculated initial activities. These percentages must be based on the investment costs for the content as well as the technology.

If the CMU will initiate and arrange the web portal they must be aware of having a coordinating manager for fulfilling roles in:

- Business management: for investment and maintenance fee;
- Technical coordination: for the initial project and later the technical maintenance;
- Public Relation and Communication management: for moderation of the content and dissemination of availability of the portal under target groups.

6.3　Recommended collaborations

Based on the suggestions of experts we recommend collaboration with existing portals.

- The web portal www.ict-ageingwell.net is a good candidate for collaboration and forms a good base for an AAL web portal. The web portal has a good look & feel for older persons. Information needs mentioned in table 10 correspondent with the Knowledge Centre in the web portal. In general the portal consists of three clearly divided parts: news, information and network. At each page you can see at the top in which section you are and quick navigation by way of a ribbon is available at the top and the bottom of each page. This web portal is a very useful model for the AAL portal also.

- A very extensive taxonomy study of 'ICT and Ageing' is available from the Braid project. Such an elaborate taxonomy like the one that was made for Braid, can be used as a basis for the much more simple taxonomy of a web portal. We stress that taxonomy for a website is very different from taxonomy to classify initiatives. For making the information on a web portal accessible a few clear categories must be chosen for the first layer if needed leading to a second layer of greater detail.

- Getting content for the AAL web portal through connections or links to relevant databases being sustained by other initiatives, should be investigated. Interesting portals for this are: flanderscare.be; ageingwellnetwork.com; ict-ageingwell.net , aaliance2.eu.

- For the more fluid information like news and events and other additional information defined as numbers # 14, 15, 16 and 17 in table 10 we recommend a trusted and independent moderator party.

The web portal www.ict-ageingwell.net and the mentioned portals flanderscare.be; ageingwellnetwork.com; ict-ageingwell.net, aaliance2.eu are starting points to find partners for the AAL web portal. The AAL portal can offer an "overarching" platform unlocking good functioning web portals with high quality information.
One of the basic conditions for the collaboration is a contract on content management: keep information up to date and guard the quality of the information, and on continuity of the contributing website.

Also a next step has to be done on a regular basis for a more elaborate search and selection process:

- o to find excellent local initiatives;
- o to look behind login walls of websites with member-only parts

6.4   Priorities

For the next step in the initiative we recommend to set out a development strategy taking into account the following priorities:

1. Decide on taking this initiative to the next level of development
A go/no-go decision based on a vision of what the portal should be and the feasibility of this ambition based on the information in this report.

2. Definition of target groups: Define the stakeholders and the specific target groups and for each target group the main purpose / aim of visiting such a web portal, including the added value of the portal for each stakeholder.

3. Perform a requirement study: Subsequently a requirement study for the new web portal from the viewpoint of stakeholders must be held. This contains two aspects:
a. Content: Part of the requirements study is defining the structure of the content and which content available from other web portals should be used per target group.
b. Presentation: What are the requirements for look-and-feel, access mechanism and information types including linking to information on other websites.
All the stakeholders need to be incorporated. This counts especially for investors and end users, to ensure that the portal is going to meet their needs. End users can be potential organizations looking for innovative care arrangements using ICT but for the awareness also organizations of elderly Investors now tend to use their own networks, but we found that certain information needs are not found in the web portals available now. By involving them in the development process you get valuable feedback from the future users of your portal and you can make sure their needs are met.
This will lead to the design of an information model for the web portal including a clear taxonomy structure as basis for finding information in a simple but holistic way dedicated to the diverse target groups.

3. Collaborations
When the contour of the web portal is defined in steps 1 and 2, the right parties can be involved for collaboration. Find global and local initiatives that fit the AAL purpose and seek collaboration with existing websites and make contract arrangements on collaboration concerning content and continuity. Make maximum use of what is already available.
Develop a business model, seek financing parties (advertisement, contributing members, etc.). Find the parties among each of the stakeholder groups willing to offer financial support. These contributors among stakeholders also are initiators and ambassadors. They will keep the AAL web portal community active and living.
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Appendix A: List of Web Portals

A.1 Long list of search results with inclusion/exclusion

Source:
IR=Inception Report
WS=Web Search
EC=expert Communication
OS=Online Survey

Portal
W=simple website
P=example portal

Stakeholder
1= End User (Organisation)

2=Large Enterprise
3=SME
4=Research
5=Investor

URL	source	portal or website (p/w)	up to date (yes/no)	Stakeholder	Info relevance	Reason for in-/exclusion
abcd						
http://www.aaliance2.eu	**IR**	**p**	**y**	**2,3,4**	**+**	**Selected for further analysis: relevant info and stakeholders**
A.1.4. http://www.age-platform.eu/index.php	OS	wp	y	4	±	website of AGE platform
http://www.ageingwell.org.au/	WS	w	y	1	-	Australian website on woman's health
http://www.ageingwellnetwork.com/	**WS**	**p**	**?**	**4**	**+**	**Selected for further analysis, nice local example (Ireland) relevant info**
http://www.ageinplace.org/	WS	w	y	1	-	information website for end users
http://www.ageinplacetech.com/	**WS**	**p**	**y**	**1,2,3,4,5**	**±**	**Selected for further analysis: US example, privately owned, many stakeholders**
A.1.5. http://agelab.mit.edu/research	WS	p	y	4	±	focus on research results
http://www.ageuk.org.uk/cymru/health--wellbeing/ageing-well-in-wales-/	WS	w	y	1	-	website for end users

URL	source	portal or website (p/w)	up to date (yes/no)	Stakeholder	Info relevance	Reason for in-/exclusion
http://www.agewellcampaign.com.au	BE	w	y	1	-	Australian alliance of 30+ healthcare and religious organisations. Campaign website for ageing well
http://www.aging.ny.gov/	WS	w	y	1	-	website for end users
http://aginginplacewithgrace.com/	WS	w	y	1	-	One person initiative, info for end user
A.1.6. **http://www.agingkingcounty.org /video-portal.htm**	WS	w	y	1	-	specific to certain region in US
http://www.agingmobilityconference.com/	WS	w	n	-	-	conference website on aging, mobility and quality of life
www.agingtech.org (links to www.leadingage.org/Assisted_Living.aspx)	**OS**	**p**	**y**	**1,4 (2,3)**	**+**	**Selected for further analysis; US example with relevant info with many stakeholders involved.**
http://www.agingresearch.org	WS	p	y	1	±	focus on healthcare
http://agingresearch.buffalo.edu	EC	w	y	4	±	website of school
http://ailab.wsu.edu/casas/	EC	w	-	4	-	webpage not available
http://www.americangeriatrics.org/education/forum/index.shtml	WS	w	y	-	±	general website about
http://aspe.hhs.gov/daltcp/reports/2012/astsrptcong.shtml#sensory	WS	-	n	4	-	Reports
http://assistedliving.about.com/	WS	p	y	1,2,3	±	Unstructured
http://www.atis4all.eu/presentation.aspx	WS	w	y	2,3,4	-	Too specific, one research project

URL	source	portal or website (p/w)	up to date (yes/no)	Stakeholder	Info relevance	Reason for in-/exclusion
A.1.7. **http://www.awarehome.gatech.edu**	EC	w	y	4	±	Research initiative from US university
A.1.8. **http://www.bpmsl.com/resources.shtml**	WS	w	y	1	-	Too specific: advertising for homes specially for the elderly - specific to US lots of these
http://www.braidproject.eu	**IR**	**p**	**n**	**4 mainly**	**+**	**Selected for further analysis: good example for taxonomy and info-quality**
A.1.9. **http://www.c3a.org.sg/**	WS	p	y	1	±	Singapore portal for third age, focus on end user advice
http://www.capsil.org/	IR	p	n	4	±	example related to project (stopped), relevant info focus on research
A.1.10. **http://catalogs.clusters.lu/capabilities-in-ICT-for-an-ageing-population/Ageing-well-in-Luxembourg**	WS	w	y	1,2,3,4	-	website for healthcare innovation in Luxembourg
http://www.ciaip.org/	WS	w	n	-	±	US government website
http://cio-japan.waseda.ac.jp	BE	w	y	4	±	Japan, member society linked to university
A.1.11. **http://www.cisco.com/web/about/ac79/ps/ageing/index.html**	WS	w	y	-	±	company website
http://www.domoticawonenzorg.nl/	**IR**	**p**	**y**	**2,3,4**	**+**	**Selected for further analysis: example with member section**
efgh						
http://www.e123.hk/en	BE	w	y	1		Honk Kong, End User information on health and healthy living

URL	source	portal or website (p/w)	up to date (yes/no)	Stakeholder	Info relevance	Reason for in-/exclusion
	WS	w	-		-	website on care for end users
A.1.12. **http://info.easylivingfl.com/blog/ bid/252544/Senior-Home-Care-The-Pros-and- Cons-of-Aging-in-Place-Technology**				1		
	EC	p	y		±	Europe 2020 initiative on policy and research, less relevant info
A.1.13. **http://ec.europa.eu/digital- agenda/en/policies-ageing-well-ict**				4		
	WS	w	n		-	Too specific, one research project
A.1.14. **http://ehealth- strategies.eu/database/malta.html**				4		
	WS	**p**	**y**		**+**	**Selected for further analysis: Example for sponsoring and advertisement**
A.1.15. **http://www.ehealthnews.eu/tieto /2701-tieto-supplies-elderly-care-solution-to- trelleborg-municipality**				**2,3,4,5**		
	WS	w	n		-	related to a strategy research project
A.1.16. **http://ehealth- strategies.eu/database/malta.html**				4		
	IR	p	n		-	Extending Professional active Life
A.1.17. **http://www.epal.eu.com**				4		
http://eprints.qut.edu.au/61993/	WS	-	-	-	+	Article on emerging technologies and Ageing well

URL	source	portal or website (p/w)	up to date (yes/no)	Stakeholder	Info relevance	Reason for in-/exclusion
A.1.18. **http://www.eu-japan.eu**	BE	w	y	5	±	General input on Japan concerning industrial, trade and investment cooperation between Japan and the EU
A.1.19. **http://www.eunaapa.org/Activities/**	OS	w	y	4	±	website from the network
http://www.euroindiaresearch.org	BE	w	y	4	±	Support website for FP6, FP7 and Horizon 2020 activities.
http://fallalert.org/	WS	w	y	-	-	Only about fall detection
http://www.flanderscare.be/	**OS**	**p**	**y**	**1,2,3**	**+**	**Selected for further analysis: cooperation of stakeholders**
A.1.20. **http://www.health.gov.au**	BE	w	y	1,2,3,4	±	Australia, general government website
http://www.healthcommunity.be/	**OS**	**p**	**y**	**2,3,4**	**+**	**Selected for further analysis: example with member part**
http://healthyaging.net/	WS	w	-	-	-	Website of magazine
http://www.healthyolderpersons.org/	WS	p	y	1	-	no IT component
http://www.homecaretechnologies.ie/blog/24-preventing-falls-among-the-elderly	WS	w	-	1,4	-	not portal
http://www.horizonvillages.com/usefulresources.htm	WS	w	n	1	-	Too specific and geared towards end users: advertising for homes
ijkl						
http://iaa.fhss.polyu.edu.hk/about_us.html	EC	w	n	4	-	Website related to research (Hong Kong)

URL	source	portal or website (p/w)	up to date (yes/no)	Stakeholder	Info relevance	Reason for in-/exclusion
A.1.21. **http://www.ict-ageing.eu/?page_id=270**	**WS**	**p**	**n**	**2,3,4,5**	**±**	**Selected for further analysis: portal can be example for best practices, many stakeholders**
http://ict-ageingwell.net/: Ageing Well	**IR**	**p**	**y**	**2,3,4**	**±**	**Selected for further analysis: very good model to start from, info not (yet)**
http://ictforafrica.org	BE	w	y	2,3,4	±	South Africa, conference website
http://www.ictforhealth.net/index.php?option=com_content&view=article&id=53&Itemid=57	WS	w	n	4	±	Too specific, one research project
A.1.22. **http://www.ida.gov.sg**	BE	w	y	4	±	Singapore Development Authority, mainly about eHealth
A.1.23. **http://independa.com/independa-inc-vision-statement**	WS	w	y	1,2,3	±	company website
http://www.independentliving.co.uk/index.shtml	WS	w	y	1	-	website with information about products and services to help with mobility and independence.
A.1.24. **http://www.infoxchange.net.au/news/ageing-well-broadband**	WS	w	y	4	±	Related to Australian project
http://www.intel.com/content/www/us/en/healthcare-it/healthcare-technology-research-independent-living-video.html?wapkw=healthcare+researhc	EC	w	y	2,3,4	±	company website, with research centre on independent living
http://www.investkorea.org	BE	w	y	5	-	Korea, to stimulate investment
http://www.kcwz.nl/toolkit_zorg_met_ict/stappenplan	OS	w	y	1	-	website with toolkit for implementation of ICT in Health Care
http://www.liveagethrive.com/	WS	p	y	1	±	Information too fragmented, community site
mnop						

URL	source	portal or website (p/w)	up to date (yes/no)	Stakeholder	Info relevance	Reason for in-/exclusion
http://www.mhasp.org/olderadults/	WS	w	y	1,4	-	website about mental health
http://www.mission-health.org/centers-and-services/support-services/senior-services/healthy-aging-helpful-links	WS	w	y	1	-	website of a hospital
http://www.mtidw.de	OS	w	y	-	±	government website
http://www.myagedcare.gov.au	BE	w	y	1	-	Australia, general governmental website on health and well-being
http://naidishaindia.org	BE	w	n	1	-	India, learning centre for peoples health education
A.1.25. **http://www.newdynamics.group.shef.ac.uk/design-for-ageing.html**	WS	w	y	4	±	website on UK research initiative
A.1.26. **http://www.ncbi.nlm.nih.gov/pubmed/16260997**	WS	-	-	4	+	Article on Ageing Well with smart technology
A.1.27. **http://www.nia.nih.gov/**	EC	w	y	1,4	±	organisation website, governmental
http://nihseniorhealth.gov/	WS	p	y	1	-	government portal, focus on healthcare
http://www.oecd.org	BE	w	y	2,3,5	-	very general website on development, innovation and investment
A.1.28. **http://www.olderpeoplewales.com/en/ageingwell/news-aw/13-08-19/Joining_Ageing_Well_in_Wales_Networks.aspx**	WS	w	y	4	±	local government website
http://openchina-ict.eu	BE	w	n	4	±	EU-China collaboration on ICT research

URL	source	portal or website (p/w)	up to date (yes/no)	Stakeholder	Info relevance	Reason for in-/exclusion
http://optimalaging.mcmaster.ca/portal.html	WS	p	y	1,2,3,4	-	university funded, no IT, research driven
A.1.29. http://healthcare.orange.com/eng/about-Orange-Healthcare/our-vision-strategy-and-value	OS	w	y	1,2,3,4	-	company website
http://pacifichealthsummit.org	BE	w	y	4	-	website of World-wide Policy meeting, , updated after each summit
A.1.30. http://www.picf.org/landing_pages/22,3.html	WS	w	y	1	-	About health care in general
A.1.31. http://www.philips-thecenter.org/Aging-Well/	EC	w	y	-	±	Only subsection on Ageing well
A.1.32. http://www.pogoe.org/productid/20539	WS	p	y	1,4	-	research articles and teaching tools for healthcare education
A.1.33. http://www.portal.state.pa.us/portal/portal/server.pt/community/health___wellness/17962	WS	p	y	1	-	No IT component
http://www.pro-senectute.ch/	EC	w	y	1	-	website for health care professionals

URL	source	portal or website (p/w)	up to date (yes/no)	Stakeholder	Info relevance	Reason for in-/exclusion
A.1.34. http://ps-agegov.yourresearchportal.com/home	WS	w	n	4	-	Too specific, one research project
qrstu						
http://www.ristex.jp/korei/en/02project/prj_h22_03.html	WS	w	n	4	-	website not too well maintained
A.1.35. http://www.sage.org.hk/?lang=en-US	BE	w	y	1	-	Hong Kong Society for the Aged, large part of content in Chinese only
A.1.36. http://www.sbu.se/en/	OS	w	y	4	-	website of research organisation
www.sbfi.admin.ch/aal-e	**EC**	**p**	**y**	**2,3,4**	**+**	**Selected for further analysis: local portal for AAL (CH)**
http://www.scaipc.org/	WS	w	y	1	-	website of end user organisation regional/ local
A.1.37. http://savvysenior.org/seniorresources.htm	WS	w	y	1	-	general info for seniors
http://www.silverplanet.com/silver-planet-aging/five-new-technologies-advance-aging-place/58717#.UnNv3PkpKN0	WS	w	-	1	±	website with fragmented information
http://simply-home.com/Products.html	WS	w	y	1	±	company website
http://www.smart-homes.nl/Samenwerken.aspx	WS	w	y	1,2,3,		no portal
http://www.socialstyrelsen.dk/aeldre/	OS	w	y	1,4	-	governmental website
http://www.techandaging.org	**WS**	**p**	**y**	**1,4**	**+**	**Selected for further analysis: interesting US example**

URL	source	portal or website (p/w)	up to date (yes/no)	Stakeholder	Info relevance	Reason for in-/exclusion
A.1.38. http://www.theagingportal.com/ subpage.asp?node=- 100&CTitle=Aging+Sites+- +General&Loc=%5CAging+Sites+- +General%7C-100	WS	p	-	-	-	Only gives a list of web portals on aging, home page is very general portal on aging
A.1.39. http://telemed.no/victoryahome. 5227127-247951.html	EC	w	?	1,2,3,4,5	-	webpage on project
http://www.thirdage.com/health-wellness	WS	w	y	1	-	end user info website
http://todaysgeriatricmedicine.com/news/enews_ 0811_02.shtml	WS	w	y	1	-	website of journal
http://u3aindia.org	BE	w	n	1	-	India, society for education and empowerment of elderly
vwxyz						
various aal project websites	WS	w	?	1,2,3,4,5	-	Too specific about one technical solution
A.1.40. https://webgate.ec.europa.eu/ei paha	EC	p	y	2,3,4	±	Related to EIP AHA, for info on programme opportunities

A.2 Examples of local web portals related to ICT and Ageing Well (input from NCP's and other experts)

These local websites and web portals contain valuable local information and are possible partners to contract for delivering content. The portals in **bold** are included in the short-list of websites that were analysed further.

Belgium
http://www.flanderscare.be/
http://www.zorgproeftuinen.be/
http://www.iminds.be/en/about-us/markets/p/detail/health
http://www.healthcommunity.be/
http://www.minerva-ebm.be/nl/home.asp

Denmark
http://www.velfaerdsteknologi.nu/
http://www.socialstyrelsen.dk/aeldre/velfaerdsteknologi
http://www.ffvt.dk/
http://www.welfaretech.dk/om-os/
http://www.aeldresagen.dk/sider/forside.aspx
http://www.regionsyddanmark.dk/wm379362

France
http://healthcare.orange.com/telesante

Germany
http://partner.vde.com/BMBF-AAL/Pages/Startseite.aspx
http://www.mtidw.de/

Ireland
http://ict-ageingwell.net/: Ageing Well

Luxembourgh
http://catalogs.clusters.lu/Luxembourg-capabilities-in-ICT-for-an-ageing-population/Ageing-well-in-Luxembourg

The Netherlands
www.vilans.nl
www.zonmw.nl
http://www.domoticawonenzorg.nl/
http://www.smart-homes.nl/

Norway
http://telemed.no/victoryahome.5227127-247951.html

Spain
http://www.tecnonews.info
http://www.portaltic.es/
http://www.ametic.es/
http://www.imerso.es/

Sweden
http://www.sbu.se/en/

Switzerland
www.sbfi.admin.ch/aal-e (national AAL website by SERI, the Swiss NFA for AAL – English, German, French, Italian)
http://www.einclusion.ch/en/ (English, French, German, Italian)
http://www.seniorweb.ch/ (French, German, Italian)
http://www.access-for-all.ch/ (German, English)
http://www.fst.ch (French, German, Italian)
http://www.pro-senectute.ch/ (German, French, Italian)
http://www.tertianum-stiftung.ch/ (German)
http://www.ssr-csa.ch/ (German, French, Italian)
http://www.association-viva.org (French)
http://www.terzstiftung.ch/ (German)
http://redcross.ch/activities/social/index-de.php (English, French, German, Italian)

UK
http://www.olderpeoplewales.com/en/ageingwell/news-aw/13-08-19/Joining_Ageing_Well_in_Wales_Networks.aspx